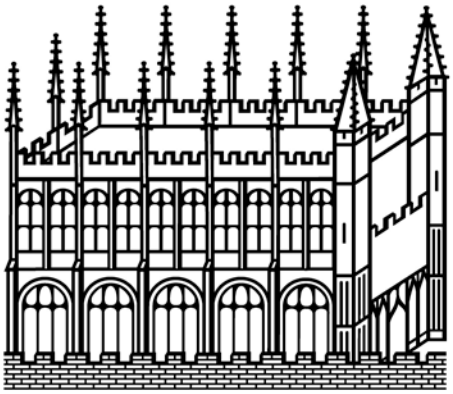

Bought from Mrs L. U. Hanson, from the collections of the late
Mr T. W. Hanson.

Edward Akroyd.

1784 e. 424

TEXTILE MANUFACTURE,

AND

OTHER INDUSTRIES,

IN KEIGHLEY.

BY JOHN HODGSON.

KEIGHLEY:
PRINTED AND PUBLISHED BY A. HEY, STATIONER,
12, HIGH STREET,
AND SOLD BY ALL BOOKSELLERS,
1879.

PREFACE.

DURING a conversation, a few years ago, with one of the leading manufacturers of this town, about the old tradesmen who had been engaged in making stuff pieces in this neighbourhood, he said that we seemed to know more about the old manufacturers than any one he had ever met with, and at the same time strongly urged us to put our recollections into writing, assuring us that if we neglected to do so, a number of important facts relating to the old tradesmen of Keighley would, in a few years, be lost past recovery. We engaged to think about it, supposing that all we could manage to say would be contained in a small pamphlet. About the end of the year 1876, we suffered a very painful bereavement, and in order to divert our attention from it, and to prevent, as much as possible, excessive brooding over our heavy loss, we set about collecting materials for the present Work, and as we went on it grew in our hands, and the result is the present volume. When we began we only intended to notice the stuff piece manufacturers, but on prosecuting our inquiries, we found no less than twenty-three old Cotton Mills, or buildings where cotton

yarn had formerly been spun, in this parish; and, as machine making has become one of the leading industries in this town, we have noticed the parties who have been engaged in making machinery for spinning worsted yarn and weaving stuff pieces. No one is more conscious than ourselves of the many defects this book contains; we have, however, endeavoured to place before our readers, in plain and homely language, not only our own recollections, but also a number of important facts and dates culled from old writings.

A large number of legal and other documents have been placed in our hands; and for the very valuable information thus obtained, we wish to express our obligations to the following parties who have so kindly given us access to the above writings, viz: Messrs. JOHN BRIGG & CO., Messrs. J. & J. CRAVEN & CO, JOSEPH CRAVEN ESQ., ROBERT CLOUGH, ESQ., MISS CLAPHAM, of Utley, MRS. DICKSON, of Spring Gardens, ISAAC HOLDEN ESQ., RICHARD HATTERSLEY, ESQ., Messrs. WILLIAM HAGGAS & SON, of Cross Roads Mill, Messrs. JAMES HAGGAS & SONS, of Lane Ends and Ingrow, JAMES LUND, ESQ., T. B. LAYCOCK, ESQ., Messrs. B. & W. MARRINER, PRINCE SMITH, ESQ., Mr. ABRAHAM SHACKLETON, Braithwaite, Messrs. SHARP BROTHERS, of Whinknowle, and ABRAHAM HIRD.

CONTENTS.

TEXTILE MANUFACTURE

AND OTHER INDUSTRIES,

OF

KEIGHLEY.

NAPOLEON Bonaparte, Emperor of France, used to call the English people a nation of shopkeepers, evidently intending thereby to cast a reflection on their military prowess and skill; but their braveries were sufficiently demonstrated, and any apparent lack in the art of war was amply atoned for at Trafalgar, and on the plains of Waterloo. Nevertheless, the English are a trading people, and next to an open Bible, and her Protestant Christianity, she owes more to the industry, energy, and enterprise of her merchants and manufacturers for her pre-eminence as a nation, than to any other cause. Although historians inform us that 3,000 years ago the ancient Britons traded in tin with the people of Tyre and Sidon on the eastern shores of the Mediteranean Sea, at that time the most mercantile people on the face of the earth.

It does not appear, however, that we made much progress in textile manufactures till the early part of the fourteenth century. Some historians have stated that textile goods, and especially worsted goods, were first made in England in the reign of Edward III., about 1330, but mention is made of worsted goods as an article of clothing in the reign of Edward II., the making of which goods had evidently been established for a considerable period at Norwich as its principal seat. In the eighth year of the reign of this king, a petition was sent to parliament against the clothiers of that city for making the worsteds, or oldhames, five yards shorter than they had been accustomed to be made, and selling them for full measure, that is, they sold them for thirty yards when they only measured twenty five yards. An act of parliament was obtained by which this evil was redressed; and says, serges and bombazines were made at Norwich during this century. The worsted trade was greatly stimulated and encouraged during the following reign. Edward III. having ascended the British Throne, married Philippa, a Flemish lady. Her country people were noted as excellent cloth makers, and the close connection which this marriage brought about between the two countries, and perhaps some suggestion of the queen, induced the king in the year 1331 to invite hither a large number of her countrymen, skilful in the weaving of woollen and worsted goods. Fuller, in his church history says, "The intercourse was large between England and the Netherlands, increased all the more since King Edward married the daughter of the Earl of Hainault." Unsuspected emissaries were employed by our king in those countries, who brought themselves into familiarity with such Dutchmen as were absolute masters of their trade, although not masters themselves, but either journeymen or apprentices,

These journeymen and apprentices were used more like horses than men, early up and late to bed, all day hard work and harder fare, consisting of a few herrings and mouldy cheese, and all to enrich the churls their masters, without any profit unto themselves. "But O! how happy should they be if they would come over into England bringing their mystery with them, they would meet with a hearty welcome in all places. There they would feed on fat beef and mutton till nothing but their fulness would stint their stomachs; yea they should feed on the labour of their own hands, enjoying the proportionable profit of their labour themselves. Their beds should be good and their bedfollows better, seeing that the richest yeomen in England would not disdain to marry their daughters to them, and such English beauties too, that the most captious foreigner could not but commend them for seeking such a fortune." These emissaries were successful in thus persuading a considerable number of Dutch weavers to come over to this country, who were located by the King in different parts of England, but principally in the county of Norfolk. And through the industry and ability of these foreign artizans, the worsted trade in this country received a stimulus, and acquired a prosperity without a parallel in this country at any former period. It has been estimated that 90,000 sacks of wool containing 26 stones per sack were grown in this country, 31,000 sacks of which were exported, leaving 59,000 sacks for home consumption. Supposing one half of this was used for woollen goods, it would have left 30,000 sacks for worsted goods. It ought, however, to be borne in mind that cotton was scarcely known in this country at that time, so that woollen and worsted goods formed the principal material for the people's clothing and bedding. Some estimate may be formed of the extent of textile manu-

facturing during this reign, from the following table of the places where different kinds of goods were made:—

Norfolk,	Norwich Fustians, Worsted Goods.
Suffolk,	Sudberry Baize.
Essex,	Colchester Says and Serges.
Devonshire,	Keiseys.
Wales,	Welsh Fuzes,
Summersetshire,	Taunton Serges.
Kent,	Kentish Broad Cloth.
Westmoreland,	Kendal Cloth.
Yorkshire,	Halifax Cloth.
Glocestershire,	Cloth.
Worcestershire,	Cloth.
Hampshire,	Cloth.
Berkshire,	Cloth.
Sussex,	Cloth.
Lancashire,	Manchester Cotton.

At that period worsted goods were made bearing the following names: Camlets, Bombazines, Martie, Tuctaines, worsteds which probably took their designation from a town of that name in the county of Norfolk; also Oldhames a fabric so termed because it had long been made at home in this country and was not a foreign production.

During this reign gold was first coined in this kingdom, cannons used, and turnpikes and clocks introduced. Windsor Castle was built, the first Speaker of the House of Commons choosen, and the title of Esquire given to people of fortune. It appears that during the next 150 years there was a considerable falling off in the textile manufactures of this country, occasioned principally by the wars carried on between the Houses of York and Lancaster, commonly called the Wars of the Roses. However when Henry VII. became

firmly seated on the throne, and united the claims of the rival houses by his marriage with Elizabeth of York, he took the very prudent step of endeavouring to restore the clothing arts, and the general trade of the kingdom to their former condition. His reign, like that of Edward III., is also distinguished as one of the most brilliant eras of English history. It was part of his policy to curb the turbulent spirit of the powerful barons, which in former reigns had been the scource of most of the national commotions, and in order to do so he encouraged his subjects to engage in trade and commercial enterprise, and by thus raising up a wealthy class of tradesmen, and giving greater liberty to the artizan, he erected a barrier to the encroachments of those powerful chiefs. Also, like Edward III., he invited numerous Flemish manufacturers to settle in this country, and no wonder that during his reign the woollen and worsted trades, from a state of decay, spread so greatly as to lead some authors into the mistake of attributing to him the introduction of the textile arts into this kingdom. During the reign of Henry VIII., in consequence of the large shipment of yarn to France and Flanders, a great number of weavers were thrown out of employment, causing a great falling off in the making of worsted pieces. Queen Mary was too much engaged in burning the protestants to pay much attention to the developement of trade and commerce. Some little revival of trade took place during the short reign of Edward VI. But on the accession of Queen Elizabeth to the English throne a great revival of commercial enterprise took place, and throughout the whole of her long reign, the clothing arts, so essential to the national prosperity, were without intermission objects of her deepest solicitude, and especially in consequence of the sagacious men she called to her councils, the textile

trades were extended and flourished in all their branches throughout the kingdom. This queen being looked upon as the protectress of the reformed faith, great numbers of refugees from the Netherlands and from France fled to this country where they could, without molestation, enjoy their religious freedom, and maintain themselves and their families by honest industry. As many of these refugees were skilful as weavers of the fine kinds of worsteds, the Queen manifested towards them the greatest possible kindness and courtesy, and by her permission they were settled at Norwich, Colchester, Canterbury, Sandwith, Maidstone, and Southampton. These foreign weavers and other artizans brought with them many improved processes of manufacturing worsteds, particularly, it would seem, those mixed with silk and linen yarn. In the year 1579 the Queen, as a mark of royal favour and to countenance the manufacturies, visited the city of Norwich, where she met with a most magnificent reception. It is said that when this good Queen died she had 7,000 dresses in her wardrobe; this may be said to have been a foolish hobby, but foolish or not it was at any rate a pardonable hobby, as her patronage would doubtless greatly tend to stimulate trade and industry. The rapid extension of English trade during this reign was truly marvellous; companies were formed for trading to Turkey and the East Indies, and the Russian Company incorporated in a former reign now vastly increased their traffic.

During the reign of James I., and also of Charles I. the textile trade was in a very unsatisfactory condition, but in the reign of Charles II. the trade was tolerably brisk. In the reign of James II. an event took place which greatly increased the trade of this country. Louis XIV. of France, from his bigotry and hatred of the protestant religion, deter-

mined to revoke the Edict of Nantes, thereby depriving his protestant subjects of their rights and privileges, in consequence of which immense numbers quitted France carrying with them their wealth and industry. They were undoubtedly the most affluent, enterprising and industrious merchants, manufacturers, and artizans of that kingdom. Their departure inflicted irreparable injury on the commerce and prosperity of that country; 700,000 of these persecuted protestants, commonly called Huguenots, left France; great numbers of them settled in Norfolk when they engaged in making a finer quality of worsted goods. Considerable numbers also came to London where they introduced the worsted and silk trade, and the Spittalfield silk weavers, had their origin from the coming over of these French refugees.

Up to the beginning of the 18th century, Norwich and Norfolk still supplied the main portion of the worsted goods, Norwich being at that time the largest city in the kingdom next to London, and Norwich from the extent and variety of its worsted goods, and for beauty and improvements in workmanship, occupied then the same position at the head of the worsted trade as Bradford holds at the present day. Norwich had a population at one time of 60,000 or 70,000, though at the beginning of the 17th century it was considerably reduced. The next place was Bristol with a population of 29,000,—York and Exeter from 10,000 to 15,000—Manchester 6,000, and Leeds less, Bradford about 3,000. Owing to the badness of the roads, often impassable in wet seasons, and always infested with daring highwaymen, the inland carriage of merchandise was exceedingly tedious and expensive, and goods were carried from one place to another either by stage waggons or pack horses. Macauley says that the carriage of merchandise from Exeter to London, about

120 miles, reached the enormous sum of £7 per ton, and at that time money was twice the value that it is at the present day.

Some time prior to 1700 the worsted trade had found its way into the West Riding of Yorkshire. The first to engage in this business were a family of the name of Horsfall who possessed estates in the townships of Haworth and Denholme. Shalloon weaving was carried on at Halifax in 1714. Early in the 17th century, De Foe says, when he was at Halifax, "They have entered upon a new manufactory of shalloons which were never made in these parts before, at least not in any quantities." Very early in the 18th century a person of the name of John Jackson, of Halifax, was making shalloon pieces; we have seen an indenture, bearing date 1715, when a James Haggas was bound apprentice with the above Mr. Jackson to learn the art of weaving shalloons and other kinds of worsted goods. The late Jonathan Hindle, of Steeton, in his "Antiquities of Keighley," mentions a party residing at Laycock of the name of Craven sending two sheets of shalloon pieces to London, about the beginning of the 18th century.

It appears that the woollen trade, or the manufacture of woollen cloth, was carried on in this neighbourhood before the manufacture of worsted goods, for in Keighley Parish Register we find John Hartley, a clothier, buried 29th December, 1571, and in 1671 there was a party named John Barritt residing at Laycock, carrying on business as a manufacturer of woollen cloth, or engaged in the trade of woollen websters. The Walk Mill, or Walker Mill, was originally used as a fulling mill in the manufacture of woollen cloth, and formerly there were several places both at Laycock and Keighley, which bore the name of 'Tenter Croft,'

places where pieces or webs of cloth were stretched in the open air; but before the middle of the 18th century the worsted trade began generally to take the place of the woollen trade, for in the Parish Register we meet with the names of Peter Hall, yarn dealer, and John Slater, shalloon maker, who died in 1724; Abraham Binns, wool comb maker, who died 1725; Jonas Blakey, shalloon maker, who died 1744; Matthew Barwick and Thomas Keighley, shalloon makers, who died 1749.

Nearly to the end of the 18th century, the yarn from which worsted pieces were made was all spun a single thread at a time, mostly on the spinning wheel, yet notwithstanding this apparent drawback, it was the most extensive trade in the kingdom, giving employment to a vast number of the working population; this will be apparent, especially when it is borne in mind, that to work up a pack of wool into stuff pieces it required the labour of 300 persons for a week. Residing in the North Riding in 1818, we well recollect there was a spinning wheel in nearly every house. The farmers in looking after their sheep were in the habit of picking up any stray locks of wool and bringing it home, which when having accumulated to a few pounds, the farmer's wife or daughters would card and spin it into a thick thread, something like woollen weft, which they called Garn, and then knit it into stockings from this single thread.

Stuff manufacturers, during the last century and the first decade of the present, were in the habit of sending their tops 30, 40 or 50 miles away to west Lancashire, and the North Riding of Yorkshire, and were generally given into the hands of some shop keeper, who again put them out to hand spinners, the shop keeper receiving about one half-penny per pound for his trouble. The yarn thus spun was

very irregular from the same quality of tops, some would be spun to sixteens, that is sixteen hanks to the pound, and others to twenty-fours; the consequence was that when the manufacturer got his yarn home he had to sort it according to the numbers to which it was spun—also to pick out the hard twisted for warp, and the soft twisted for weft. No wonder that manufacturers should cast about for a readier mode of spinning their yarns, especially as cotton yarn was spun by machinery during the greater part of the latter half of the 18th century. Most of the old mills in Keighley and parish were originally built for cotton spinning; the Low Mill and Castle Mill were built near 100 years ago, and besides these we find Screw-mill, Dalton, Low Bridge, West Greengate, Hope-mill, Damside-mill, Grove-mill, Damems, Higher Providence, Spring Head, Ponden, Higher and Lower Newsholme-mill, Holme House-mill, Brow End, Turkey-mill, Sandywood, North Brook-mill and Wood-mill—a mill was built at Walk also for cotton spinning, although cloth and silk had been carried on there before.

The first mill built for worsted spinning was erected atDolphin Holme, near Lancaster, in 1784, where worsted spinning by water power was carried on by Messrs. Edmondson, Addison and Satterthwaite till 1791, but the concern did not succeed, the partners having quarrelled the mill was closed and the firm dissolved. The mill having been closed for three or four years, was again let in 1795 to Messrs. Thomas Hinde, his son and two other partners, and we recollect Dolphin Holme Mill being in considerable repute about 1828 as an extensive worsted spinning concern, at that time carried on by Messrs. Hinde and Derham. The second worsted mill was built at Addingham in 1787, by Messrs. John Cunliffe and John Cockshott, both of Addingham, and in the convey-

ance of the land it is stated to have been intended for a cotton mill, but the intention was changed before the completion of the building, for it was from the first used as a worsted mill. In the year 1792 worsted mills were built at Hewnden near Wilsden, at Leeming in the township of Haworth, at Ilkley, and also at Mytholmroyd. The first spinning machines in Bradford were set up by Mr. James Garnett, who at first had only a drawing frame and a spinning frame, and they were both turned by hand, but, notwithstanding this small beginning, it afterwards became one of the most noted spinning concerns in the Bradford trade. We have not been able to make out which mill was first built for worsted spinning in Keighley. Aireworth-mill was built about 1808, but the old cotton mill was built 20 years earlier; about the same time the Wire-mill at Ingrow was built by John Walker, and another mill which stood on the site of Bairstow's Corn Mill, South-street, was built by William Wilkinson. Acres-mill was built by Berry Smith, and Holme-mill by Thomas Binns, about 1810. The trade of Keighley at the beginning of the present century, was divided into cotton spinning, and manufacturing cotton pieces, and the making of stuff pieces, such as callimancos, shalloons, and drawboys. As the old cotton mills were being converted into worsted mills, the occupiers would for some time carry on both the cotton and the worsted trades; the late Lodge Calvert was making cotton pieces during the second decade of the present century, but he was also engaged in the worsted trade at the same time.

CALVERT & CLAPHAM.

We well recollect hearing the late Lodge Calvert in the year 1818, tell how he began the worsted trade 17 years before; he said he got a throstle, a miniature spinning frame with 24 spindles, turned by hand, on which he spun his yarn, and after telling of his struggles and success during the time in which he had been engaged in the worsted trade, he generally manifested his satisfaction with the prosperity which Divine Providence had afforded him, by saying, "And now I am worth £4,000." Mr. Calvert being a joiner by trade, it is very likely that he made the throstle himself, as on the 15th of May, 1801, he obtained from Richard Hattersley, 24 spindles and flyers, and a few days later a quantity of rollers, 4 dozen screw nails, bolts and other iron work. It appears also that he had another throstle made by William Smith, as his son Prince Smith, senior, recollects Mr. Calvert being in their old shop in Waggon Fold fifty years ago, when Mr. Calvert marked out on the floor the identical spot where the throstle stood which was made by his father about 1805. Mr. Calvert took a mill at Ingrow, now occupied as a corn mill by Baxendale and Dixon, and in that year he obtained from Richard Hattersley 48 spindles, and in the year 1806, 79½lbs. of rollers; he continued at this mill till 1818. At that time this mill had no steam engine, nothing but water power, and in summer time the stream was so small that a cow would almost have drunk it dry, but notwithstanding this there were three water mills on this small stream. Some time before he left Ingrow he gave up the cotton trade, and went more exten-

sively into the worsted business. While residing at Ingrow he married his second wife, Mrs. Clapham, the widow of the late Henry Clapham of Utley, who had three children by her former husband, two sons, John and Samuel, and one daughter Mary, who married John Rouse of Bradford. The above John Clapham was the owner of Aireworth-mill then called Screw-mill. Joseph Hey the former tenant of the mill gave up possession in May 1818, and emigrated to America, taking with him it was said £16,000, which sum was said to have been squandered in the course of a few years. In June Mr. Calvert removed to Aireworth, and on the 1st of August in the same year John Clapham died, when his brother the late S. B. Clapham became owner of the Aireworth estate as heir-at-law. Mr. Calvert had some time before taken Mr. S. B. Clapham into partnership; the firm of Calvert and Clapham were at that time the largest worsted spinning concern in the parish of Keighley, having 24 spinning frames besides two sets of preparing. A description of the spinning frame then in use may be new to some of our young machine makers. Out of these 24 frames only four had iron ends, all the ends of the others were made of wood, the step board, the spindle or collar board, and the bobbin lifter, also the beams supporting the front rollers, the carrying rollers, back rollers and the upper back rollers were all of wood. The under carrying rollers were of wood, but in a few cases they were made of tin. The spindles were held to the collar board by a wood lat, the lever to work the bobbin lifter, and the warle on the spindles were all of wood, and instead of the spindle being driven by a cotton band a cloth list was placed over the cylinder and neatly spliced and sewed. One length of list was made to turn two spindles, and every spinning frame had what was called a fly-wheel

made of wood, something like a coach wheel and about the same size, this wheel turned the cylinder in order to gain speed for the spindles, as the main shafting ran at a much slower speed than they do at the present day.

The class of goods made by this firm consisted mostly of wildbores and merinos or plainbacks, so that when the very brisk demand sprung up for 6qrs. merinos in 1831-32, they were fully prepared to take advantage of it; they also sold yarn to other manufacturers not only in Keighley, but also at Thornton and other places; they also made a certain class of warp-yarn used for army clothing, called Bocking warps, woven with woollen weft. We recollect being at New Hall Hey, in Rosendale, Lancashire, in the year 1827 where they manufactured this class of goods, and one of the manufacturers told us they got Bocking warps from Keighley.

About 1830 Mr. Calvert purchased a dwelling-house and warehouse at Bradford, to which place he removed, and seven years after went out of partnership with Mr. Clapham, and carried on business in partnership with his two sons Blakey and Edward Calvert in Bradford, where we understand, they succeeded in making a considerable amount of money, at the same time doing a great amount of good by giving employment to a numerous staff of work-people, and also by their princely benefactions. Mr. Clapham continued in the business at Aireworth till his decease in 1869. The Aireworth-mill possessed greater facilities for trade purposes than any other mill in the town or parish, arising in the first place from a powerful waterfall, and in the second place, (especially before the opening of the Midland Railway) in its nearness to the Leeds and Liverpool Canal, by which at that time nearly all heavy goods used by manufacturers were brought to the town, such as wool and tops, oil and soap, sizing

and coal; a waggon load of these goods could be brought from the canal to the mill in a few minutes, while those whose mills were situated several miles away from the canal incurred a great expense in the carriage of these goods.

Mr. Clapham was a gentleman of great uprightness and integrity, a kind and considerate master, benevolent to the aged and the poor. As a proof that he was held in great esteem by his work people, we knew several of them who had been in his employ for the long period of half a century, and to some of those who survived him he left a small pension for the rest of their lives. From some cause or other, however, Mr. Clapham did not succeed in saving money like many of his fellow-tradesmen, perhaps he was no wealthier at his decease than he was 50 years before, still we believe he has done more good by a great deal than numbers who have been more successful in money making.

J. & J. CRAVEN.

THE Cravens who were the ancestors of the gentlemen that form the firm of J. & J. Craven, were, two hundred years ago, yeomen or gentlemen farmers residing at Laycock. A house and farm in that hamlet belonging to Mr. Joseph Craven, of Park House, Steeton, seems to have been the old family residence or homestead, it was built in 1630, small additions made to it in 1685, and again in 1693, according to tablets over different doorways bearing the above dates. There is also another farm at Brow End, near Laycock, which in 1674 belonged to Robert Craven; we have seen an

indenture or conveyance signed by him bearing the above date. After the death of the above Robert Craven, his widow married a Mr. Brigg, of Guard House, and at her death left it to her husband, and the Brow End Farm has been in the Briggs' family ever since; it now belongs to Mr. Joshua Brigg, of Guard House and Belle Vue, Bradford. We have noticed in a former page that early in the 18th century a Mr. Craven of Laycock sent two sheets of shalloon pieces to London; this was Joseph Craven, of Laycock, the grandfather of the late John Craven of Walk-mill, who died in 1831, and the great-great-grandfather of the J. & J. Cravens, of Low-mill, Walk-mill and Dalton-mill. That the above Joseph Craven was in business as a stuff piece maker at the beginning of the last century if not earlier, is evident from an indenture in the possession of Abraham Shackleton, of Braithwaite, by which indenture, bearing date 1718, a youth of the name of William Shackleton, was bound apprentice to the above Joseph Craven, to learn the art and mystery of woolcombing and serge weaving, that is, to learn the business of a stuff piece manufacturer. We have also seen, through the kindness of Mrs. Dickson, of Spring Gardens, an account of a number of money transactions with agents in London, of the names of Thomas and John Leach, dated from April to November, 1725. These agents had their place of business at the Wool Pack Inn, Bread-street, London, and it appears that through them Mr. Craven disposed of his goods. Before the repeal of the soap duty, manufacturers had to make oath before the receiving officer of Inland Revenue, as to the quantity of soap they had consumed in washing sheep and lambs' wool before they could get the drawback on the duty charged on the soap repaid, and it was repaid because it had been used for trade purposes. We subjoin

the copy of the oath made by the above Joseph Craven, as follows:—

"I, Joseph Craven, of Laycock, in the parish of Keighley, and in the county of York, worsted comber, do make oath that from November the 6th, 1740, to December 17th, 1745, I have spent, wasted, and consumed 540lbs. of British soap in washing, and scouring, and combing 5,400lbs. of sheep and lambs' wool for sale, and have never had any allowance for the same."

Joseph Craven died in the year 1751, and in an inventory of his goods, made on the 2nd day of August of that year, we find, in addition to the household furniture and farming stock, the following articles forming the stock in trade of a stuff manufacturer of those early times, viz:—two looms and gears, 12s.; wool combs, 7s. 6d.; spinning wheel and odd things, 7s. 6d.; washing rings, tub and pan, 10s.; wool, yarn and shalloon pieces, £29; besides securities, bonds, and notes. The above Joseph Craven left a son John Craven, who appears to have been a young man of respectability and position, for we find that in 1764 he was appointed a trustee of the Bowcock Charity; the former trustees were Richard Pighills, of Newsholme, yeoman, John Roper, of Damems, shalloon maker, Abraham Sugden, of Dockroyd, yeoman, William Shackleton, of Laycock, shalloon maker, John Clapham, of Utley, gentleman, Thomas Brigg, of Guard House, gentleman, and Jonathan Wright, of Clough House, yeoman. Under the will of Isaac Bowcock, the surviving trustees have the sole right and power of appointing a successor, in case any of the seven trustees should die or resign office. The above Thomas Brigg was the grandfather of the late Mr. John Brigg of Guard House, and died in the year 1764, and on his decease John Craven of Laycock, was by

the six surviving trustees appointed Mr. Brigg's successor, whose widow he subsequently married, and by whom he had issue, viz.; one son, John Craven of Walk Mill, and four daughters. Mr. Craven on his marriage to Mrs. Brigg went to live at Guard House, and in the year 1776 bought the Walk Mill, which had been escheated to the crown in consequence of its former owner, Joseph Stell, having suffered at York for counterfeiting the gold coin of the realm. This mill was called Walk Mill from having formerly been used as a fulling mill, or walker mill, from having been used for the fulling of woollen cloth, in which process Walkers' Earth was used. Mr. Stell seems to have been an ingenious and enterprising tradesman; he converted this woollen mill into a silk mill, and was for some time engaged in manufacturing silk tapes and other narrow fabrics by water power. We do not find that the silk trade was ever extensively carried on in Yorkshire, although the first factory we have any recollection of seeing was a small silk mill at Carr End, in the North Riding of Yorkshire, belonging to a quaker family of the name of Fothergill, and here the celebrated Dr. Fothergill of London was born.

On the 19th of November, 1783, an agreement of partnership was signed by the three following gentlemen, namely: John Craven, of Guard House, gentleman, Thomas Brigg, of Guard House, piece maker, and Abraham Shackleton, of Braithwaite, piece maker, and this agreement states that the said parties, for and in consideration of the faith and confidence which they respectively repose in each other, and for the better managing, conducting, and carrying on the art, trade, or business of spinning cotton in all its branches, have concluded and agreed together, and by these presents do conclude and agree to, and with each other, to be and continue

co-partners and joint traders, in the said art, trade, or business, from the date hereof, for so long as the said partners shall mutually think proper, subject to the terms and agreements hereinafter mentioned, that is to say, that the said John Craven being proprietor of a messuage, or tenement, cottages and buildings, situate and being near the Low Bridge in Keighley aforesaid, commonly called or known by the name of Walk Mill, or Stell's Mill, the said being formerly used as a mill, the said John Craven, Thomas Brigg and Abraham Shackleton do hereby and for themselves jointly and severally, and for their joint heirs, executors, administrators, and assigns, covenant and agree to and with each other, that the said art or business shall be carried on in part of the said premises belonging to the said John Craven, and that the said John Craven shall be allowed twelve pounds a year rent for the same, together with present water and watercourse, to and for the said mill; and on the 1st day of February, 1791, the above firm entered into an agreement to build a new cotton mill for spinning cotton at Brow End, or Goose Eye, on the estate of Thomas Brigg. And in the same deed of agreement the firm engaged to build a new mill to spin cotton at Stell's Mill, where they had been carrying on spinning for several years, on the estate belonging to John Craven, and at the expiration of the time of agreement for the partnership to last, the owners of the estates on which the new mills were built should pay to the other two partners one half of the original cost, that is, Thomas Brigg should pay to John Craven one fourth, and Abraham Shackleton one fourth, and one fourth to be borne by the owner Thomas Brigg, and one fonrth to be sunk for depreciation, when Goose Eye Mill should belong to Mr. Brigg; the same terms were to be carried out at Walk Mill at the expiration of the

agreement when the Walk Mill should belong to Mr. Craven. In the year 1805 Abraham Shackleton died, when his interest in the concern was paid out of the firm to his family, and John Craven the younger, the son of the above John Craven was taken into the firm. It appears that cotton spinning was given up at Brow End on Mr, Shackleton's decease. Mr. Craven the elder died January 9th, 1808, when cotton spinning was also given up at Walk Mill; but as Mr. Brigg, one of the surviving partners, was engaged in the worsted trade previous to 1783, this branch of the business was probably carried on at the same time the firm were spinning cotton, for it was no uncommon thing for tradesmen, at that time, to be engaged in the manufacture of both cotton and worsted. When they gave up the cotton business they would naturally be led to extend the area of the worsted trade, employing additional combers and weavers, and getting their yarn spun by the hand wheel; about 1812 or 1813 they began spinning at Walk Mill by water power, and soon after also at the Brow End Mill. They obtained all their spinning frames at least for the first seven years, from Titus Longbottom; John Midgley, of Newsholme, served his apprenticeship with Mr. Longbottom, who says, "That in the year 1819 he was employed by his master in removing a number of spinning frames at the Walk Mill to another part of the premises, and those frames appeared to have run about half a dozen years." In the year 1822 a dissolution of partnership took place on the part of the firm of Craven and Briggs, when Mr. Craven took the Walk Mill into his own hands, and the works at Brow End were continued by Thomas and John Brigg, and this mill has been run by the Briggs ever since. Before the dissolution a mode of conducting business was carried on by this firm, and which was very commonly

practised 40 years ago, viz.; one of the partners took the management of one department of the works for a week or a fortnight, and then the other partner took his place the next week or fortnight. Crispin Barritt, Druggist, of South-street, says he was employed as a woolcomber in 1819 for Craven and Brigg, when Mr. Craven went to Brow End for a fortnight, and the late Mr. John Brigg took his turn at the Walk Mill. We believe the present plan is for each partner to take some special department of the works and to stick to it. Soon after Mr. Craven took the Walk Mill into his own hands, he took his two sons John and Joseph Craven into partnership. The class of goods made by the firm about this time consisted of plainbacks or merinos, wildbores, and dobbies, a sort of figured goods. In the year 1831, Mr. Craven the elder died somewhat suddenly, while his two sons were comparatively young men, when the entire business devolved upon them. Mr. Craven dying intestate, Mr. John, as heir-at-law, could have taken as his own all the freehold estate, but the late John Craven was above so mean and selfish an action, and through life was remarkable alike for his honesty, uprightness, and generosity; for instead of grasping what the law gave him, as many a young man with less honesty would have done, he called all the family together, and told them that they knew it was their father's wish that the effects should be equally divided amongst them, and although there was no will, yet he was resolved it should be so, reserving to his mother her thirds, when a legal document was drawn up conveying to each of his brothers and sisters their share of the estate, which was duly signed by himself, thus securing to himself not only the respect, but the grateful affection of every member of the family. It was the practice of Mr. John Craven several years before

his decease, to drive about the town in his pheaton, and on Monday mornings when he saw any of the butchers with a considerable quantity of meat left over from the Saturday market, he would frequently buy the whole stock, sometimes amounting to fifty or sixty pounds, and then he would give the butcher a list of a number of poor families, ordering him to carry it out in portions varying from four to seven pounds each family, and this he was in the habit of doing from week to week; also calling at grocers' shops where at that time herring were generally sold, when he would buy a barrel, and then order the grocer to carry them to certain families who were in indigent circumstances. Such was the genuine principle of uprightness with which the J. & J. Cravens (for this was the name they gave the firm) acted; that although their father had borrowed near £1,000 from one of his friends, and this friend had lent the money without either mortgage, bond, or any other legal security, in consequence of which the J. & J. Cravens were under no legal necessity to pay the debt, yet in a short time after the father's decease, they not only paid the debt and interest, but did so without ever being asked for it; no wonder that they became a very prosperous firm. We have always understood that this firm were the first manufacturers of orleans cloth, or pieces made with cotton warps and weft spun from bright haired wool, and when Titus Salt discovered the use of the alpacca fleece, the J. & J. Cravens had goods in the Bradford market made of the same material about the same time, and for several years subsequently they were extensively engaged in manufacturing this beautiful class of goods. About the year 1834 they commenced weaving by power looms, but 40 years ago the far greater portion of these goods were woven by hand; at that time they delivered work out to hand loom

weavers at Silsden, Sutton, Icornshaw, Cowling and several other places. This firm have for several years been almost exclusively engaged in the fancy trade, and the goods they produce, though not expensive, are of the most exquisite character both in colour and design. We had the privilege some years ago of looking through their weaving sheds, and we were almost led to exclaim "a thing of beauty is a joy for ever." The works of this firm are the largest in the town, embracing three distinct establishments, viz.: Walk Mill, Low Mill and Dalton Mill; they employ more than 2,000 work-people, and doubtless the employment provided by this firm has contributed more to the prosperity and extension of this town than any other cause, especially when we consider that they are circulating nearly as much money in wages, as all the aristocracy in the West Riding of Yorkshire. We sub-join a description of the powerful engine at the Dalton works.

The new engine house stands in the yard opposite the entrance gates, and is the height of three stories, rising to about 65ft. from the foundation, or 46ft. from the crank floor, which is reached by a flight of steps from the yard. The thickness of the walls which have to carry an enormous weight averages about 3ft.; the width of the building is 31ft. and the length 73ft. Besides the first floor there are engine packing stages or platforms, approached by a staircase at the back of the building, and which also communicates with the beam chamber. The roof of the latter is crossed by wrought iron lifting beams, 2ft. deep and 18in. across, each end of the house has an arched window extending up to the beam chamber, the floor of which is laid with flags upon iron binders. The engines are of the beam class, and compounded upon M'cNaught's principle of high and low pressure cylinders, and are of 500 nominal horse power, and

are said to be the largest pair of stationary engines in the United Kingdom, and possibly the most powerful pair of engines in the world, the only pair at all near them being in the Philadelphia Exhibition. The framework of the engines which stands on a bed of ashlar about 25ft. thick, laid in huge blocks, many of which weigh several tons, consists of the transom beams which are supported by two strong ornamental columns, supporting the entablature on which rests the centres of the two enormous working beams. The centre entablature is formed of one casting and is 4ft. 6in. wide, and 3ft. 6in. deep, and weighs over 24 tons. The spring beams which are connected with the transom beams, and which form the openings in which the beams work, and also carry the radius pedestals belonging to the parallel motions, and the cast iron floor joists are 24in. deep, raised in the middle to 30in. The low pressure or condensing cylinders are 60in. diameter, and have a stroke of 9ft. The side valves are worked by strong woking shafts that receive their motion from eccentrics fixed to the crank shaft; the cylinders are mounted on cast iron beds, and are covered with non-conducting composition, so as to prevent condensation through radiation of heat, in an ornamental iron casting, instead of the usual felt and wood lagging. The covers for the tops are highly polished, and also fitted with castings to prevent radiation, the piston rods are of steel, and are 8in. diameter, and the sockets connecting the stems with the parallel motions are of asphenical form, very substantial and polished. The total weight of each of the two condensing cylinders, with the steam chest's side pipes, bottom cover casting and piston, is about 30 tons. The parallel motions for working the pistons of the condensing cylinders are also bright. The front links are 4ft. 6in. between the centres

of the brass steps or bushes, and are fitted with cast iron backers, and screw gibs and cotters. The back links for working the air pumps are similarly fitted, as are also the parallel rods which connect the eye-shaft of the air pump end of the motion with the piston; the crosshead centre and radius rods in the working joints are also fitted in the same substantial manner. The high pressure cylinders are 45in. diameter, the stroke of the pistons being 4ft. 6in. These are constructed in the same style of workmanship as the other two cylinders, and with their appurtenances of bottom covers, pistons, &c., weigh each about 22 tons. The parallel motions for the pistons are also highly finished and substantially fitted like those for the low pressure cylinders. The two ponderous working beams to which the parallel motions are connected measure 34ft. 6in. between the centres of the end bosses, and 37ft. 6in. over all. They measure 6ft. 6in. in depth at the centre and weigh about 24 tons each and are splendid castings, each in one piece. The main centres of the beams are wrought iron, 16½in. diameter in the middle, 23in. long and 11½in. diameter in the journals. The pedestals in which these journals work are very strong, and fitted with brass speps, each secured to the spring beams and entablature by four holding down bolts, 3½in. diameter, which pass through both beams and entablature. There are also four similar bolts for securing the pedestal capitals. The connecting rods are of wrought iron and are coupled to the beams by full ends, and to the crank by a solid eye; each of the rods with its necessary fittings weighs about 8 tons. The cranks are of cast iron and weigh about 4½ tons each. The crank shaft is of wrought iron 25in. diameter in the middle, with journals 36in. long and nearly 19in. diameter; its weight is nearly 9 tons. The pedestals for the

crank shaft to work in are very substantially formed, and weigh, complete with steps and cap, about 5 tons each. They are secured to the ashlar foundation by four bolts about $3\frac{1}{2}$in. diameter to each pedestal, with six $3\frac{1}{4}$in. bolts for holding the caps. The fly-wheel is a stupendous one. It is $28\frac{1}{2}$ft. diameter, the iron being turned up and polished after the wheel had been placed in its present position, it is formed in ten segments 24in. broad and 18in. thick, secured to each other by strong dowels and ten round tapered arms by bolts. The arms are turned to fit and are secured to a large centre boss. The segment of cog-wheel is 24ft. $3\frac{1}{2}$in. diameter, with a centre boss and arms similar to those of the fly-wheel. The rim of the cog-wheel is also in ten segments, having teeth 19in. broad and $6\frac{1}{2}$ pitch; the inner face of the bosses for the two wheels are turned to fit each other and fixed on the shafts so as to appear on the casting; the arms of the fly-wheel are constructed with brackets on the side, and the toothed segments with a flange, both of which have been faced so as to fit and are secured by bolts, so that both wheels form one complete mass when in motion; the total weight of the fly and cog-wheel combined is 100 tons. The bed-plates on which rest the crank pedestals, the high pressure cylinder fixtures for carrying the rocking shaft pedestals and the columns, are connected by bolts so as to form one plate, and are very strong castings. The governor gearing is so arranged near the entrance of the engine house, as to allow the stand to be fixed behind the low pressure cylinders and near the throttle valve, and all the valves required are so arranged as to enable the attendant to work them almost from one point. The designs of the standard which carries the governor balls and the arms, is exceedingly neat and effective. The feed pumps, air pumps and con-

densers are very massive, and in every respect in proportion with the size of the condensing cylinder. The buckets and delivering valves have brass rings, facings and lids, the packing stages or floors extend round all the cylinders and round two side walls, and are reached as we have said, from the cylinder floor by an ornamental flight of cast iron stairs, with a similar flight from the packing floor to the beam floor, all the stairs and floors are guarded by pallisading formed of fluted pillars and round polished rods. The whole of the floors are intended to be covered with iron plates. These two splendid engines have been constructed for Messrs. Craven at a cost of over £12,000, by Mr. William Bracewell, engineer, Burnley, the designs being those of his manager, Mr. Pickup, under whose supervision the engines have been made and erected.

JOHN BRIGG & Co.

THE family of the Briggs, like the Cravens already referred to, were yeomen or gentlemen farmers residing at Laycock and Guard House; a great intimacy seems to have subsisted between the two families who were in partnership as spinners and manufacturers for about 40 years, and this has been strengthened and cemented by marriage on three different occasions, first in 1674, when the widow of Robert Craven of Brow End, near Laycock, married a Mr. Brigg of Guard House; again in 1764, after the death of Thomas Brigg of Guard House, John Craven of Laycock married the widow of the above Thomas Brigg; again in 1859, John Craven of

Steeton Hall married the daughter of the late John Brigg of Guard House. The Brigg family were formerly connected with the people called 'Quakers or Friends,' having joined them when George Fox came into Yorkshire, and as such had to endure great persecutions for conscience's sake from the minions of the state church, We have seen an account in a manuscript history of those persecutions in the possession of Mr. John Brigg, where it is stated how one member of the Brigg family, for his conscientious objections to attend the service of the established church, was incarcerated in prison at York Castle for four weary months. The Briggs are now connected with the Independent or Congregational Churches of Keighley and Utley. The earliest record we have seen of the Briggs being engaged in the worsted trade is contained in a copy of a partnership deed, and other papers belonging to Mr. Abraham Shackleton of Braithwaite, where Thomas Brigg is spoken of as a piece maker. This partnership deed states that on the 19th of November, 1783, John Craven of Guard House, gentleman, Thomas Brigg of Guard House, piece maker, and Abraham Shackleton, piece maker, of Braithwaite, entered into a partnership to spin cotton at Walk Mill in two cottages and a chamber over Joseph Hartley's, at a rent to the firm of £12 a year. Amongst other papers in the possession of Mr. Shackleton is a copy of agreement between the firm of Craven, Brigg & Shackleton, and Joseph Tempest, wherein Tempest binds himself to serve the firm as millwright for sixteen shillings per week, or ten shillings and his meat and drink, Tempest to forfeit £100 if he betray the secrets respecting the construction or movements of any of the machines or works. An agreement between the firm of the one part, and Thomas Robinson of Hill Top of the other part, we give at full length.

"Articles of agreement made, concluded, and fully agreed upon, and between John Craven of Guard House, in the Township of Keighley in the county of York, gentleman, and Thomas Brigg of Guard House aforesaid, piece maker, and Abraham Shackleton of Braithwaite in the parish of Keighley aforesaid, piece maker, of the one part, and Thomas Robinson of Hill Top, in the parish of Keighley aforesaid, joiner, of the other part, as follows, that is to say, that the said Thomas Robinson for the consideration hereinafter mentioned, doth covenant and agree, and with the said John Craven, Thomas Brigg, and Abraham Shackleton, their executors, administrators, and assigns by these presents. That the said Thomas Robinson shall and will for and during the term of four years, to begin and be accounted from the first day of December next ensuing, serve, abide, and continue with the said John Craven, Thomas Brigg, and Abraham Shackleton, when required as their covenant servant, and shall and will during the term diligently and faithfully according to the best and utmost of his power, skill, knowledge and judgment, exercise and employ himself in, and do, and perform such business, work and labour in and about the works now being carried on, or hereafter to be carried on in and about their cotton mill, that may be erected by the said John Craven, Thomas Brigg and Abraham Shackleton, whether at Keighley aforesaid or elsewhere, at any time during the said term as they the said John Craven, Thomas Brigg and Abraham Shackleton, shall from time to time order, direct and appoint to do so, and for the most profit, benefit and advantage of them, the said John Craven, Thomas Brigg and Abraham Shackleton, and that he the said Thomas Robinson shall and will from time to time during the said term keep the secrets of the said John Cra-

ven, Thomas Brigg and Abraham Shackleton respecting the works in the said mill, and be just, true and faithful to them the said John Craven, Thomas Brigg and Abraham Shackleton in all matters and things, and noways wrongfully detain, embezzle, purloin, or waste any monies, goods or other things whatsoever belonging to them the said John Craven, Thomas Brigg and Abraham Shackleton, as shall be committed to his care, management or disposal, and make and give up a true, just and fair account of all actings and doings in his said employment without fraud or delay when and so often as he shall be thereunto required by the said John Craven, Thomas Brigg and Abraham Shackleton, and that the said Thomas Robinson shall and will at all times during the said term, find and provide for himself meat, drink, washing, lodgings and apparel of all sorts at his own expense. And in consideration of the promises and the performance of the work and labour by the said Thomas Robinson as aforesaid, they the said John Craven, Thomas Brigg and Abraham Shackleton, doth hereby for themselves, their executors and administrators, covenant, promise and agree to and with the said Thomas Robinson, that they the said John Craven, Thomas Brigg and Abraham Shackleton, their executors or administrators shall and will, well and truly pay or cause to be paid unto the said Thomas Robinson, the sum of thirteen shillings of lawful money of Great Britain weekly, and every week when he is required during the said term of four years in case he shall so long live, and be capable of doing and performing his said work and service as aforesaid. And it is further agreed to and between the said parties to these presents, that in case the said Thomas Robinson shall or do at any time or times during the said term, reveal or make known any secret respecting the construction or movement of any

of the machines or works, now or hereafter to be carried on or set up in the said cotton mill, or any other mill erected by the said John Craven, Thomas Brigg and Abraham Shackleton, or any person or persons whomsoever to the prejudice or injury of the said John Craven, Thomas Brigg and Abraham Shackleton, that then and in such case he the said Thomas Robinson shall forfeit and pay, or cause to be paid unto the said John Craven, Thomas Brigg and Abraham Shackleton, their executors or administrators, the sum of one hundred pounds provided always, and these presents are nevertheless upon this condition, that if the said cotton mill or any other cotton mill hereafter to be erected by the said John Craven, Thomas Brigg and Abraham Shackleton shall, before the expiration of the said term happen to be destroyed, demolished or thrown down, or the utensils therein discontinued, then and in that case these presents and every article, clause, and thing herein contained shall from thenceforth determine and be utterly void, and to all intents and purposes whatsoever anything herein before contained to the contrary thereof, in any wise, notwithstanding, in witness whereof the said parties to these presents have hereunto put their hands and seal, the seventeenth day of November, in the year of our Lord one thousand seven hundred and eighty three, sealed and delivered, being first duly stamped in our presence

ISAAC ABBOTT.

HER
MARY ⋊ ROBINSON.
MARK.

JOHN CRAVEN.

THOMAS BRIGG.

ABRAHAM SHACKLETON.

HIS
THOMAS ⋊ ROBINSON.
MARK.

Another paper in the possession of Abraham Shackleton, relates to the building of a new mill to spin cotton at Brow End on the estate of Thomas Brigg, and also a new mill for the same purpose at Stell's Mill, upon the property of John Craven, dated February 1st, 1791. On the 27th of April, 1805, a dissolution of partnership took place between the executors of Abraham Shackleton and his son William, both of whom had died, and John Craven, Thomas Brigg and John Craven, junior, he having been admitted a partner in the undivided third share of his father. The description of piece makers as applied to Thomas Brigg and Abraham Shackleton in these documents plainly denote that they were both in business as manufacturers of stuff pieces at the time the partnership here spoken of commenced, namely, in the year 1783. How long Mr. Brigg had been in business as a manufacturer before the above partnership commenced we have no means of knowing. It is probable, as pointed out in "James's History of the Worsted Trade," that the goods made by the manufacturers in this district in the latter half of the eighteenth century, consisted of shalloons, says, tamees and drawboys; patterns of drawboys and pattern papers are in the possession of Abraham Shackleton, which he believes to have been kept along with the other documents here mentioned, since the time when Abraham Shackleton's partnership was dissolved. Similar classes of goods have been made and still are made by the firm of John Brigg & Co., some of the qualities and marks being, it is believed, the same to-day as they were at the beginning of the century. We have stated in a former article that the firm gave up cotton spinning shortly after the decease of Abraham Shackleton, but we find that it was common for the cotton manufacturers at the same to carry on the old trade of making stuff pieces,

keeping both combers and weavers, having their yarn spun by hand a single thread at a time, hence we find that William and John Haggas, in the early part of this century, were engaged in making both worsted and cotton pieces at Higher Providence Mill; and about the same time Lodge Calvert was making both cotton and stuff pieces at Ingrow; when the firm gave up cotton about 1808, the partnership was continued by their carrying on the worsted trade, either using yarn spun by hand or getting it spun by commission. It appears that Messrs. Rouses, of Bradford, were spinning worsted at the Brow End Mill from 1810 to 1814. We recollect seeing eight spinning frames painted yellow about sixty years ago, which had been brought from the Brow End mill when the Rouses gave up its occupation in 1814. John Craven senior died, and about the year 1812 or 1813, John Craven the younger and Thomas Brigg began to spin their own yarn at Walk Mill, and in 1814 at Brow End. On the 23rd of January 1817, Thomas Brigg died, and at his decease his two sons Thomas and John Brigg were introduced into the firm when they were very young; it is probable that they took the place of their father under executors. On the 1st of January, 1822, a dissolution of partnership took place between the Cravens and the Briggs, when Thomas and John Brigg commenced business on their own account, in less than six weeks after, viz., on the 9th of February; in the same year Thomas Brigg died, leaving his brother John sole proprietor of the concern. The responsibility entailed upon him by the death of his father and elder brother at the commencement of a new business, with the inconvenience of a limited capital, principally consisting of old machinery; these difficulties would have crushed and paralized the spirits of many a young man of less energy and nerve, but

they were manfully faced, and doubtless moulded his mind and character to the habit of self-dependence, which, assisted by a shrewd judgment and extensive observation, made up a man who was able to meet the vicissitudes of business with calmness, and to deal with them successfully. Mr. Brigg spun his yarns at the Brow End Mill which was without steam power, being propelled by water, and was not capable of holding more than 20 spinning frames besides preparing. But it ought to be borne in mind that manufacturers did not require such extensive mill premises, as woolcombing and weaving were done by hand, generally in the cottages of the workpeople; besides, manufacturers were in the habit of getting a considerable quantity of their yarn spun by commission. The class of goods made at Brow End consisted of tammies, dobbys and plainbacks, and in 1833, he commenced making 6qrs. merinos. He began to use power-looms in 1834, and built the new mill at Calversyke Hill in 1836. In 1842 Thomas Brigg Laycock became a partner in the firm, which then took the name of John Brigg & Co. Mr. Laycock continued in partnership till 1858, when he removed to Bingley and carried on business at that place for several years. In the year 1845 the firm introduced the screw gill, one of the greatest improvements in connection with worsted spinning that has been brought out during the last 50 years. About the same time they began to weave figured goods in Jacquard looms. They began to use cotton warps about 1850, and in 1853 they built the weaving shed, and in the same year they introduced combing machines; but they kept a few hand combers, principally old men who had been in their service for a considerable number of years; and it is only very recently that they have ceased to employ this class of workpeople. The

class of goods made by the firm since the new mill was built comprises a considerable variety, such as says, shalloons, lastings, buntings, veilings or seive cloth, delains, camlets, wildbores, serges, bombazets, cubicas, the bets durants, satteens, orleans, cobourgs, and goods made from coloured yarn, besides tammies, wildbores, dobbys and merinos.

The late Mr. John Brigg was a christian gentleman of sterling integrity and uprightness; there was nothing of ostentation in his piety, but in a quiet and unassuming way he tried to lessen and mitigate the ills and sufferings to which our common humanity is heir. We recollect meeting an aged person many years ago, who was almost overcome with joy in consequence of his having been visited by Mr. Brigg in his affliction; this old man exclaimed "what a thing it is that a magistrate should visit such a poor old body as me, and talk with me about my soul and pray with me." The late Mr. Brigg was no stranger to the luxury of doing good, thus carrying out the injunction of an inspired apostle where he says, "Pure religion and undefiled before God and the Father is this, To visit the fatherless and widows in their affliction, and to keep himself unspotted from the world." Mr. Brigg was a Non-conformist in religion, belonging to the Independent body in Keighley, of which church he was a deacon. A few years ago a new Independent Chapel and minister's house was built in Devonshire Street, to which scheme Mr. Brigg was one of the principal contributors, and we are glad to learn that his family are following their father's example, and trying to walk in his steps, as we believe that it is to a considerable extent, through their influence that the beautiful Congregational Chapel at Utley has been built, and the ministry supported. They have also assisted in repairing the old chapel in High-street,

which has recently been fitted up as a mission chapel and Sunday School.

The late Mr. Brigg wisely took three of his sons into the firm, as they grew up to manhood; the eldest son, however, retired from business before the death of his father. Two of the sons are in business at Bradford. Mr. Brigg died December 1867, leaving four sons and one daughter. The business of the firm is now carried on by the second and youngest sons, viz., John and Benjamin Septimus Brigg. These two gentlemen have taken a very active part in promoting the building of the new Mechanics' Institution, and the establishment of the Trade School in connection with it, thus placing Keighley in a position far superior to any town in Yorkshire of the same size for educational advantages. This firm is held in great estimation by a numerous class of workpeople, amongst whom we have known several who have been in their employment for nearly half a century.

JAMES HAGGAS & SONS.

THE two firms, that of James Haggas & Sons, and that of William Haggas & Son, date back to the early part of the eighteenth century, from which time the Haggas' family have been continuously engaged in business as manufacturers of stuff pieces, down to the present time. Mr. William Haggas, of Cross Roads Mill, has in his possession the following indenture, made between Jonas Haggas and John Jackson, both of Halifax, bearing date 1715.

"This indenture, made the 1st day of March in the first

year of the reign of our sovereign George, by the Grace of God, of Great Britain, France and Ireland, King, Defender of the Faith, &c., and in the year of our Lord 1715, between Jonas Haggas, of Halifax, in the county of York, cordwainer, and John Jackson, of Halifax, in the same county, of the other part, witnesseth that the said James Haggas, his son, hath of his own free will and with the consent of his said father, put and bound himself apprentice to, and with the said John Jackson, of Halifax, and with him after the manner of an apprentice, to dwell, remain, and serve, from the day of this date, for, during, and until the term of seven years thence next following be fully completed and ended, during all which said term the said apprentice his said master well and faithfully shall serve, his secrets shall keep, his lawful commands shall do, fornication or adultery he shall not commit, hurt or damage to his said master shall not do, nor consent to be done, but to his powers shall let it, and forthwith his said master thereof warn, taverns, or alehouses he shall not haunt or frequent, unless it be about his master's business there to be done, at dice, card tables, boules, or any other unlawful games he shall not play, the goods of his said master shall not waste, nor them lend or give to any person without his master's licence, matrimony with any woman within the said term shall not contract, nor from his said master's service at any time absent himself, but, as a true and faithful apprentice shall order and behave himself towards his master, and all, as well as in words, as in deeds, during the said term. And true and just accounts of all his said master's goods, chattels and money committed to his charge, or which shall come to his hands, faithfully he shall give at all times, when thereunto required by his said master, his executors, administrators, or assigns, and the said master

doth promise to find him meat and drink, lodgings and washing, and all other clothing, linen and woollen, and is to learn him combing and weaving shots, gos and shalloons, and all belonging to the said trade for himself, his executors, administrators, and assigns, doth covenant, promise and grant by these presents, to and with the said James Haggas, his apprentice, that to the said John Jackson, his executors, administrators, or assigns, shall and will teach, learn, and inform his the said apprentice, or cause him to be taught, learnt, and informed in the trade of combing, weaving shots, gos and shalloons, which he the said master now useth after the best manner of knowledge that he, or they, may, or can, with all the circumstances thereto belonging, and also shall find, provide to, and for his said apprentice, sufficient and enough of meat and drink, and for the true performance of all and singular, the covenants and agreements, either of the said parties aforesaid, doth bind themselves unto the other firmly by these presents, in witness whereof the parties above named, to these present indentures, interchange ably have set their hands and seals the day and year above written.

JOHN HAGGAS. JAMES HAGGAS.
HENRY HAGGAS. JOHN JACKSON.
JONAS HAGGAS.
LU WADDORD.

There is a tradition in the Haggas family that their ancestors crossed the border and came from Scotland. It appears that nearly two hundred years ago, the family were residing at Halifax, as in the year 1715, three persons of this name signed the above indenture. Jonas Haggas seems to have been a man of considerable energy and thrift, for while himself but a shoemaker, he was able to bring up his

son James to the business of stuff manufacturer. It appears that shortly after James Haggas had completed his apprenticeship with Mr. Jackson, he came to reside at Weethead, above Fell Lane, where he carried on business as a manufacturer of stuff pieces, employing hand combers and weavers, and selling his goods at Halifax market, held on the Saturday; consequently Friday was the taking in day for the weavers, and doubtless 150 years ago, on these taking in days, numbers of country lasses and more staid matrons, might have been seen wending their way to Weethead, with their heavy loads of pieces on their shoulders, while others would be returning home with their piece bags full of warp and weft, and carrying several stripes of sizing in their hands.

About the year 1742 Mr. Haggas purchased the Oakworth Hall estate, to which place he shortly after removed his business, and this estate has remained in the Haggas family down to the present time. James Haggas was not only a very loyal subject of the King, but also a man of great energy and enterprise, for being in Manchester on a certain day during the Scottish rebellion in 1745, and having learned that the rebels had crossed the border, he at once mounted his horse and rode to Halifax, from which place he took post horses to London, where he arrived in a very short time, and was the first to inform the government of what had taken place, for which service we understand His Majesty offered to create him either a Baronet or a Peer of the Realm.

Mr. Haggas died in 1778, and was succeeded in business by his son James, who, like his father, being a man of great industry and enterprise, while continuing the manufacturing business and cultivating the farm at Oakworth Hall, was also in the habit of going into Lincolnshire to buy his wool. The class of goods he made consisted of says, drawboys and

shalloons, having his warehouse at Oakworth Hall where he stored his goods, sorted his wool, and delivered out work to combers and weavers, selling his pieces at Halifax market. In the year 1803 a Mr. Leach of Halifax built a mill at the Higher Providence for cotton spinning, and Mr. Haggas took the mill for his two sons, William and John. William, the elder brother, at first hesitated about going into partnership with his brother, when the father, full of energy and enterprise with regard to any likely commercial undertaking, said, "If you will not go into partnership with our John, I will;" this smart expostulation decided the elder brother, and they became cotton manufacturers. Besides spinning their yarn at the above mill, they also employed a considerable number of hand loom weavers. About the year 1812 the two brothers began to manufacture stuff pieces, and for a time they carried on both the cotton and worsted trades, occupying about one half of the mill in worsted spinning. However, in the course of a year or two they cleared out all the cotton machinery, and shortly after John Haggas, who had no sons, retired from the firm, and received his share of the effects at the dissolution entirely in cotton pieces. After this William Haggas carried on the business at Higher Providence Mill on his own account. About 1825 the late Hiram Craven bought Higher Providence Mill, and soon after rebuilt it, putting in two water-wheels, one above the other, so as to use the water twice over, and making in connection therewith a very large and expensive reservoir, or mill dam; and elderly people will recollect that at the entrance to the reservoir bank, two rib bones taken from the body of a whale formed a sort of arched entrance or doorway. In consequence of these alterations Mr. Haggas removed to the Springhead Mill, and in the year 1831 took his two sons,

James and William into partnership, and although Mr. Haggas continued to attend Bradford market a few years longer, the main weight of business devolved upon the two younger partners. In 1834 James Haggas the 2nd, of Oakworth Hall died, and in the same year the firm of William Haggas & Sons removed their machinery to the Damems Mill. About this time a very brisk trade sprung up in 6qrs. merinos; in this class of goods they were extensively engaged, besides which they continued to make 3qrs. plainbacks, tammies and shalloons, and in 1835 they began to weave with power looms. During the last century the Haggases made a class of figured goods called drawboys, and in 1837 they began to make figured goods in Jacquard looms, and in the same year they commenced the use of cotton warps. In 1841 they were principally engaged in making paramatas and orleans with double cotton warps, and in 1844 they were engaged in the alpaca trade, especially in manufacturing a class of goods called alpaca lustres. In 1845 they began to make a class of goods called silk stripes, the warp being formed of silk and cotton with mohair weft. At this time the firm were making figured goods both with worsted and cotton warps, and they continued to make the above class of goods till 1852, when the partnership was dissolved, James Haggas, the elder brother, took the south part of Damems Works, and about the same time took his two sons, William and John into partnership, carrying on business as James Haggas & Sons, which is the name of the firm at the present time. At the same time William Haggas took the northern part of the Damems Works, and took his son John Haggas into partnership, carrying on business under the name of William Haggas & Son. James Haggas & Sons continued to carry on business at Damems Mill till 1860.

In 1859 they purchased Ingrow Mill from the late William Emmott, of Halifax, and in 1860 they bought the Lane Ends Estate, comprising mill, shed and land, besides nearly one hundred houses, and in that year they removed their machinery from Damems Mill to the two mills above named. At Lane Ends they have built a wool warehouse and enlarged the weaving shed, and at Ingrow they have recently built a large and handsome spinning mill and weaving shed, besides rebuilding the warehouse. They have also established telegraphic communication between the offices at Lane Ends and Ingrow; the head office continues at Lane Ends, although both the principles of the firm reside near Ingrow. Mr. James Haggas died in 1864, since which time the business has been carried on by the two junior partners, still retaining the name of James Haggas & Sons. The two members of the firm, who were comparatively young men at the death of their father, have, notwithstanding, displayed considerable business qualities, reminding us of similar good business habits possessed by their great-great-grandfather. The firm employ a great number of workpeople, circulating a large sum of money weekly in wages, and, notwithstanding their keen business instincts, we believe they are highly respected by their workpeople, many of whom have been a long time in their service.

WILLIAM HAGGAS & SON.

WILLIAM Haggas & Son continued to carry on their business at Damems Mill till 1868, in which year they had completed their mills near Cross Roads; these works comprise spinning mill, combing and weaving sheds, a very complete suite of buildings, with all the newest appliances in the fitting up, and with machinery of the most modern construction. This firm are untiring in their attention to business, taking advantage of every favourable turn in trade. The class of goods they have made since 1852 consists of orleans, cobourges, mohair and alpaca goods, with a great variety of figured goods woven in Jacquard looms with both worsted and cotton warps; they also continue to make a few goods consisting of all wool, such as plainbacks or merinos. This firm along with that of M. Merrall & Son, have made Cross Roads and Lees one of the most flourishing and prosperous neighbourhoods in this part of Yorkshire. This prosperity is doubtless greatly promoted and stimulated by the moral and religious character of the people, for in conversation with a shopkeeper who resides on the spot, where he has been living for the last twenty years, and therefore has had a good opportunity of knowing the circumstances of the inhabitants, he said he did not know of a single pauper in the village.

Calling upon the firm of William Haggas & Son to collect information for these articles, we met with the greatest kindness and courtesy from both the members thereof, for they not only entered into our views, but allowed us the loan of very valuable documents with the greatest possible heartiness and good feeling, which we felt truly refreshing, as coming from parties having no small share of the anxieties of business during these disastrous times,

B. & W. MARRINER.

THE land on which the West Greengate Mill was built formerly belonged to a family of the name of Blakey; we have seen a conveyance dated 1761, in which John Blakey the owner of the estate sold a field or close of land to Joseph Stell, of Walk Mill, silk merchant; this field was called Dam Close, and it was probably bought by Mr. Stell to augment his right of the waterfall at Walk Mill.

In the year 1775 a gentleman of the name of Abraham Smith, of Howden, in the parish of Kildwick, purchased the West Greengate Estate, and about the same time bought four closes of land on the south side of the beck, opposite to where the Greengate Works now stand. He bought these four fields from a Mr. Booth, merchant, residing in London, and on this land the late Mr. Wm. Marriner built his house, about the year 1782. Mr. Smith built the West Greengate Mill for the purpose of spinning cotton, and this cotton mill began to run in 1784. We have seen an old ledger in which the earliest transactions bear the above date; when the mill commenced running the firm consisted of the following gentlemen, viz., Rowland Watson, John and Thomas Blakey, Abraham Smith and John Greenwood. In 1790 Mr. Smith retired from the firm and sold his share of the business to Rowland Watson and Joseph and John Blakey. It appears that Mr. Smith was never married, but he got his niece Miss Flesher, the daughter of Hugh Flesher, of Howden Top, to keep house for him at West Greengate. He only lived two or three years after he went out of business, but Miss Flesher with true womanly instinct, had so far anticipated her uncles wants, and so tenderly nursed him in

his affliction, and thus ingratiated herself into his favour, that at his decease he left her the West Greengate Estates. Mr. William Marriner, a young gentleman who came from the neighbourhood of Kirby Lonsdale, and had been in business for several years at Keighley, very likely hearing of the excellent character and many virtues of Miss Flesher, resolved to make love to her; his addresses were accepted on the part of Miss Flesher, and about the year 1793 they were married, and in the same year Mr. Marriner was taken into the firm at West Greengate, when the firm consisted of Rowland Watson, Joseph, John and Thomas Blakey, and William Marriner. It appears that a few years later, Lister Ellis and his brother William, late of Castlefield, were partners in the firm; however, in a short time the Ellises sold out their one third share in the cotton business to the Blakeys and Mr. Marriner, by whom the business was subsequently carried on. Mr. Marriner died in 1809, comparatively a young man; his widow survived him about forty years, beloved and respected by every one who knew her. After his decease the cotton business was carried on by the Blakeys till 1818, but was then given up, and the mill was changed to worsted. As the Blakeys had been in business at this mill for 34 years it went by the name of Blakeys' Mill. Seventy years ago the Blakeys were classed amongst the leading families of the town, and several of them were engaged in the cotton trade. Samuel Blakey practised in this town as a solicitor at the beginning of this century, and was the owner of the Aireworth Estate. Another of this family built the house at Townfield Gate, at present occupied by Dr. Dobie; one of the females of this family married the late Lodge Calvert; another married George Beck, surgeon, of Damside.

When the above Mr. Marriner died he left two sons and

one daughter, this daughter became the wife of the late Mr. John Brigg, and the two sons, the late Benjamin Flesher and William Marriner, commenced business in 1815 as stuff manufacturers. They bought their first wool in the above year, employing a number of hand combers and hand loom weavers, getting their yarn spun by commission till the year 1818, when they began to spin their own yarn at West Greengate Mill. The class of goods they made from 1815 to 1824, consisted of tammies, dobbies and plainbacks, a class of goods then generally made in this district. From 1824 to 1835, they made tammies, dobbies, plainbacks, shalloons and damasks, when the weaving was given up. This firm began the making of heald and gennappe yarns in 1825, and in the same year they introduced into their mill carding engines or machines. In 1833 they commenced making soft yarns, commonly called Berlin wool; these fine and soft yarns are extensively used for ladies' knitting and crotchet work, made into a variety of articles too numerous to mention. In 1826 they commenced making a variety of carded yarns, which were sent to London and Manchester, and shortly after to Kidderminster, Leicester, and the north. These yarns are used for making fringes, braids, carpets, hosiery and a variety of other articles. In 1841 they commenced spinning mohair yarn produced from the Angora Goat; this yarn was extensively used in the Norwich trade 200 years ago; it also appears that this beautiful and glossy material was spun 3,000 years ago by the Hebrew women, in making the covering and curtains for the Tabernacle in the wilderness, for we read in Exodus xxxvi, 14, "And he made curtains of goats' hair for the tent over the tabernacle; eleven curtains he made them." We think it is very probable that this goats' hair was similar to the mohair produced by the Angora Goat. In 1854 the firm

introduced combing machines. In making several of their yarns the wool is first carded, and then passed through the combing machines.

The firm have always borne a high character for probity and uprightness: they are churchmen, but churchmen of a very liberal type, ever ready to give the right hand of fellowship to other denominations. We recollect between 50 and 60 years ago regularly seeing them at the Methodist Chapel, where they occupied a pew in the front gallery. When the National Sunday School was begun more than 50 years ago, the late Mr. B. F. Marriner was one of the founders, and was untiring in his efforts to promote the prosperity of that institution, nearly to the end of his life. We have a pleasing recollection of the great kindness we always met with whenever it was our duty to wait upon him, and for which we shall always feel grateful so long as memory holds her seat. The late Mr. William Marriner was equally kind and obliging, and as it was our lot frequently to call upon him for help in some charitable object, he never sent us away without giving us a liberal subscription. The business is at present carried on by the two sons of the late B. F. Marriner, who keep up the good name of the firm by their uniform kindness and urbanity, as evinced by a considerable number of their workpeople remaining a long time in their employ; and although, like their father, they are conscientious churchmen, yet their christian liberality was manifested on several recent occasions, when a Methodist Sunday School was commenced not far from their works. The elder member of the firm, along with part of his family attended the anniversaries when the school was struggling in its babyhood, and encouraged the managers by always replenishing the school funds with a liberal contribution.

WILLIAM LUND & SON.

Mr. Lund's ancestors were mostly engaged in agricultural pursuits. William Shackleton, his maternal grandfather, was the owner of several farms in the village of Newsholme and elsewhere. He had two sons and one daughter, and at his decease he left his Newsholme farms to his two sons. One of these sons, the late Richard Shackleton, of Green Top, went into the cotton trade at Goose Eye, and in a few years lost all his property; the other son, William Shackleton, very unwisely mortgaged his farms in order to raise money to lend to a friend to speculate in wool, and we understand never saw a penny of it afterwards. Mr. Shackleton's daughter married a Mr. James Lund, Mr. William's father, who occupied his own farm at Spring Head, near Bog Thorn; he was also the owner of part of the Knowle Farm, which he afterwards sold to Mr. Greenwood, of North Brook Mill. We have seen a conveyance in the possession of Mr. Lund, of Malsis Hall, in which his grandfather, James Lund, then residing at Lower Bracken Bank, sold to John Greenwood, cotton merchant, a field called Rawling Close, on which he built the Knowle Hall. Mr. James Lund's father, John Lund, occupied a farm at Newsholme Dean, and this farm has been occupied by the Lund family ever since. Mr. William Lund, the head of the firm of William Lund & Son, was engaged in business from early manhood, both on his own account and on commission, and both in the worsted and cotton trade. At first he employed a few hand loom weavers, either purchasing his yarn or buying tops and getting them spun by commission. About the year 1819 he took the Holme House Mill, which he afterwards purchased;

at this mill he kept hand combers and weavers, spinning his yarns at the same place. The class of goods he made at Holme House consisted of 5-eights and 3qrs. plainbacks, and wildbores. In the year 1830 he removed his machinery to North Beck, where a new mill had been recently built by his brother-in-law, the late Joseph Binns. Soon after he came to this mill he consigned about £1,500 worth of pieces to Mr. Sands, of Liverpool, who, about that time, got into difficulties; but for the respect he had for Mr. Lund, placed these goods in other hands. Mr. Lund not being aware of this transfer for more than nine months, was expecting to loose considerable property, but these pieces were sent to America and sold, on which he realized a very handsome profit. It was this transaction which led Butterfield Brothers to embark in the American trade. Mr. Lund and the late Mr. Richard Butterfield were very intimate friends, and when he had received his money from America, he told Mr. Butterfield of the very favourable termination of this transaction, and said if he had been a young man he would go at once into the American trade. Mr. Butterfield took the hint, and this led to the Butterfield Brothers becoming foreign merchants. About 1838, Mr. Lund purchased Mr. Binns' interest in the North Beck Mill, which was built on leasehold land belonging to the Duke of Devonshire, and he bought the freehold of this mill in 1851. At first he only occupied part of the mill himself, combing and weaving being done by hand in the cottages of the artizans. Soon after he came to this mill he took a very large order for 3qrs. merinos, which it took a considerable time to execute, and in the meantime wool lowered in price which made his profits greater than he anticipated, and the merchant to whom he sold the goods never attempted to shirk the bargain. This

order was the beginning of his very prosperous career; he used to say to old Joseph Town, who, for a number of years was upon the most intimate terms with him, that he found he had more money week by week, and in about two years after he came to North Beck all the mill was in his own occupation. About this time the 6qr. merino trade came into vogue, in which class of goods the profits, for several years, were on a very liberal scale. In the year 1831, he obtained two power looms, the first which ever ran in Keighley, although they were stowed away in the garret of the mill for nearly two years. Early in the year 1833 the two looms were brought out of the garret and set to work, and a number more obtained from Mr. Shaw, of Halifax. Messrs. Butterfield Brothers obtained a number of power looms about the same time, which they set up at the Prospect Mill. In 1835 Mr. Lund obtained a number of looms from Messrs. Fox & Bland of this town, whose power looms he considered the best in the trade. When he commenced the 6qr. merino business he was in the habit of sending his cart into Lancashire in order to put out work to hand loom weavers, bringing the pieces back to North Beck. In this he was assisted by his eldest son, the late Mr. John Lund, who went weekly into Lancashire to take in pieces and to pay wages, besides assisting his father at the works and at Bradford market. However Mr. Lund had the great misfortune to loose his son, for in the year 1842 he died. In the above year Mr. Lund built his first weaving shed, the first weaving shed erected in this county, and was built after the pattern of a weaving shed belonging to Messrs. Fieldings, of Todmorden, of which Mr. Joseph Binns was the architect. The goods made by Mr. Lund at this time consisted principally of 6qr. merinos, of which class of goods he was considered one of the best

makers in the trade. We do not find that there was any serious opposition on the part of the work-people in this town to the introduction of machinery, either in spinning or weaving, yet Mr. Lund kept two power looms idle for nearly two years before he ventured to make use of them, and probably they might have been stowed away much longer if he had not heard that another firm was about to begin weaving by machinery. However, some of the stuff merchants were dead set against buying pieces woven by the power loom, and Mr. Lund used to tell about a merchant with whom he did a considerable amount of business, who seriously advised him to have nothing to do with power looms; he however, had too much good sense to take the advice of this well meaning stuff merchant; but, shortly after having introduced power loom weaving into his mill, and having a pile of pieces in his warehouse at Bradford made by power, when the above merchant called to look at his goods, he at once shewed him the pieces produced by power looms without telling him how they had been made, when as soon as the merchant saw them he exclaimed, "Well done Willy, these are perfect beauties," and gave him three shillings per piece more for them than for pieces of the same quality woven by the hand loom, and continued to take them for a considerable time. From this time Mr. Lund superceded hand loom weaving by power looms as fast as he could. The weaving sheds have been enlarged several times, and they now contain more than 1,000 looms. Within the last twenty years the firm have obtained their looms principally from Messrs. George Hattersley & Sons. When Mr. Lund came to the North Beck Mill he began with eight frames, made by Berry Smith and Titus Longbottom; he also obtained additional frames from Thomas Smith and John Moore, of Bingley. Some of Berry Smith's

frames had wood ends and tin carrying rollers, but they always liked those frames for spinning warp yarn. About the year 1839, they began to obtain their spinning frames from Messrs. William Smith & Sons, whose machinery has stood unrivalled, not only in Keighley, but throughout the worsted district for the last forty years. We understand that one of the greatest improvements in connection with worsted spinning, that has taken place during the last fifty years, was the invention of the gill box or screw gill, patented by Mr. Gill, of Baildon Green. Mr. Lund was the second person in this town to obtain one of those useful machines, which in a short time entirely superceded the old circular porcupine, the gill almost combing the sliver over again. In 1838 he commenced the making of orleans cloth or lustres, made with bright-haired wool, and it was this class of goods which ultimately led to his greatest success, notwithstanding he found it one of the greatest struggles of his life. It was more than two years, during which time they tried a great variety of experiments before they came to anything like perfection, when one day they started a frame with warp rovings made from Yorkshire and Lincolnshire hogs, and only gave the yarn a twist of between five and six turns to the inch, and wove it into a warp with a very small thread, when the pieces thus made had a bright and silken appearance. Having made this discovery they at once adapted their spinning machinery for spinning lustre yarns, and for more than twenty years the firm stood unrivalled in the markets of the world, as makers of orleans cloth. Their goods were known by a certain number or trade mark at Paris, Hamburg, Leipsic, and other continental markets, as well as in most of the commercial centres in the United States of America. Some people seem to have the opinion that in order to suc-

ceed in business, it is necessary to use a great deal of low cunning, and to resort to all sorts of dishonest tricks of trade, asserting that the really honest tradesman cannot succeed in the present state of competition. With these sentiments, however, we hold no sympathy, for we believe that people engaged in business, for the most part, are too wide awake to be duped in this way for any length of time, and it is generally found that those who practice them, sooner or later come to grief. Mr. Lund had the greatest abhorrence of such low and mean practices, and it was always his custom, when he had taken an order, to caution his managers to be sure to make the goods full better than the sample; the consequence was that the goods of this firm gave great satisfaction wherever they went. He always ascribed his success in business to the ability and talent of his managers; and in this respect he no doubt made a very happy choice, his first manager after he went to North Beck was the late John Sunderland, who was at first engaged as a mechanic, but finding him to be a man of ability, he soon placed the spinning department entirely under his direction. Mr. Sunderland, however, becoming old and incapable from increasing infirmities to attend to the business, he put into his place James Shackleton, who had been trained under Mr. Sunderland, but the old man was kept at the works as long as he was capable of doing anything. James Shackleton, by his energy and perseverance, became an excellent spinner of lustre yarns. The weaving department for about twenty years was under the management of the late Samuel Hudson, who, by great care and attention, brought this department of the works into a high state of efficiency. Another of the managers who came to the works in 1842, was Mr. Lund's brother, the late John Lund, grocer, of Damside, one principal part of his employ-

ment was carefully to examine all the pieces before they were sent to market, besides taking a general oversight of the entire works. Another manager at this firm was Joseph Hardcastle, now of Bingley, who came to the firm while in his teens to learn the business, and having acquired a considerable knowledge of lustre wools, Mr. Lund placed him over that department, to select and to buy the wool both in the country and at Bradford market. In the year 1853 he took his only surviving son, Mr. James Lund, into partnership, at the same time he took Mr. Hardcastle into the firm for a period of five years, and when his term of partnership expired, he left the firm and removed to Bingley. It appears that after this partnership was formed, Mr. Lund, senior, did not take so active a part in the concern as he had done formerly, but left the management and oversight principally to the junior partners; and perhaps it was better for the concern that he did so. He was now considerably over sixty, and, although a very clever tradesman, like all old men, his notions had become somewhat stereotyped; he was loath to change or to adopt any new or improved scheme. Mr. Hardcastle's attention being principally confined to the wool department, the oversight of the spinning and weaving operations fell into the hands of Mr. Lund, junior, who for this department was eminently qualified, having been bred up to business from early life. He had made himself familiar with the minutest details of the various processes of the machinery as carried on at the works, and soon discovered the possibility, if not the necessity, of very great improvements. Without consulting his father, who he very well knew would not agree to the proposed alterations, he set to work, and in a short time, at the outlay of a large sum of money, placed the machinery in such a position for economi-

zing time and expense in the carrying out of the various processes as had never been attained before. When he had completed his arrangements and carried out his plans, he called his father's attention to what had been done, who declared "it was the greatest improvement that had ever been made at the works." About the same time the firm built a new spinning mill which was built three yards wider than the old gentleman intended it to be; and all acquainted with modern spinning machinery, are aware that if the mill is too narrow, the building is not one half as valuable as one built with more ample capacity, especially in the width of the rooms.

Mr. Lund, senior, departed this life in the year 1861, when the whole business fell to the only surviving partner, Mr. James Lund, of Malsis Hall, by whom the business has been greatly extended, both mills and weaving sheds having been considerably enlarged, besides the building of one of the most substantial wool warehouses in the district, being seven stories in height, and five of those stories measuring 14ft. from the floor to the ceiling. He has built good offices, well finished, to which he has added an electric telegraph, communicating between his own residence and the offices. He has also added a complete system of water mains, encircling the entire premises with fire plugs at short distances all round the works; with a steam engine, specially set apart, to force water to any part of the works in case a fire should take place. He has likewise formed a fire brigade ready trained at the works in case of an accident from fire, and has hand engines always ready charged, so that it now forms one of the most compact and valuable establishments in the town, giving employment to over 1,000 workpeople, some of whom have been in the service of the

firm all their working lives. Several others who had grown old in their employ, are now pensioned off, and by all the workpeople, we believe, their employer is held in great estimation for his uniform kindness and generosity.

We believe the following report of Mr. Sands has never been successfully contradicted. (We have already referred to Mr. Lund's transactions with Mr. Sands, the Liverpool merchant, who was early associated with the Cunard Line of packet ships, which was started to ply between England and the United States of America.) The first vessel sent out by the Company was named the "Sarah Sands," after the wife of Mr. Sands, who in the success of this enterprise took a very lively interest, and being a very pious and devoted lady, made it a matter of earnest prayer, for several weeks in succession, that Divine Providence would watch over the passengers, and that no lives might be lost; and while the vessels of this Company have been engaged in conveying thousands of passengers across the Atlantic for a great number of years, along with ships belonging to the Inman and White Star Companies; and whilst ships of the two latter Companies have lost scores and hundreds of lives through storms and shipwrecks, the Cunard Line, although they have encountered unnumbered hurricanes and shipwrecks, they have never lost a single life.

ROBERT CLOUGH.

Mr. John Clough, of Bent, near Cross Hills, a yeoman or gentleman farmer, in the latter half of the last century was engaged in business as a manufacturer of stuff pieces, such as calimancos, plainbacks and wildbores, employing hand combers and hand loom weavers, and having his yarn spun by the hand spinning wheel one thread at a time. He was in the habit of taking his tops into the dales on horseback, and delivering them out in small quantities to hand spinners, or, like other manufacturers of that day, leaving a bag of tops with a village shopkeeper, and allowing a small commission for his trouble, and the shopkeepers were generally ready to undertake this business as it brought additional custom to the shop. There is a tradition in the family that Mr. Clough was the first to set up a pot-of-four (round which four combers could work) in Sutton, where it appears he had his warehouse for sorting and storing his wool, and for delivering out work to his combers and weavers. Two of Mr. Clough's sons, Robert and John, were brought up to the business with their father, while another son, William, continued to reside at the Bent after his father's death, farming the land, and died at the old homestead only a few years ago. The above Robert Clough was in business on his own account at Sutton for a few years, but in the year 1822, he took into partnership his brother John, when they purchased the Grove Mill, which had formerly been occupied by Mr. William Illingworth as a cotton mill. Having fitted up the mill with worsted machinery, they began to spin their yarns, having their warehouse at the Grove for storing and sorting wool, and

for delivering out work to combers and weavers. The class of goods they made consisted of 5-eights and 3qr. plainbacks and wildbores. Mr. John Clough, the younger brother, resided at the Grove, while the elder partner continued to reside at Sutton. About the year 1826, the business at the Grove having proved a success, they found there was a necessity to extend the premises; however, instead of doing so they agreed to dissolve partnership, when John the younger partner, leased the Ingrow Mill from the late William Emmott, of Halifax, who had previously occupied it as a paper mill. Robert Clough continued to carry on his business at the Grove. The first extension of the premises at the Grove took place in 1831, when an addition was made to the old mill on the south end, extending a few yards into the parish of Bingley. A second extension took place in 1836 in the building of what is called the new mill, carried in a westerly direction towards the mill dam; this mill is now principally used for reeling and scouring gennappe yarns. Power looms were first used about 1836, in the top room of the old mill. In that year Mr. Clough began to make 6qr. merinos, a class of goods which yielded a very large profit to the manufacturers. About 1827 he took his oldest son, the late John Clough into partnership. He was remarkable for laying up large stocks of pieces in flat times, and was mostly fortunate in being able to dispose of them to advantage when trade began to revive. He died in 1848, and after his decease the business was carried on by his son John, the surviving partner, who carried on the business under the name of Robert Clough, which is the name of the firm at the present time. In 1842 he began to make orleans cloth, and in 1857 the firm introduced a class of goods called lastings, which goods they are making at the present time.

These goods are no new invention, for they were made at Norwich 200 years ago. The goods they make at present, in addition to lastings, are a beautiful class of goods with alpacca and mohair weft. They are also extensively engaged in making lustre yarns from bright-haired English wool; also gennappe yarns which are doubled, then scoured, singed, and dyed before being sent to the market; besides the above they are making yarn from camel's hair. In 1846 they made another addition to the south end of the old mill. The wool warehouse was enlarged in 1832, and again in 1862. The large new mill by the side of the Worth Valley Railway, was built in 1864, and the new wool warehouse in 1872. In the same year they built a weaving shed capable of holding 1,000 looms. The latest enlargement, built in 1877, consists of a shed for singeing gennappe yarn. The spinning mills, warehouses, and sheds now form a very complete and extensive set of buildings, in addition to which they have recently leased the Alexandra Mill, in Low Street, which they occupy as a spinning mill. The late Mr. John Clough, of Grove Mill, dying in 1865, was succeeded by his three sons Robert, John, and William; the firm is still carried on in the name of their grandfather, Robert Clough. They are all three exceedingly steady, enterprising, and industrious in their business transactions, and for probity and uprightness their character is above suspicion.

They have been the principal means of building the beautiful Methodist Chapel and Schools at Paper Mill Bridge, and more recently, in promoting the extension fund for building several additional Methodist Chapels in the Keighley Circuit; and their liberality is almost unbounded in the spread of religion and education in this locality.

JOHN CLOUGH & SONS.

Mr. John Clough was descended from a family of gentlemen farmers residing at Bent, near Cross Hills; his father, besides being a farmer was also engaged in business as a manufacturer of stuff pieces, and two of his sons, Robert and John, learned the business with him. In the year 1822 they purchased the Grove Mill Estate, where they at once commenced business as manufacturers of stuff pieces. Mr. John Clough came to reside at the Grove in order to superintend the business, while Mr. Robert remained a few years longer at Sutton, which was the place of his residence, but he frequently came over to the Grove to assist his brother in the business. The success of the business at the Grove led to the employment of additional workpeople, and, as cottages were very scarce in the neighbourhood and very much needed, a number of persons, some of them living several miles away, were induced to invest their spare cash in cottage buildings; the consequence was that in a few years a row of houses sprung up at New Road Side, reaching from Ingrow Bridge to Hermit Hole, a distance of nearly half a mile in length. In 1826 the firm felt the need of additional buildings for the extension of their business, but, instead of enlarging the premises at Grove Mill, they agreed to a dissolution of partnership, when John Clough took the mill at Paper Mill Bridge, (now called Ingrow Mill) and went to reside at Ingrow House. At this mill for the next five years he spun his yarns, and delivered out work to combers and weavers; the class of goods he made at this period consisted of plainbacks, dobbies, and wildbores. In 1831, finding the

Ingrow Mill too small for the requirements of his business, he obtained a 21 years' lease from Mr. William Emmott, of Halifax, to commence from the end of the year 1832, in which lease he engaged to rebuild the mill upon an enlarged scale, and also to build a new warehouse for storing and sorting wool, in the mean time he occupied a room at North Beck Mill, where he spun his yarn. About the end of 1832 he again commenced spinning at Ingrow Mill, where he considerably extended his business, entering briskly into a new trade called 6qr. merinos—a trade in which some of the old firms made very handsome profits up to this time. He had his pieces woven by hand, but in 1834 he introduced power looms into his mill, at the same time continuing to employ a considerable number of hand loom weavers, and in the year 1841 he introduced the screw gill. About this time he took a voyage by sea from Hull to London, and about midway the engine broke down, and the vessel was detained at sea two or three days before the engine was repaired, which made the voyage occupy twice the time he expected; but we always look upon that accident to the steam engine on board that passenger ship as a real God send to him, for before this trip to the metropolis, he was subject to very indifferent health, especially to sickness after having partaken of food, but from that time he was for the most part free from his indigestion, and lived in the enjoyment of almost unbroken health to the end of his days—he lived to a good old age. In 1842 he began to use cotton warps in the making of parramattas and orleans cloth. In the year 1847 he purchased the Steeton estate, which formerly belonged to his father-in-law, the late Mr. Thomas Pearson; this estate comprised the mill, dwellinghouse, and farm. Soon after he began to run the Steeton Mill, his eldest son, William

Clough went to reside there in order to superintend the works. Mr. Clough had five sons and one daughter, the youngest son, Samuel, died more than thirty years ago, the fourth son, Robert, resides principally in the south of England, and we believe he has never been engaged in business; the daughter is married to Mr. Simeon Townend, manufacturer, of Horton, Bradford. In the year 1850, Mr. Clough wisely took his three eldest sons into the firm, when they took the name of John Clough & Sons. About the commencement of the partnership they went into the fancy trade, which consists principally of goods woven with dyed yarns. About this time the spinning mill at Steeton was considerably enlarged, a weaving shed and wool warehouse were built, which altogether form very neat and compact premises. In 1854 the firm gave up business at Ingrow Mill, and removed all their works to their own mill at Steeton, from which time they have been almost exclusively engaged in the fancy trade; the goods they make are chiefly for ladies' dresses both for home and foreign markets, and both in texture and design are exceedingly beautiful. They first introduced combing machines into their works in 1860, up to which time they had their wool combed by hand.

We believe the Messrs. Cloughs are highly respected in Steeton for their uniform kindness and urbanity, and we have no hesitation in saying that the late Mr. John Clough, the head of the firm, who died only a few years ago, was a gentleman of great kindness and generosity. We recollect calling upon him a few years before his decease for his subscription to a public charity, when he said, "I have been thinking the case over before you came, and I have made up my mind to double my subscription," and notwithstanding his wealth, he was as humble as a child, and any case of real

necessity being brought before him was sure to meet with a hearty response. He was a member of the Methodist Society, and his decease has caused a gap at Steeton which will not be easily filled up. As a christian gentleman and philanthropist, we do not expect soon to find his equal.

JONAS SUGDEN & BROS.

Mr. John Sugden, the founder of this firm, was born at Haworth, in the year 1767, in a house adjoining the old Methodist Chapel; this house and chapel were built for the Methodists by the Rev. William Grimshaw, Incumbent of Haworth, who was at the same time the superintendent of Haworth Methodist Circuit, which at that time extended from Haworth to Rochdale. Mr. Sugden being the owner of a freehold at Dockroyd, came to occupy it himself in 1790, and soon after married the daughter of Mr. William Newsholme, of Newhouse, a gentleman at that time extensively engaged in trade as a manufacturer of stuff pieces. From Mr. Sugden's connection with the Newsholme family it was very natural that he should enter upon the same business, hence soon after his marriage he added to the business of farmer, that of a manufacturer, employing five combers in a shop at Dockroyd. About the same time he went into partnership with James Hey, of Dean Field, they had their yarn spun by the hand wheel; they also employed a number of weavers who did their work at their own homes; besides which the firm had a weaving shop at Dean Field.

In 1805 they spun their yarn at Lumb Foot Mill. In 1806 a mill having been built at Lower Providence by a gentleman of the name of Leach, they removed their machinery to this place, which only held three frames, not more than half the size of frames now in use, and each frame was tended by three or four girls. The class of goods made at this time by the firm were drawboys and shalloons, and they were sold at Halifax market on the Saturday. To this market one of the partners went week by week, and the goods were conveyed to Halifax by their own cart. At an earlier period goods were carried to this market by men either in hand or on the back; for it would seem that at one time even the pack horse was unknown, as in the list of crimes punishable by the laws of the Forest of Hardwick, which included Halifax, we read of goods conveyed handebend and backerend, that is, in the hand or on the back, but there is no reference to any other mode of transit, an omission that would scarcely have occured if pack horses had been used for this purpose. Between two and three hundred years ago capital punishment was quite common for highway robberies, and at Halifax, under the Forests Laws, criminals were put to death by capitation on the guillotine, and the place of execution was at Gibbet Hill, situated in Gibbet Street; the property now belongs to the corporation, consisting of a house, occupied by the superintendent of the waterworks Behind the house is the place of execution, forming a garden and backyard, in which are stored a quantity of waterpipes. In the middle of the garden is the platform, built of stone. On the west end is a flight of steps, up which the criminal had to walk before his head was placed under the fatal axe. On a stone near the place of execution it is recorded that 52 persons were executed at this place in little more than

100 years; it is further stated that the first victim was from the small village of Sowerby, and that the last two victims were from the same place. It is supposed that these sanguinary laws were in force to protect the cloth manufacturers from highway-men. Such was the difficulty of conveying merchandise from one place to another, arising from bad roads and from highway-men, that, 200 years ago, the carriage of goods from Exeter to London cost seven pounds the ton; the same weight of goods can now be carried for a few shillings. In the Halifax Piece Hall there were 315 separate piece rooms, and two of these rooms were occupied by Messrs. Sugden & Hey. About the year 1810 the firm began to sell their goods at Bradford market, and when Jonas Sugden, (the eldest son of Mr. Sugden) was little more than fifteen years old, he began to attend Bradford market, taking the pieces of the firm in a cart; and we recollect nearly twenty years after, seeing him take his father's pieces to Bradford in the same way, with a loose seat in the cart on which he rode back home. Before Mr. Jonas was twenty years old the principal responsibility of the business devolved upon him. Mr. Sugden, the elder, had a very severe illness about 1820, which rendered him partially incapable of attending to business, and the accounts of the firm had not been balanced for several years, but this Mr. Jonas determind should be done, which, when carried out, it was found that without great care it would be impossible to continue the business in the way it had been hitherto pursued. We have frequently known cases when a partnership has not prospered, it has led to jealousy and dissatisfaction between the partners, and in this case it led to a dissolution of partnership in 1822, when Mr. Hey retired from the concern. The business was then carried on in the name of John Sugden, who, after a few years

took four of his sons into partnership, when the firm took the name of John Sugden & Sons. After Mr. Hey was paid his share out of the concern, it was found that their means were considerably crippled, when they at once resolved to abridge the amount of business done to the means of doing it. For some time they gave up, to a great extent, manufacturing on their own account, and spun by commission; the good effect of this step was afterwards seen, for the yearly examination of their accounts revealed a steady increase. Mr. Jonas, who was at this time, and thirty years subsequently, the soul of the concern, was a man of considerable foresight and shrewdness; one of those men referred to by Hugh Stowel Brown, in one of his lectures, who, if they have no capital make capital. From this time, by great care, industry, and economy, the firm had a career of considerable prosperity. The Providence Mill was twice enlarged, and in 1833 they took a room at the Mytholmes Mill, into which they put twelve spinning frames. In 1843 they entered upon the new mill at Mytholmes, built by Mr. John Craven, of Thorn House, York. In the year following they purchased the Vale Mill, which had for sixty years been occupied by Messrs. Greenwood as a cotton mill, and, as soon as the cotton machinery was taken out, they removed most of their machinery to this mill; but for several years they had their office and wool warehouse at Dockroyd where they had been from the beginning. The firm have made several large additions to the premises at the Vale, such as a large spinning mill, besides extensive sheds and warehouses. In 1839 John Sugden the senior partner died, when the firm took the name of Jonas Sugden & Bros., which it retains to the present time. The rapid extension and development of this firm was principally owing to the great business talents of the late

Mr. Jonas Sugden, who for many years stood at the head of the firm. The late Thos. Waterworth, Esq., used to say that Jonas Sugden was the ablest business man that ever entered his office.

Mr. Jonas Sugden was a Methodist Local Preacher, besides holding other offices in the body, such as leader, steward and trustee; and had he been living now, and in good health, he would doubtless have been chosen as a lay member of the Conference; and, although he was mostly engaged during the livelong day either in the office, the mill, or the market, yet he did as much work for the Church as many a man who receives a large stipend for church work; not only preaching nearly every Sunday, and attending on an average, four or five meetings a week, but spending a considerable portion of time in visiting the sick, the aged, and the infirm. The principles of morality carried out by this firm if generally insisted on by employers of labour, would, we feel pursuaded, exert a very beneficial influence upon the population. A notice was for a great number of years suspended near the entrance to the works to the following effect:—

"NOTICE—Jonas Sugden & Bros. wish and expect;

1st.—That every person in their employ attends some place of Divine worship every Lord's Day.

2nd.—That every youth dependant on those whom they employ, attends some Sunday and Day School from the age of six years and upwards.

3rd.—That those who are of proper age, and the parents or guardians of the young, make choice of their own school and place of worship.

Signed—JONAS SUGDEN.
JOHN SUGDEN.
ROBERT SUGDEN.
JAMES SUGDEN.

When the late Jonas Sugden was at the head of the firm no one was employed by them who was known to gamble, or to frequent the public house, and when young persons had fallen into sin, they were required to marry or leave their service. The firm was in the habit of subscribing £100 a year to the Wesleyan Missions, and, when the brothers were all alive, their individual subscriptions generally amounted to an equal sum. Their great zeal in promoting the interest of this society, was, we think, in one particular carried too far, for when they kept hand combers, it was their practice when there occurred a farthing in the amount of wages, to take the farthing and add another farthing to it, and then put it into the missionary box; as they had a sick club at the works to which the firm contributed, we think it would have given greater satisfaction if they had given the farthing to that fund. The class of goods made by the firm may be gathered from the official catalogue of the great exhibition of 1862;—

"Jonas Sugden & Bros. are said to have exhibited the following articles; plain and striped calimancoes, strong worsted merinos, union and princetta says, strong union and merino, shalloons merino, cubicas, summer cloths, double twills, union princettas, bombazets, worsted heald yarns, worsted gennappes, mohair and alpacca gennappes, 800 specimens used in the manufacture of poplins. The stuffs were a large assortment suitable for different markets, home and foreign. The yarns, plain and fancy, differed in thickness, quality, twist and colour."

Two prize medals were awarded to the firm, and the following notices appeared in the reports of the Juries:—

"Sugden Jonas & Bros., manufacturers, Dockroyd, near Keighley, Bradford, 167 classes, xii and xv p. 494; for says,

princettas, cubicas, shalloons, &c., made of English wool alone, and in connection with cotton they are chiefly intended for foreign consumption, and they are of great regularity in the weaving, and highly creditable to the producers. Report, p. 357."

"The variety of smallware yarns shown by Jonas Sugden & Bros., was very great, and their general management must give them a good position in the market for this class. J. C. p. 360." The prize medal was awarded for their gennappe, mohairs, and poplin yarns, J. C. p. 361. At the French Exhibition there was awarded to the firm a medal of the first class. They are said to have exhibited a large collection of worsted yarns, as samples of the numerous kinds that they fabricate, and these are pronounced to be generally well made, and to prove the possession of an excellent knowledge of the manner of working these different materials.

WILLIAM SUGDEN.

One of the most enterprising and successful manufacturers in this town fifty years ago, was the late Mr. William Sugden, of Eastwood House, who died in 1835. His father, John Sugden, was a woolstapler in Keighley during the early part of this century; after his death his son William carried on the stapling business for some time, to which he soon added the manufacturing of stuff pieces, employing a considerable

number of woolcombers and hand loom weavers. His wool warehouse stood near the Parish Church, on the site of the west portion of the Market Place. In the year 1819 he began to build the Fleece Mill, and a few years subsequently another mill on the opposite side of the mill yard, and parallel with the first mill. About the same time that he built the first mill, he commenced the building of Eastwood House, which, with the park and plantation, covered more than thirty acres of land, and has for the last half century formed the best family residence in the neighbourhood. Nevertheless, we think it will shortly be surpassed by the Cliffe Castle, belonging to H. I. Butterfield, Esq. Soon after the erection of the Fleece Mill, Mr. Sugden had it lighted with gas; the gasworks were in connection with his mill premises, and he was the first in this town to light his works with that which forms one of the greatest improvements of modern times, especially when compared with the tallow candle and oil lamp, with which all the mills in the town were lighted sixty years ago. The Keighley Gas Company was not formed, nor the Gas Works at Low Bridge erected till several years after. When the Fleece Mill got furnished with machinery, consisting of spinning frames and preparing, warping mills and reels, he was looked up to as the largest spinner and manufacturer in the town. About the year 1827 he introduced into his mill a machine called the 'Big Ben,' a rude sort of combing machine, but from what we have heard it did its work so indifferently, that other manufacturers were in no hurry to take advantage of it by introducing it into their mills. The class of goods made by Mr. Sugden consisted of plainbacks and wildbores, cotton warps at that time not being brought into use in the worsted trade.

Mr. Sugden owned a considerable number of cottages near

his works, which were occupied by his workpeople; as many as 80 per cent. of the working men of Keighley were at that time either combers or weavers. One of the latter occupation, living in one of these cottages, a Methodist class leader, having a large family, (and wages being very low, the operative classes could not afford many luxuries,) in whose welfare, Mr. Sugden feeling an interest, went one day into the good man's house at dinner time and sat down, wishing to see how they fared at the mid-day meal. The good woman of the house hesitated for a considerable time before placing the dinner on the table, but Mr. Sugden had called to see what they had for dinner, and continued to stay. By and by the weaver left his loom and came down stairs, when his wife mustered courage to place the plates on the table, followed by a dish of potatoes crushed in old milk, also some pickled cabbage, salt, and oat cake. The good man then asked the Divine blessing on the food set before them, when the family proceeded to eat their dinner, though innocent of the least particle of animal food; the dinner over, the good man returned thanks to Almighty God for the bounties of His providence. Mr. Sugden then left to go home, and, as he walked down to Eastwood House, he began to reflect upon the contrast between his luxurious table, and the meagre fare he had just witnessed, and upon the thankfulness felt and expressed in the midst of poverty, and his own ingratitude in the midst of plenty; and when he got home he ordered his butler to take a fitch of bacon from his own larder, and send it at once to the poor family he had just visited. Mr. Sugden died in the early part of 1834, when he was honoured with a public funeral, most of the tradesmen in the town taking part in the procession. A somewhat ludicrous affair took place a day or two before the funeral, in relation to an old

lady of the name of Illingworth, who had the ordering of the mourning dresses for the servants in the house, and also for several of the people at the works who were provided with black. Amongst the rest who were thus favoured, was an old woman, the wife of one of the woolsorters, and all who were thus provided, were ordered to call at the shop of the late David Illingworth, of Church Green, to make their selection; this woolsorter's wife in due time called at Mr. Illingworth's shop, and selected one of the best bombazine gowns with other clothing to match. Mrs. Illingworth, calling at the above draper's shop, and finding that the sorter's wife had got a bombazine dress, assumed an air of great displeasure, and set off post haste to the house of the sorter's wife, and demanded the costly dress back again, telling her that a common stuff dress was good enough for her. We suppose some bad blood had previously existed between the parties, for the sorter's wife at once laid hold on Mrs. Illingworth, either by the throat or the hair of her head, threw her down on the floor and gave her a good thrashing, but as soon as Mrs. Illingworth could extricate herself she returned home minus the bombazine dress, we hope a wiser, if not a better woman. Mr. Sugden was succeeded in business by his eldest son, William Sugden, when the business was somewhat curtailed, room and power being let off at the mill to other parties. Towards the end of this year, Mr. Sugden introduced power looms for weaving 6qr. merinos. A few years after, he began to sell most of his yarn, and about 1850, gave up weaving altogether. Mr. William Sugden, the II., died in 1852, when the business fell to a younger brother, the late John Greenwood Sugden, who had previously resided at Steeton Hall, as a gentleman farmer, but who soon after came to reside at Eastwood House. Some men

are said to be born tradesmen or merchants, but the late Mr. John Greenwood Sugden never seemed in his proper element in looking after wool, yarns and machinery. We think it is a great misfortune when a young man is placed either in a business, or a profession, uncongenial to his tastes, and we do not think the late Mr. Sugden ever felt at home in the worsted business; his likeings were far more in the directions of agricultural pursuits, of which he was an enthusiastic admirer, consequently the business did not prosper in his hands.

He was the founder of the Keighley Agricultural Society, and the high standing which this Society took, as one of the most popular local societies in England, was in a great measure owing to his assiduity and perseverance; and we are inclined to think, had he lived to the present time, the Agricultural Show would have stood as high in public estimation as ever it did. He was the very soul of the enterprise, and he grudged neither labour nor time to promote its best interest. He died in 1864, when the business, which had previously been considerably curtailed, was given up, and a few years later all his property in this town was sold, and his widow and family left the neighbourhood.

NATHANIEL WALBANK.

In several preceding articles we have noticed that the business of piece maker, or stuff manufacturer, was hereditary in the same family, being handed down from generation to generation, and this was the case with regard to the Walbanks. Nathaniel Walbank, the grandfather of the late Mr. Walbank, was one of the leading manufacturers during the latter half of the 18th century. He resided at Thwaites, where he employed both combers and weavers, and, like other manufacturers of that day, gave out his tops to hand spinners. The class of goods he principally made were drawboys; patterns of those figured goods are now in the possession of his great-grandson, Mr. W. E. Walbank, hay and straw merchant; one pattern is called the swan, from the figure of that bird being woven into the piece. He sold his goods in the Halifax market, which was the sole market for drawboys up to twenty years ago. It is probable that Mr. Walbank was also a farmer, as Thwaites was at that time an agricultural village; he lived to a good old age, departing this life February 10th, 1821. The above Mr. Walbank had a son, William Walbank, who also was engaged in business as a stuff manufacturer from 1791 to 1801; but as all the books and other documents used in trade by this party have been lost, we are unable to make out what class of goods he made; but, as shalloons, plainbacks, and calimancoes were then in vogue, possibly these might be the class of goods made by him; he died in October 1801, nearly 20 years before his father, in the 31st year of his age. Mr.

Nathaniel Walbank, the subject of the present article, like his father, went into business when a very young man. His first essay in business was in 1819, the class of goods he principally made, were plainbacks; he bought his yarn, or tops, and had them spun by commission, employing a considerable number of hand loom weavers. He seems to have pursued the even tenor of his way without anything very remarkable till the year 1826, when that terrible crash came, called Butterworth panic, and, as he had for some time sold nearly all his goods to Messrs. Butterworths, thus, according to the proverb, putting all his eggs into one basket, he found that he was a ruined man. Having compounded with his creditors, he in a few years afterwards went into business again, and being at that time unmarried and at small expense, he, with industry and economy, succeeded in making money. When he saw that he could spare a portion of his savings without injuring, or too much straightening his trade finances, he divided it amongst his creditors, and by two or three instalments succeeded in paying all his creditors 20 shillings in the pound. He thus succeeded in removing a burden from his mind, but not before his troubles in connection with his previous misfortune, had so far preyed upon a mind exceedingly sensitive and conscientious, as seriously to affect his physical constitution, and to bring on premature old age. The class of goods made by Mr. Walbank about this time, were plainbacks and shalloons. In 1834 he took room and power at the Fleece Mills, and commenced weaving by power looms, at the same time continuing to employ hand loom weavers. In 1835 he began to use cotton warps and to make orleans, parramattas and cobourgs. About the year 1843 he commenced the fancy trade, and was about the first in Keighley to make checks, plaids, and stripes with

coloured yarns; and having commenced the making of several of the above new sorts at an early period, he was enabled to realized considerable profits, but through failing health, in 1853 he gave up business, and, in a few years after he died.

Though not a very rich man, he left such a competency to his numerous family as placed them in comfortable circumstances. Mr. Walbank had a good name with the public, every one spoke well of him; he might have had enemies and detractors, but if he had, they were like angels' visits, few and far between. He reminds us of a young man, a candidate for the ministry, who was examined before a church court, at Halifax, about 50 years ago, when one after another of the members of the meeting spoke to the excellence of his character, indeed the general tone of the meeting was in his favour, when the chairman of the meeting, the late Rev. Theophilus Lessey said, "I do not know exactly what to think about this young man, for you know that it is written in the Word of God, "Woe unto you when all men shall speak well of you;" this produced a pause in the meeting; after a while the silence was broken by a venerable old layman rising to his feet and saying, "When a man's ways please the Lord, he maketh even his enemies to be at peace with him." Mr. Walbank was a member of the Wesleyan Society, and for many years a local preacher; he was a classical scholar, having in early life learned both Latin and Greek; and from a personal and somewhat intimate acquaintance with him which lasted many years, we believe that a more upright and conscientious man than Mr. Walbank Keighley never bred.

When a tradesman, through losses and unforeseen misfortune, fails in business, some one is always ready to vote him a knave, especially if he be a professor of religion; but we

hesitate not to say that many an honest man, through falling markets and other causes, has been brought to grief, and has had to compound with his creditors. If, however, after the unfortunate tradesman has passed through the Bankruptcy Court and obtained his certificate and commenced business again, and succeeds in saving money, if he be an honest man, his conscience will be ill at ease till he has paid his creditors every farthing he owed when he was made a bankrupt. And from the bottom of our soul we loathe and detest the man that has once failed in business, and afterwards has become rich, who, instead of paying his debts, builds his mansion, furnishes the same in the most costly manner, maintains a retinue of servants, and starts, it may be, his carriage and pair. We envy not the feelings of such a man when, driving to some sumptuous party, accompanied by his liveried servants, he passes unnoticed one of his former creditors trudging on foot, who, if it had not been for the losses this credtor sustained by his own failure, might have been as high in the social scale as himself.

THOMAS BINNS.

Mr. Thomas Binns, we understand, was a native of Lancashire, where while young he became acquainted with the business of cotton spinning; he commenced spinning cotton at Stubbing House, or, as it was afterwards called, Screw Mill. This mill was built by Mr. Samuel Blakey, solicitor, of Keighley, who granted a lease of the above mill for 20 years, bearing date 14th August, 1787, to the following

parties, namely: James Cawood, Joseph Wright, and Thomas Binns. At the expiration of the lease Mr. Binns carried on cotton spinning on his own account for a short time, though we are inclined to think that Cawood and Wright did not remain many years in the firm, but left Mr. Binns to work out the lease by himself, for we find that the late Mr. John Greenwood was spinning cotton at this mill about the end of the last century, probably occupying one room. Mr. Blakey built the present mill in 1808, and it was occupied by Joseph Hey till 1818. Mr. Binns appears to have left the old mill about the time that Mr. Hey took possession of the present worsted mill, and he was subsequently engaged in the worsted trade, having his warehouse in South Street, near the site of the Croft House, which house Mr. Binns afterwards built as his own residence, and at this warehouse he stored and sorted his wool and delivered out work to combers and weavers, and for a few years had his yarns spun by commission. About the year 1816 he built the Holme Mill, the dam belonging to which is the largest on the North Beck, and was made in a field which formed part of the Intake Farm and was purchased from the late Samuel and James Sharp. At this mill he spun his yarn, besides employing a considerable number of combers and weavers; he was looked upon not only as one of the leading tradesmen, but as the principal gentleman in the town, being at that time both an acive tradesman and an exceedingly keen sportsman, he being the owner of a pack of hounds. We recollect an old man living at Utley more than 40 years ago, named Thomas Smith, commonly known as "Huntsman Tom," and this man was huntsman for Mr. Binns. James Mitchell, who attended Bradford market at the same time, says, "Mr. Binns was considered the smartest tradesman that entered that market, dressing in the very height of fashion usual with gentlemen of

that day, consisting of blue coat, either white or yellow vest, with ruffled shirt, drab kerseymere breeches to button at the knee, with yellow topped boots." At the Croft House where he resided he entertained his friends, according to report, on a most liberal scale, taking the lead in that respect of every other house in the town; but without endorsing or commending the somewhat lavish expenditure of this very generous and hospital tradesman, we have endeavoured to give a picture of the man as well as we could from the very scanty materials we have had to draw upon. We think, however, there is a more excellent way, for had the money which he spent for his own pleasure and gratification been laid out in the endeavour, mentally and morally, to elevate the industrious artizan, and especially the young, it would have redounded more to his own credit, as well as to the happiness and well-being of his fellow townsmen.

Mr. Binns married a sister of the late David Spencer, woolstapler of this town, by whom he had three sons, and three daughters, all of whom attained to man and woman's estate. He must have been a very clever tradesman, for, notwithstanding his very heavy expenses, he left his family in comfortable circumstances at his decease, which took place about the year 1827; but in consequence of his executors allowing the business to be carried on by his widow, from some cause or other, its resources were squandered, and not only the family, but also the executors were brought to grief; for if our memory serves us right, the executors themselves had to compound with their creditors, their estates not being able to meet their heavy responsibilities occasioned by the Holme Mill disaster.

This mill was purchased about 30 years ago by the late Mr. Robert Pickles, and is now occupied by his son, Edward H. Pickles.

WILLIAM SHARP.

THE Sharps are a family of farmers, engaged principally in agricultural pursuits, whose business has for the most part, been about cattle, yet several members of this family have manifested a great love for learning. The late James Sharp, of Intake, was one of the most intelligent farmers in the parish, and the late John Sharp, of Whin Knowle, was an enthusiastic lover of science; as a mathamatician, he had few equals and no superiors in the neighbourhood. For a great number of years he was the surveyor, at first for the entire parish, and subsequently to the Local Board of Health, and in this latter office he manifested the greatest industry and skill; his measurements and calculations were almost faultless, and the loss to the town occasioned by his decease was only discovered when it took more than twice the salary to get the same work done by his successors.

William Sharp, John Sharp's grandfather, was born at Field Head, near Newsholme, and although living in that obscure corner of the parish, with few facilities for obtaining an education, yet, such was his love of learning that, by the time he attained to manhood, he had qualified himself for a responsible situation in the office of a London solicitor, and in this office he stood so high in the estimation of the principals, that having the misfortune one day to be taken by the press-gang, they at once interested themselves in his behalf with the Government, and ceased not their efforts till they had obtained his discharge. Having spent about 20 years in London, he returned to his native parish, and,

having by his industry and ability saved a considerable sum of money, he purchased the estate known as the Intake and Whin Knowle farms, and went to reside at Intake, where he soon after commenced business as a manufacturer of stuff pieces.

From an entry in one of his old market books we find the following: "Sold Messrs. Ridsdall and Beaumont, 2 drafts at 34s. per piece, on June 24th, 1786; and on the 15th July 3 drafts at 34s. per piece;" Halifax being at that time the market for stuff pieces. Again, "on the 26th August left at Halifax 49 pieces, and on March 10th, 1787, sold Messrs. Walkers, 4 draft lastings at 34s. per piece, and January 20th, 1788, sold Mr. Tetly 14 drafts at 34s. and 4 at 35s. per piece."

From "James' History of the Worsted Trade" we learn that in 1771, in the town of Halifax and the neighbourhood the cost of manufacturing a stuff piece was the following:—

	£	s.	d.
Combing at 2d. per lb. ...	0	1	11½
Weaving	0	6	0
Warp Spinning, 6½lbs. ...	0	6	1½
Weft Spinning, 3lbs. ...	0	5	10
Warping and Winding ...	0	0	8
Cost of Wool	0	12	0
	£1	12	7
Sold for	£1	15	0

In July 1793 he sold to Mr. Duffield 11 amens at 34s. per piece, and in June 1794, to Mr. Bramley 18 amens at

32s. 6d.; in June 1795 he sold these goods for 32s., but in October 1796 they were sold by him at 40s. per piece. Mr. Sharp bought his wool and had it combed by hand, and had it spun on the hand wheel; his business premises adjoined his dwelling house at Intake, where he delivered out warp and weft, and took in the pieces from the weavers. He died in 1797, and was succeeded by his two sons, Samuel and James, who, in July 1801, made what would at that time be considered a large purchase of wool, amounting to 14 packs seven stones and three pounds; but from this date we have no account of any trade transactions till 1816. From 1816 to 1824 the two brothers carried on business as top makers, getting their tops spun by commission, and selling their yarn to manufacturers. The yarn they sold during these eight years consisted entirely of warps, for amongst several hundred sales we do not meet with a single gross of weft. All the wool they used was hog wool—we do not meet with a single sheet of wethers. Amongst the staplers from whom they bought their wool we find the following names; Isaac Butterfield, Keighley; John Thornton & Sons, Bradford; John Sugden, Keighley; G. & J. Haigh, Halifax; Dyson & Holroyd, Halifax; William Hodgson, Keighley; Robert Clough, Sutton; Thomas Young, Halifax; Holmes Clapham & Sons, Keighley; and Thomas Cockshott, Crindles, near Silsden.

The price they gave for wool in the month of January 1817, was 1s. 4½d. per pound; in December 1818, 2s. 3d. per pound; in February 1823, 1s.; and in October 1723, 1s. 3¼d. per pound. The parties to whom they sold their warp yarn embrace the names of the following manufacturers; George Anderton, Richard Newton, Joseph Hanson, Samuel Newton, Thomas Emmott, Jonas Sunderland, John Clough,

Thomas Ramsden, James Lund, Robert Sharp, Thomas Waterhouse, Francis Thompson, Abraham Ramsden, Nathaniel Walbank, John Hanson, William Watson, John Hindle, John Shackleton, Samuel Wood, Joseph Foster, John Sutcliffe, Joseph Whitaker and James Ramsden.

JOHN MITCHELL.

Mr. John Mitchell was brought up at Brumfit Crag, near Silsden, with his father, Simon Mitchell, who occupied a farm at that place belonging to the Earl of Thanet. John Mitchell, the subject of the present article, used to say that his first savings commenced from his coming into possession of a pet lamb, which would doubtless be pastured on his father's farm for nothing. He afterwards, out of his savings, bought several other sheep, these sheep he clipped, and with the produce of the wool thus obtained, he began business in a very humble way, by making this wool into tops, which having sold, he bought other wool for the like process. Having continued a few years as a top maker, he, about the beginning of this century, commenced the making of stuff pieces. We find from his old ledger that on August 9th, 1802, he bought of Lodge Calvert, 15 gross of weft, at 20s. 3d. per gross, and on the 11th August, 10 gross at 20s. 3d., he sold in June 1804 to Mariott & Stead, 18 shalloon pieces at 35s. per piece, and to the same merchants a few weeks after, 17 pieces at 34s. Again in November, 62 pieces at

34s.; and to the same firm in 1807, 2 pieces of calamancos at 54s. per piece. About this time he occupied the large house of three stories opposite the Currier's Bridge, the large room on the third story, to which there was access by a flight of steps outside; this large room was his warehouse for sorting and storing wool and yarn, and delivering out work to combers and weavers. A small mill adjoined this house where he spun his own yarn, and also on commission for other manufacturers. About 1812 he built a dwelling house and warehouse at Eastwood Square, on the site of an old foundry; and twenty years after he had erected these buildings, the place was called the Foundry Fold. About this time he removed his machinery to Hope Mill, at which mill he continued to spin his yarns as long as he remained in business. These consisted of worsted warps and weft; the weft was reeled into hanks by women before it was given out to the weavers, but warping was frequently performed by men. We recollect a young man called Jonathan Edmondson, who was a warper with Mr. Mitchell, and who, about the year 1820, was sent out to the West Indies as a missionary, where he acquired considerable popularity for his wisdom and prudence, holding the office of General Superintendent of the Wesleyan Missions in the Jamaica District for a quarter of a century.

The class of goods made by Mr. Mitchell consisted principally of 5-eights, 3qr., and 6qr. plainbacks and wildbores, which he sold at Bradford market, where he also bought most of his wool, but occasionally he went into Lincolnshire to purchase from the wool growers. His commercial career was one of considerable fluctuation; he used to say in his old age that he had been several times in a state of insolvency, but there always came a good time again when he was able

to tide over his difficulties. When he gave up business more than 40 years ago, though not a very wealthy man, yet in very comfortable circumstances, he had only one son, the late Charles Mitchell, who only continued the business for a short time after his father gave up.

Mr. Mitchell was a gentleman highly respected by his workpeople and the public generally, and what was better still, we believe a genuine christian.

JAMES MITCHELL.

Mr. James Mitchell, late of Lane Ends, had not, like many of his fellow tradesmen, the advantage of descending from a long line of ancestors who had been engaged in business as manufacturers, but is pre-eminently a self-made man, who by industry and energy of character raised himself from the labour of the loom, or a hand loom weaver, to be one of the largest manufacturers in the town and parish of Keighley, at one time making as many as 6,000 pieces a week. While quite a young man he had saved as much money as would buy a small quantity of warp and weft, weaving himself and employing about half-a-dozen other weavers, and selling his goods at Bradford market. Being a very handsome young man, and the merchants discovering in him the rudiments of a successful tradesman, he soon became a great favourite with them, and after having been a few years in business, they were in the habit of giving him extensive orders for his

pieces, which consisted of tammies, wildbores, dobbies, and 6qr. merinos. When cotton warps came into use in the Bradford trade, he went extensively into the manufacture of orleans cloth, using cotton warps dyed black and other colours. About the year 1845 he commenced the making of muslin delains, a sort of white orleans made expressly for printing, which goods, for a number of years had a very extensive sale, both at home and abroad. To complete his orders for these he employed a great number of hand loom weavers, not only in his own neighbourhood, but in the districts of Crosshills, Cowling, Colne, Lanshaw Bridge, Winewall and Trawden. About 1830 he began to keep hand combers, having his warehouse for storing and sorting his wool at Lane Ends, where he also resided. About 1837 he purchased a small mill at Lane Ends, which possessed the privileges of a soak mill; these privileges consisted in having government authority to take in the various springs or runs of water from a considerable watershed, for the purpose of grinding corn; it is probable that these privileges were conferred on the corn millers in consequence of their premises being liable to be broken into by the famishing mob in times of extreme scarcity.

On these premises Mr. Mitchell built a large spinning mill, where he spun his own yarn, which he had previously got spun by commission. In addition to the mill at Lane Ends, he also occupied the Mytholmes Mill, part of which stands in the parish of Keighley, and part in the township of Haworth; he also occupied the Higher Providence Mill, and a mill in Coney Lane now occupied by Messrs. W. Summerscales & Sons as their machine making works, which they have considerably enlarged. About the year 1838 Mr. Mitchell introduced power looms into his works, but still continued to

employ a number of hand loom weavers. We recollect about the year 1853, having frequently to travel the road leading from Lane Ends to Two Laws, on certain days of the week meeting a number of carts bringing pieces from his weavers in Lancashire to his works at Lane Ends; and it is said that several of those places in Lancashire, where he put out weaving, have never enjoyed the same prosperity since they gave up working for him.

About the year 1842 there occurred very serious riots in Lancashire and the West Riding of Yorkshire, which were called the plug drawing riots, in consequence of the misguided mob stopping the mills by taking out the plug which prevents the water from running out of the steam boiler. Those disturbances originated in a certain strike or turn out in some part of Lancashire, being joined by a number of chartists, who adopted as their battle-cry, the five points of what was called the people's charter, the agitation for which at that time was exceedingly rife; though many of those misguided people scarcely knew what they were about, yet they seemed to agree in the sentiment that they would never return to their work till the charter was granted. We recollect those rioters coming to Keighley; in the course of a few hours they succeeded in stopping all the mills in their onward progress through Lancashire, but besides stopping the mills, they demanded food from the inhabitants, and gathering strength as they went along, they became a formidable mob by the time they reached Yorkshire. At Halifax they were met by the militiary, when the Riot Act was read, but for some time they refused to disperse, and only took to their heels after several of them were shot. When, the day after, the mob visited this town, there was not a single Lancashire rioter to be seen in the neighbourhood, still

there was a good deal of excitement amongst the people of the town, the magistrates took the precaution to swear in several hundreds of peaceable inhabitants of the town as special constables who had orders that, whenever they heard the alarm bell they were to assemble at the Court House. It was in the early part of the week when the rioters visited the town, but on the following Sunday the excitement was as great as ever. Mr. Mitchell, being one of the churchwardens, left his home at Lane Ends about nine o'clock in the morning to attend the service at the Parish Church, when coming down the road at Bogthorn, he saw a large crowd of people assembled on Lees Moor, and when he got into the town he told what he had seen. This was quite enough, the people took the alarm, the news spread like wild-fire, the cry was raised that the rioters were coming back to the town, the alarm bell was rung, the special constables left the various places of worship where they had assembled for the morning service, and made their way to the Court House. Mr. Ferrand, of St. Ives, with a company of yeomen cavalry, was at prayers at the church, and while the curate was reading the lessons, the state of affairs was communicated to Mr. Ferrand, when he called out "to arms lads," and made his way to the Court House accompanied by his men. When the procession was formed, the military, of course, took the lead very likely with drawn swords, followed by the special constables, and a vast crowd of people all leaving the town by the way of Park Lane, and made all speed to Lees Moor. However, when arriving there, instead encountering a number of Lancashire turnouts, they met with a peaceable congregation of Primitive Methodists, engaged in holding a camp meeting.

There is a grand old book that declares that "riches take to themselves wings and fly away," and soon Mr. Mitchell was

hurled from his high estate. Through a series of losses, failures and other disasters, he was ultimately brought to grief, and had to give up his various mills, his extensive freehold at Lane Ends was sold, while he himself retired into comparative obscurity. We have heard him say that on one occasion he consigned £40,000 worth of goods to a certain house in the United States of America, on which he never realized one single penny. After leaving Lane Ends he continued to make a few pieces of a class of goods called buntings; these pieces were only from 18 to 21 inches broad, and were generally dyed scarlet or royal blue, being used as ribbons for ships, and fastened to the top of the main mast by one end, they greatly improved the appearance of the vessel as they floated in the breeze. Mr. Mitchell, for several years past has been out of business, and, having an annuity settled upon him for life, he is now placed in comfortable circumstances, and no doubt at the present time enjoys a calm serenity of mind, to which he was comparatively a stranger during the bustle and turmoil of commercial life.

JOHN SMITH, OF LAYCOCK.

Mr. John Smith was the son of Jonas Smith, a small farmer residing at Brogden, near Laycock, where he was brought up. When in his teens he was a hand loom weaver, and on his attaining his majority he commenced business as a dealer in drapery goods, travelling as far as Lancaster, Poulton,

Grange, Silverdale and Milthorp. About 1822, having saved fifty or sixty pounds he commenced the business of a piece maker in a very humble way; he bought a few warps and a few grosses of weft, and employed about three weavers beside himself. When he began this business there was a very brisk demand for a class of worsted pieces called dobbies, a sort of figured goods, on which the manufacturers were making a very handsome profit. He engaged at once in making this class of goods, and sent his pieces weekly to Bradford with a neighbouring manufacturer, who kept a horse and cart. As he was an early riser he would be in his loom, even on a market day, by four o'clock in the morning, and weave till eight; he would then eat a frugal breakfast and afterwards walk to Bradford, sell his goods, buy his warps and weft, and occasionally a small bale of sizing; he would then eat a parkin or a little bread and butter, to which he would add a glass of beer, and walk home again, both journeys being a distance of 24 miles. After partaking of some refreshment, he would go into his loom and weave three or four hours. About 1828 he began to employ hand combers, buying his wool in Bradford market, for which he generally paid ready money, and also increased the number of his weavers, getting his tops spun by commission. About the year 1837 he took the Wood Mill, near Laycock, where he spun his own yarns; he had his warehouse at Laycock where he stored his goods, sorted his wool, and delivered out work to combers and weavers. The class of goods he made about this time consisted of 5-eights and 3qr. plainbacks, and 6qr. merinoes. About 1838 he introduced power looms into his mill, at the same time continuing to employ hand loom weavers. About the year 1840 he commenced the use of cotton warps in making orleans cloth, but the class of goods he principally

made were 6qr. merinoes which he generally sold to Jacob Berhens. In 1853 he was very much perplexed in consequence of the competition of several manufacturers who were making the same class of goods, and selling them to the same merchants, but who could afford to take a less price for their goods, because they had introduced into their mills the two loom system, that is, one weaver minding two looms instead of one. Mr. Smith attempted to introduce this new system at his place of business, at Wood Mill, which was resisted on the part of the workpeople, in consequence of which, and in consideration of his advancing years, and failing health, he determined to give up business. Although he never employed more than 200 workpeople at one time, yet, by prudence and economy, and an intimate acquaintance with the maxims of Dr. Franklin, which it would be to the advantage of some of our young tradesmen to copy, he was able to retire from business in very comfortable circumstances.

He was very kind and social in his disposition, and withal, one of the greatest wits it has ever been our privilege to meet with. We have frequently heard merchants and other business men in Bradford market try their hand with him in a good humoured way, when they always met with a smart reply, and many a time we have heard Jacob Berhens try to floor him but he invariably came off second best. He was a member of the Methodist Society, at Laycock, and was very useful in forwarding and promoting the interests of religion and education in his own immediate neighbourhood, and, although he left the bulk of his property, at his decease, (which took place in 1861) to his only surviving child, Mr. John William Smith, now of Colne, yet he did not forget the necessities of his own native village, but by will left a sum of money to the Laycock Day School, which has been

laid out in building a dwelling house for the schoolmaster. If every other manufacturer in the town and parish, according to their means, had done the same, the charities in Keighley would have been far more numerous. When we look at Halifax with its Crossleys, its Ackroyds, and Waterhouses, as connected with the almshouses and public parks, given and endowed for the benefit of the people, and, especially when we look at that noble monument of benificence, the orphanage, on Skircote Moor, for the maintenance and education of 400 children, we think there is room for improvement so far as Keighley is concerned.

WILLIAM WILKINSON.

We recollect Mr. Wilkinson, more than 50 years ago, as a cheerful and gennial old man of about three score years and ten, and, although in reduced circumstances, it was evident that he had seen better days. He was the father-in-law of the late Mr. John Mitchell, surgeon, of North Street, Keighley. Early in the present century, a worsted mill was built in South Street by him; this old mill stood on the site of the present corn mill, belonging to Messrs. William Bairstow & Co. For a number of years Mr. Wilkinson was one of the leading manufacturers in the town, giving employment to a considerable number of combers and weavers, having his warehouse at Spring Row, where he stored his goods, sorted his wool and delivered out work to the people in his employ. From the absence of books, or other sources of information, we have been unable to learn when he commenced business, or the class of goods he made. Very likely at first he had

his yarn spun by the hand wheel, like other piece makers at the beginning of the present century, but, after his mill was erected in South Street, he had his warps and weft spun by machinery in his own mill, and for a number of years was very successful in business, and, if our memory serves us right, we recollect hearing him say that he was at one time worth £14,000, which would be considered a large sum in those days. But unfortunately for him, there came a turn in the wheel of fortune, a series of losses and other disastrous circumstances overtook him, and especially that terrible collapse, called the Butterworth panic, which brought him to the ground. Some idea may be formed of the ruinous effects of the depreciation or fall in the value of stock during the same panic, from a case which came under our notice. A short time ago, conversing about these things with Mr. Craven, of Steeton Hall, he said, on looking into one of the old books at Walk Mill, a few years previous, he there found it recorded that his grandfather, in company with John Mitchell, of Eastwood Square, went into Lincolnshire to buy wool only a short time before the above panic, when they gave for Lincolnshire super hogs, £36 per pack, and that during the panic, the same quality of Lincolnshire hogs came down to £6 per pack. From these reverses, in which scores of honest tradesmen were reduced to poverty, Mr. Wilkinson was never able to rally, and we recollect him, in his old age, earning a scanty pittance as a woolcomber, and when, through old age and infirmity, he was no longer able to follow his employment, he became a pauper and ended his days in the old parish workhouse, at that time situated at Exley Head; in remarkable accordance with the saying of an inspired writer, "riches make to themselves wings and fly away."

BUTTERFIELD BROTHERS.

THE foundation of this firm was laid by the late Mr. John Butterfield, who was engaged during the early part of this century as a woolstapler, going regularly to the East Riding of Yorkshire, and to Lincolnshire to purchase his wool, buying it principally from the farmers in those districts, and was brought in boats to the canal warehouse at Stock Bridge. These boats were called the lowhanders to distinguish them from boats confined alone to the canal. The lowhander boats generally took on their cargos either in the Humber or the Trent, bringing them up the Ouse and the Aire, and when they arrived at Leeds they were transferred from the river to the Leeds and Liverpool Canal by locks. Mr. Butterfield had his wool warehouse at Mill Hill, on the eastern portion of the machine works of Messrs. George Hattersley & Sons. The top room of this building is now used by Messrs. Hattersleys as the joiners' shop and model room; this room was used for many years as the National School till the new schools were built in West Lane, near the Rectory. A very lamentable occurrence took place in this room on Sunday, September 10th, 1821. The Primitive Methodists had recently commenced a mission in the town, and, while holding a lovefeast in the place, the room being exceedingly crowded, the floor suddenly gave way, and the congregation of worshippers were precipitated into the room below, where a large quantity of charcoal dust was stored. Between 50 and 60 were severely crushed, about a dozen had broken bones, and one person died soon after. This very distressing

affair had something exceedingly unpleasant, if not ludicrous, to those who escaped unhurt. The people went to the love-feast dressed in their best attire, many of the young women in white; but, after tumbling and scrambling amongst the broken timber, charcoal and other debris, they had to return to their homes almost as black as chimney sweeps, to the no small amusement of their friends and neighbours.

We never had the pleasure of knowing Mr. John Butterfield, but, as a woolstapler, we think he succeeded better in the way of saving money than any other person in the same line of business has ever done in this town, especially if we take into consideration the short time he was in business, for he died about the year 1817, comparatively young, leaving, it is said, about £30,000, a considerable portion of which was left to his brother, the late Mr. Isaac Butterfield, the head of the firm of Butterfield Brothers. Mr. Isaac was a maker of stuff pieces, to which he added, at the decease of his brother, that of stapling, his place of business being in Chapel Lane, in the warehouse belonging to and recently occupied by Mr. William G. Roper. He spun his yarns at a small mill at Hey's Gardens, Halifax Road, belonging to the late Mr. Thomas Iveson, which was subsequently purchased by Messrs. Butterfields. He employed a considerable number of combers and weavers; we suppose the class of goods he made would be plainbacks and wildbores, he also sold a class of yarn called Bocking warp, used at that time for making army clothing, principally scarlet. We recollect, in the year 1828, being at New Hall Hey, in Rosendale, where there was a manufactory of this sort of cloth, and in conversation with the principal of the firm, Captain Hoyle, he told us that he bought Bocking warp from Isaac Butterfield. Mr. Butterfield was greatly assisted in his business

by his eldest son the late Mr. Richard Shackleton Butterfield. We recollect in the year 1829, a top maker failing who owed Mr. Butterfield a considerable sum of money, when Mr. Richard was very active in looking after his father's interest. About 1830 Mr. Butterfield took his three eldest sons into the firm, and the stapling business was given up about the same time. Soon after, Mr. Butterfield, through heavy affliction, was rendered incapable of attending to business, and the whole weight and care of the concern fell to the sole management of the sons. About the same time the 6qr. merino trade sprung up, which proved to them a very lucrative business; into this trade they entered with all the enthusiasm of born tradesmen. In 1832 their father died, when the firm took the name of Butterfield Brothers, and as they grew up to manhood, the two younger sons were taken into the firm. In 1833 they began to build the extensive premises called Prospect Mill, on the Halifax Road, which was no sooner completed than they introduced weaving by power looms, and being very successful in their business transactions, they soon took their stand as one of the leading firms in the town.

A few years after the building of Prospect Mill, chiefly through the energy and enterprise of the senior partner of the firm, the late Mr. Richard S. Butterfield, they established themselves as foreign merchants, doing business principally in the United States of America. We believe this was partly brought about through a conversation the senior partner had with the late Mr. William Lund, who had consigned a quantity of goods to certain parties in the States. Mr. Butterfield at once determined to try his fortune in that quarter, and soon after took his passage to America, and succeeded in opening an export trade with that continent.

About the year 1847 they came into possession of considerable property in the neighbourhood of Haworth, namely, the valuable mills at Bridghouse, and the beautiful mansion at Woodlands, which they purchased from the representatives of the late Mr. James Greenwood, the former owner; they also bought a mill at Lumb Foot, both of which premises they considerably enlarged, and extended their business, thus giving employment to a great number of the inhabitants of both Keighley and Haworth Townships. The class of goods they made were such as were required for the American markets, and, as the two younger partners were for a considerable time permanently resident in the States, and the senior partner at least half his time in that country, doubtless, the changes and variations in the markets would be narrowly watched. They also bought largely in the Bradford market from other manufacturers, which goods they exported along with their own manufacture. During the long period of nearly 40 years they were never under the necessity of curtailing their business by running short time, in consequence of the slackness of trade; and the regular employment afforded by this firm was duly appreciated by a many of their workpeople, who, whilst in their employment greatly improved in circumstances, and for the most part those who were fortunate enough to get into their service were very loath to leave. The family residence at Cliff Hall was purchased from the representatives of the late Mr. Christopher Netherwood, of London, about 40 years ago. This residence now belongs to Mr. H. I. Butterfield, who for a number of years has resided in France; he has rebuilt the mansion and given it the name of Cliff Castle, which, when completed, will form one of the most beautiful residences in the neighbourhood.

WILLIAM ANDERTON.

Mr. Anderton, although not directly engaged in business in this parish on his own account, yet, from his long residence in this town, and from his uniform kindness and generosity, and especially his charity to the poor, is one of those successful men to pass by whom in our record, would, we feel persuaded, be a dereliction of duty. His grandfather, John Anderton, resided at Hallas, near Cullingworth, in 1758, and probably before that period, and was the predecessor of the Andertons of Cullingworth, Bradford and Cleckheaton, having had nine sons and one daughter; being the progenitor of these several branches of the family, he may truly be considered one of the fathers of the wool trade; and the trade has run in the blood ever since. The old stapler was also a cattle dealer, and accompanied by one or two of his sons he drove his herds into Lincolnshire and Leicestershire for sale, buying wool with the produce. This wool he stored at Hallas, and the marks of the crane we have been informed may now be seen on a portion of the building. According to his account books wool was then £4 a pack, and his customers came to Hallas to buy wool from a wide range, extending into Lancashire. The old man died at Hallas. His eldest son James commenced woolstapling in Bradford before his father's death. The seventh son of John of Hallas, named Jonathan, practised as a medical man in this town, and we knew two of Dr. Anderton's grandsons, both of whom bore their grandfather's name. Jonathan Anderton, one of them went into the worsted trade nearly 40 years ago, having an

income from freehold property of about £100 a year, which was all lost in the course of a few years, when he removed to Bradford and entered the cotton warp trade, in which trade, we understand, he regained his former position. The other Jonathan never was in business, but living upon the means he inherited from his father, consisting of house property in High Street, the whole of Temple Street, and part of Temple Row. He was for a number of years a director of the Waterworks Company, and treasurer to the Keighley Market Company. Another of Dr. Anderton's sons, named Swithen, entered into business at Bradford, and was the founder of the extensive spinning concern still carried on under the name of Swithen Anderton & Sons. Another son of John of Hallas, named Joseph, went into the wool business at White Shaw, Denholme; he was the father of the late George Anderton, of Cleckheaton. Another son of John of Hallas was engaged in business as a tanner, at Exley Head, at the tan works now carried on by Messrs. James Pickard & Sons. Another of the old stapler's sons, named John, Mr. William Anderton's father, commenced manufacturing stuff pieces at Cullingworth, about 1779, and was the first, and for some time, the only employer in the village. As there were not more than a score of houses in the village at that time, there were few that needed employment, but those living in outlying places made up the working staff of this prosperous manufacturer. At first, and for nearly 30 years he had his yarns spun by the hand wheel, and used to send sheets of tops to Keighley for the Settle stage waggon, to be forwarded into the dales to be spun by hand spinners. About 1810, Ann Hey, and her son James Hey, were spinning by commission at East Greengate Mill, and John Walker, of Ingrow, was spinning by commis-

sion at the Wire Mill, and to both these mills William Anderton, the subject of our notice, was in the habit, while only in his teens, of bringing tops on his father's carts to those two mills, and taking the yarn back to Cullingworth. John Anderton's warehouse, where he stored his goods, sorted his wool and delivered out work to combers and weavers, was in a building since converted into the George Hotel, Cullingworth, and he and his family lived at the Manor House in the Towngate, which is still called the Anderton's. John Anderton was engaged in business as a stuff piece manufacturer, and for more than 20 years the class of goods he made consisted principally of drawboys, and as these goods were mostly for export, when the French War broke out the drawboy trade was ruined, when he turned his attention to the making of says and shalloons, selling all his pieces at Halifax market. He also carried on business as a stapler in Bradrord, in partnership with his two eldest sons in the building since enlarged and now occupied by G. & W. Townend, Cheapside, Bradford. He died in 1819 when his third son, William Anderton, continued the manufacturing business at Cullingworth, employing a considerable number of combers and weavers, having his yarn spun by commission. The class of goods he principally made consisted of says and shalloons, which he sold at Halifax market; Mr. William got part of his yarn spun by a Mr. Moulding, who was spinning by commission at a small mill situate at Cowhouse, near Cullingworth, but Mr. Moulding was not able to supply Mr. Anderton with a sufficient quantity of yarn; under these circumstances Mr. Moulding offered to let to Mr. Anderton a room for spinning at Dubb, near Bingley. This spinning room had been formerly occupied by Mr. Timothy Maud & Son, both of whom had died within little more than

twelve months of each other, the son dying in the year 1824, and the father in 1825. When Mr. Anderton took this spinning room at Dubb, he removed his business from Cullingworth, and not long after his removal to Bingley he had the happiness of being united in marriage with Miss Maud. From all we can learn, and we have had excellent opportunities of doing so, it appears that the late Mrs. Anderton was a very clever, as well as a most excellent woman in every sense of the word, and Mr. Anderton is ever ready to recognize the hand of a kind and overruling providence in directing his choice to so good an helpmeet. Solomon says, "Who can find a virtuous woman? for her price is far above rubies. The heart of her husband doth safely trust in her so that he hath no need of spoil; she looketh well to the ways of her household, and eateth not the bread of idleness; her children arise up and call her blessed, her husband also and he praiseth her." That Mrs. Anderton looked well to the ways of her household is evident from a circumstance which came under our notice nearly 40 years ago. About that time we were acquainted with two young gentlemen who had just left Mr. Anderton's, in whose service they had spent several years to learn the manufacturing business, residing in the house, and when they left they were both members of the Wesleyan Methodist Society, to which church both Mr. and Mrs. Anderton belonged. With one of those young men we had several conversations, and he always attributed his conversion to the excellent religious training he had been privileged to enjoy, while residing with Mr. Anderton and his family. When Mr. Anderton got to the Dubb he began to spin his own yarn, having his warehouse and offices at the same place, where he stored his goods, sorted his wool, and delivered out work to hand combers and weavers. The class

of goods he made, when he had established his business at Bingley, consisted of says, shalloons, dobbies and plainbacks. In 1833 he extended his business at the Dubb Mill by introducing power looms, by which he commenced weaving 6qr. merinos, a very profitable business in which several of the leading firms made their first start towards wealth. In the year 1838 he still further extended his business by the erection of new mills and warehouses at Dubb. In the year 1840 he began to use cotton warps in the manufacture of orleans and cobourgs, and in a short time his orleans cloth, or lustre goods obtained a high reputation, and were much sought after in Bradford market. The late Mr. William Lund, of Knowle Hall, who was one of the most noted orleans makers in the trade, used to say that Mr. Anderton was his greatest rival in the Bradford market. Mr. Anderton was somewhat late in introducing combing machines into his mill; we recollect there was a feeling in the minds of some orleans makers, call it prejudice if you like, but the idea was prevalent at least in some minds, that tops combed by hand would produce a better lustre than tops made by the combing machine. Whether this feeling had any influence with Mr. Anderton we cannot say; however, before he got machines of his own, he had wool combed by Messrs. S. C. Lister & Co., Bradford, and also by Ambler & Collingham, of Keighley, who were working Lister's Patent. In 1866, he having no son to succeed him in business, and feeling the infirmities of age gathering round him, very wisely considered it his duty to retire from the anxieties of business life, and gave up the entire trade concern to Alfred & Henry Butler, by whom it has been carried on to the present time. He was engaged in business for the long period of 47 years, and did good service in his day by circulating a vast amount of money in

wages to his numerous workpeople, by whom he was held in high estimation, and we believe the town of Bingley is more indebted to him than to any other man for its prosperity, and extension during the last fifty years, and, since he took up his residence in this town, his benefactions have caused scores, and perhaps hundreds of hearts to rejoice.

ISAAC HOLDEN & SONS.

ALTHOUGH Mr. Holden was never engaged in the worsted business in connection with any works situated in this town or parish, yet, from his long residence in the neighbourhood, and from the fact that he is still engaged in the worsted business, in partnership with his two sons, as machine wool combers, both at Bradford and in France, we think he ought to have a place in this work. Isaac Holden was born on the 7th of May, 1807, at Hurlet, a small village adjoining Nitshill, between Paisley and Glasgow. His father, who bore the same name, had a few years previously held a small farm at Neuthead, near Alston, in Cumberland, of which place he was a native. In the year 1801, Isaac Holden, senior, removed to Glasgow, where he obtained a situation in connection with a colliery; he was a man of considerable strength and energy of character, and was possessed of intelligence superior to his station. He came off a hardy and enterprising race, that of the Holdens of Allandale. Neuthead and Alston were proud to consider themselves descended from the

Half-Danes of Denmark, who, ages ago, invaded England and retained possession for some time, of Northumberland, Cumberland and Durham, ultimately settling down on the confines of the three counties. Mr. Holden's wife belonged to a Scotch family of the name of Forrist, and was a pious, industrious, high principled woman. They had been married in the Anglican church at Alston. The parents of this hard working and respectable couple were amongst the earliest followers of John Wesley, and lived and died staunch members of the Wesleyan Church. After remaining some time at Glasgow, Isaac Holden, senior, who seems to have had the capacity of making headway in whatever employment or project he entered upon, obtained a situation at the Turnbury Pit, Nitshill; and it was during the time that he held the post of headsman at this pit that his son Isaac was born. About this time he commenced a night school in the village, and devoted his leisure hours to the teaching of his neighbours' children, a duty which he was proud to put upon himself, and which he generously performed without the slighest remuneration. On Sundays, as well as on week days, the pit headsman kept steadily to his useful work. There was a good Wesleyan Chapel at Paisley, three miles away, and seldom a Sunday came that did not find him and his wife and family walking to Paisley to Divine Service, his son Isaac forming one of the party while but a mere child, walking and being carried in the arms of his loving father in turns. In addition to accomplishing this religious pilgrimage of six miles every Sunday, the father conducted a Sunday School which he had established in the village at a time when such institutions were few and far between. When his son Isaac was five years of age he was sent to a day school in connection with the Church of Scotland, and

at this school he remained till he entered upon his tenth year, when the family removed to Kerbarchan, at which place, for some months, he went to the Grammar School of the town. About three years after the family removed to a village of the name of Johnstone; at this place he had the good fortune to become the pupil of Mr. John Fraser, a very able and zealous teacher. He was at this time about thirteen years of age, and began to approach some of the higher branches of study, Latin being a portion of the curriculum of Mr. Fraser's school. He remained at Mr. Fraser's school until he was fifteen years of age, when his father removed to Paisley, where he was apprenticed to learn a trade, but, his health failing, at the end of twelve months he was obliged to give it up, and he turned his attention more closely than ever to scholastic studies. As he advanced towards manhood, the example of his parents, and the deep sympathy he felt with all moral and intellectual progress, tended to give his mind a decided religious cast, and he became a member of the Methodist Society. When about fifteen years of age he joined the school of Mr. John Kennedy, a very able teacher, a noted mathematician, and a lecturer on physics, chemistry, and history to various Paisley and Glasgow institutions. When from 16 to 17 years of age he became assistant to Mr. Kennedy, and received private lessons from him in mathematics, physics, Latin, Greek, &c. He remained with Mr. Kennedy until January 1828, when he engaged himself as a mathematical teacher to the Queen Square Academy, Leeds, the principal of which was Mr. James Sigston. At the end of the first half-year he transferred his services to Lingards Grammar School, at Slaithwaite, near Huddersfield, which he entered as a teacher of the English and commercial department. Here he had the privilege of still

further prosecuting his studies in Latin and Greek, as the headmaster was a man of considerable classical attainments. However, after a short stay at Slaithwaite, he removed further south, and engaged as classical master to the Castle Street academy, at Reading; here he taught Latin and Greek to the advanced classes, and had also several French classes. He had also a class of young men to whom he gave lectures on chemistry, and it was in connection with those lectures on chemistry that he made the discovery of the making of lucifer matches. He remained for 18 months at the Reading Academy, where for that period, he found a happy home and sphere of useful activity; but his health failing him he was compelled to resign his situation and return to his northern home. Further than that, he was forced to relinquish an engagement which he had entered into, to go into the Wesleyan ministry. It was in June, 1830, that Mr. Holden went back to Scotland, much to the delight of his widowed mother, (his father had died four years before) over whose welfare he had continued to exercise all possible protection. An early friend of his in Glasgow erected a school for him, and he was soon in the full enjoyment of the privileges of a Scotch dominie; but, ere he had been in his new school six months, the whole tenor of his life was changed by a very simple circumstance. Mr. William Townend, a member of the firm of Townend Brothers, of Cullingworth, near Bingley, happened to be in Glasgow, in November of that year, and was looking about for some one whom he might engage as book-keeper. A local gentleman, who knew Mr. Holden well, recommended the young schoolmaster for the post, and Mr. Townend called on Mr. Holden, and offered to engage him; after a day's consideration, and, with the consent of the friend who had built him the school, he accepted the

offer, sold the furniture and goodwill of the school to an old schoolmaster in the neighbourhood, and in about a week from that time he left Scotland for Cullingworth, where he duly arrived at the end of November, 1830.

This was the turning point in Mr. Holden's career, henceforward he devoted his whole energy and ability to industrial pursuits, and found himself in an atmosphere congenial to his inclinations, where the full force of his intelligence and perseverance could be successfully exercised. During the first twelve months he was principally engaged as a book-keeper, but after this period he was appointed manager of the works, with a share of the profits. In this situation he greatly assisted in the development and extension of the concern, by the various improvements he introduced into the establishment. Some idea may be formed of the rapid extension of the works, when it is borne in mind that the Townend Brothers only commenced spinning by machinery in a very small way in 1812, and in about 30 years after they were employing no less than 700 hand wool combers to supply their machinery with tops. In the year 1846 Mr. Holden removed to Bradford and took premises there, where he worked out some plans of making heald and gennappe yarns and some improvements in carding wool, and also in Collier's Combing Machine, which latter was patented in Lister & Holden's Joint Patent of 1847. Mr. Holden advised Mr. Lister to introduce the combing machine into France, where he thought it would have a better chance than in England, and, after a journey of inspection which Mr. Holden took in the latter end of 1848, the two agreed to begin combing there in partnership under the style or firm of Lister & Holden. It will be recollected that the year 1848 was the year of revolutions and great upheavings on the contin-

ent of Europe, but notwithstanding the troubled aspect of the political horizon, Mr. Holden was not deterred from venturing upon this new enterprise. While over in France, in October 1848, he had chosen a mill for the commencement of operations, and had left their agent to arrange the lease, but in consequence of disputes arising with the trustees of the property, and other circumstances, this mill was abandoned. We believe in Divine Providence, and we know that sometimes there is something in dreams. Early in 1849 Mr. Holden dreamed one night that he had gone to St. Denis to look after a mill, and that he had found one there, having been shown over it by candle light. The following day he went to St. Denis, whether this singular dream induced him to go there we cannot tell, but he found a mill that suited him, and took it and was actually shown over this mill by candle light. In the year 1849 Messrs. Lister & Holden commenced business at this place as machine wool combers, and in a few years they had very extensive establishments in France. For many years Mr. Holden worked almost night and day; the mills ran then, as they do now, through the night, two sets of workpeople being constantly employed. In 1852 they founded a branch concern at Rheims, and another at Croix. While these three French concerns were in operation, Mr. Holden visited each place frequently, always travelling by evening trains, and keeping up an active supervision over the whole of the establishments. In 1858 Mr. Lister, having sustained some heavy losses in connection with one of his business concerns in this country, proposed to sell his share in the French concerns to Mr. Holden, who, having sufficient sagacity to see that a brilliant future lay before him in connection with the French undertaking, at once closed the bargain, and in January 1859 the present

firm of Isaac Holden & Sons was established, Mr. Holden's two sons, Angus and Edward, being taken in as partners. The works at St. Denis were given up in the following year, the place being too far removed from the special industry with which wool combing was linked. One of our earliest recollections of Mr. Holden occurred on board a steam boat, about the month of August, 1836. We had taken our fare from Selby to Hull, when we found ourselves in company with Mr. Holden, who, along with his family were taking a tour to Scotland. Amongst the members of his family we noticed two little boys as merry as crickets, and now we confess to a sort of difficulty in realizing the fact that those two boys are developed into the highly honoured and respected junior partners, in the noted firm of Isaac Holden & Sons; Mr. Angus Holden being mayor of the important borough of Bradford. The gentlemen forming this firm by their industry, energy and perseverance, and, especially by their inventive genius and skill in bringing out new and improved methods in the process of machine wool combing, have had a very prosperous career. The firm have three separate establishments engaged in wool combing, one at Bradford, one at Croix, and one at Rheims. These three concerns cover altogether over 23 acres of actual flooring, and give employment to 4,000 workpeople. The firm have a total of 500 carding and 370 combing machines working; accomplishing as much labour as it would have taken 25,000 workmen to have got through in the old days, prior to the introduction of wool combing machines. The raw wool which yearly passes through these three concerns represents the production of over 20,000,000 sheep. About 20 years ago Mr. Holden's health broke down under his incessant labour, and his doctors insisted on an entire change of occu-

pation and rest. Mr. Holden lost his first wife shortly after his removal to Bradford, in 1847, and in 1850 he married Sarah, the daughter of Mr. John Sugden, of Dockroyd. The late Mr. Jonas Sugden, Mrs. Holden's brother, having departed this life in 1857, in rather more than two years after, his widow left the family residence at Oakworth, and removed to Keighley; and, in the year 1860, Mr. Holden came to reside there, and immediately in the rear of the old house he has built one of the most beautiful houses in the neighbourhood of this town; he has also a country mansion at Wiganthorpe, near York. Soon after Mr. Holden's return to this country he was elected member of Parliament for the borough of Knaresborough, which seat he held till 1868. Since then he has stood three contested elections for the West Riding of Yorkshire, twice for the Eastern Division, and once for the Northern Division, but without success.

Mr. Holden is a gentleman of great liberality, especially in the cause of religion, education, and philanthropy, his benefactions amount to several thousand pounds annually; his gifts to the christian church are not confined to his own denomination, but other non-conformist churches have frequently been assisted by his princely liberality; and the poor and the afflicted in his own neighbourhood have frequently been made to rejoice by his thoughtful and unostentatious benefactions. Mr. Holden is a liberal in politics, and conscientiously opposed to all state endowments, either to denominational education or to religion.

HARTLEY MERRALL.

In the early part of this century Mr. Hartley Merrall was engaged in business as a manufacturer of stuff pieces, he bought his yarn, and delivered out work to hand loom weavers both at Keighley and Haworth. The class of goods he made consisted principally of 5-eights and 3qrs. plainbacks, and wildbores. In the year 1816 he commenced spinning by commission at the Acres Mill, and about the same time he appears to have given up piece making. In 1822 he removed to the Low Bridge Mill, where he also was engaged in commission spinning. Again in 1829 he removed to the Spring Head Mill, then belonging to the late Mr. Joseph Greenwood, and soon after his arrival there he commenced spinning and manufacturing stuff pieces on his own account, employing a considerable number of combers and weavers. A few years after he took his four sons into partnership, namely, Edwin, Michael, Stephen and Hartley; the class of goods made by the firm consisted principally of plainbacks and wildbores. About 1833 they went extensively into the 6qr. merino trade, and the manufacturing department was principally managed by the junior members of the firm, who, by habits of assiduity and painstaking industry soon became a very prosperous firm. They never appear to have gone extensively into the lustre trade, or the making of orleans cloth, although they began to use cotton warps about 1840. The class of goods they have generally made have been wefted with what are called the soft yarns, spun from fine wools. In the year 1844 the firm built a new mill and warehouse at Lees, and two years after

Michael and Stephen built each a dwelling house at Lees, within an easy distance of the mill; the eldest brother, Edwin, went to reside at Ebor House, (this house and the adjoining mill having become the property of the firm by purchase from the representatives of Mr. Hiram Craven) and the youngest brother, Hartley, remained at Spring Head, who a few years after left the firm, taking the Spring Head business into his own hands by whom it has been carried on till very recently. The Lees business has been a very prosperous concern, where the firm have built large weaving sheds, besides extending the spinning mill and warehouses, the whole having been fit up with the best and most modern machinery and appliances. They have also greatly enlarged the Ebor Mill, besides the erection of extensive weaving sheds and gasworks to supply both places of business. The class of goods they have made both at Lees and Ebor are of the most beautiful texture, wefted with soft yarns, spun from the finest English, and Botany or Australian wool. Their goods have been in great request, and their workpeople have been well employed, earning good wages; and we believe no firm in the neighbourhood have been less in the habit of running short time, and as a consequence of this regular employment their workpeople form one of the most prosperous communities of any part of Yorkshire. A very prosperous Methodist Society has sprung into existence at Lees during the last 35 years; at first they built a school-chapel, and afterwards on an adjoining site they built Sunday and Day Schools, which have since been enlarged; the Day Schools, are taught by a master and mistress, assisted by a number of pupil teachers, the master and mistress having government certificates. A few years ago they built a new Methodist Chapel to hold nearly 900 people, which forms one of the

neatest and most commodious chapels in the Haworth and Oakworth Circuit, but we understand it is already too small. Although Mr. Michael, who is at the head of the firm, is a churchman, yet, from respect, almost amounting to veneration for the memory of his late brother Stephen, (who was a Methodist, and one of the principal founders of Methodism at Lees) has never taken any steps calculated to prejudice or interfere with the prosperity of this religious and educational enterprise.

In the year 1860 a dissolution of partnership took place when Edwin and Stephen retired from the firm, which has since been carried on by Mr. Michael Merrall, and his son George, under the name of Michael Merrall & Son, and, as a confirmation of what we have before said, we understand that they have never run short time during the agitation and panic about the Eastern Question. We were conversing with a shopkeeper at Lees a short time ago, about the poverty and destitution of the working classes, who said he did not know of a very poor family residing at Lees. The well-to-do condition of the Lees population is doubtless greatly promoted by the thrift and economy of the people, fostered by their religious habits, and in no small degree by the absence of drink shops in the neighbourhood; and we have great pleasure in stating that the Messrs. Merralls have not a single public house, or beer shop, on all their property, either at Lees or Ebor.

HARTLEY MERRALL.

Mr. Hartley Merrall, the youngest brother, for a long time has carried on business at the Spring Head Mill on his own account, assisted by his sons, and has always manifested considerable industry and painstaking in the management of his business. The premises during his occupation have been considerably extended, new weaving sheds built, and access to the place greatly improved by a new road through the Mytholme Estate; but notwithstanding these evident marks of enterprise, and, although Mr. Merrall has been engaged for the most part in making the same class of goods as the firm at Lees and Ebor, yet from some cause or other he has not enjoyed the same amount of prosperty as his three elder brothers, for the race is not always to the swift, nor the battle to the strong. Nevertheless he has done good service in his day by giving employment to a considerable number of workpeople, circulating a vast amount of money in wages, and thus in no small degree promoting the happiness and well-being of the surrounding population.

From a personal acquaintance with Mr. Hartley Merrall, spread over a considerable number of years, we have no hesitation in saying that he is one of the kindest gentlemen it was ever our happiness to meet with, and from his uniform kindness and urbanity, we always found it not only a pleasure but even a luxury to do business with him.

HENRY RISHWORTH.

Mr. Henry Rishworth was the son of the late Thomas Rishworth, a gentlman farmer of West Morton, near Bingley, who was the owner of several very valuable freehold farms. He was engaged with Mr. Anderton of Bingley for a number of years to learn the business of a manufacturer of stuff pieces, and at the expiration of his engagement with Mr. Anderton, he returned to his native village, where he commenced business as a top maker, buying his wool at Bradford market, employing a number of hand combers, and selling his tops to manufacturers. Soon after his return to West Morton he began to pay his addresses to Miss Wilkinson, the only surviving child of the late John Wilkinson, of Castle Mill, who resided at Doubling Stones with her uncle, the late Abraham Flesher. She was the great grand-daughter of Hugh Flesher, the father of the late Mrs. Marriner, of West Greengate, and had an income arising from the rents of the Castle Mill, which, at her father's decease, had been placed in the hands of the late Messrs. B. F. Marriner and N. Walbank as trustees. By their able management, after paying for repairs, rates, and the ground rent, the monies had accumulated to about £1,200 in about a dozen years. However, before Miss Wilkinson got married, she consulted a confidential friend, the late Mr. Abraham Sugden, who advised her to draw the money from the bank and divide it amongst her father's creditors, and, with Mr. Rishworth's consent, she did so before the wedding was consumated.

After his marriage Mr. Rishworth took possession of part of the mill, which was at that time unoccupied, where he commenced business as a spinner, selling his yarn principally in Bradford market. He began spinning about 1838, and, about half-a-dozen years later commenced manufacturing stuff pieces; the class of goods he made consisted principally of orleans cloth, woven by power looms; he died in 1866 when the business was given up.

WILLIAM ROBINSON.

Mr. Robinson was the son of Thomas Robinson, commission spinner, and had previously been in partnership with his father as a spinner. In the year 1832 he took the Brandy Mill (since pulled down) which occupied a site near the beautiful house built by the late Mr. William Marriner. At this mill he commenced business as a stuff manufacturer, and here he also resided, having his warehouse on the premises, where he stored his goods, sorted his wool, and delivered out work to combers and weavers, spinning his own yarns. The class of goods he made consisted principally of plainbacks, varying in breadth from 5-eights, 3qrs., to 6qrs. commonly called 6qr. merinos. In the year 1842 he removed to Strong Close Mill, formerly called Cowling Mill, but at the present time Dalton Mill. At this mill, in addition to his spinning machinery he introduced power looms, and at the same time began to use cotton warps in the manufacture of orleans

cloth or lustre goods, of which class of goods he was considered at one time the best maker in the town, so much so that one of the leading firms proposed to go into partnership with him in the making of this class of goods. He was also engaged in the making of plaids and muslin-de-lains, and was a tradesman highly respected not only by his own workpeople but by the public generally. He was very fond of music, and was for a number of years the organist at the Keighley Wesleyan Chapel, Temple Street, where, we believe, he gave universal satisfaction. Notwithstanding his industry and great ability as a manufacturer, however, he did not succeed in saving money, but this may be at least partly accounted for by a serious disaster which befel him. About four years before his decease, having purchased a dog which was brought to his house, and whilst trying to make friends with his new acquisition in the usual way, by patting it on the head, it suddenly turned upon him and bit off his finger end. It was afterwards ascertained that the new dog had been bitten by a mad dog only a few weeks before. It seems somewhat strange that the virus should remain partly quiescent for the long period of four years, but Mr. Robinson was not without warnings during these years that all was not right, which would doubtless fill his mind with anxiety and alarm, quite unfitting him, in our opinion, for managing his business concerns. We are informed by a member of his family that about a year after the accident, during dog days, his little toe on the right foot began to swell and matter, but in a few weeks it seemed to get well again, and, during dog days in the second year the little toe on the left foot shewed the same symptoms, and in a few weeks seemed all right; then again in the third year during dog days, the little toe on the right foot, the same which was affected the first

year, was similarly inflamed, but after a few weeks it seemed to get better again. At the end of four years from the accident to his finger he was seized with acute pain, first in the right arm, and subsequently in the left, he had also great pain in the head, and in a few weeks after he was seized with the usual symptoms of hydrophobia, such as nausia and convulsions, which in a few days terminated fatally.

We subjoin the following letter of condolence addressed to his widow by Mr. George Goodman, of Roundhay, Leeds:—

Roundhay, July 29th, 1856.

Dear Madam,

Words fail to express how deeply I feel the loss of my very dear friend your late excellent and invaluable husband, and to convey my condolence to and sympathy for you. My very long connection with him has been marked throughout by mutual attachment, and I do not remember an unpleasant word passing between us. I had the most perfect confidence in him which has been marked by my transactions with him. His death has taken place under most painful circumstances, which have been, nevertheless, alleviated by the retention of his consciousness. I am persuaded that he was eminently a good man, and that his spirit now dwells in the realms of bliss. I hope that you may be sustained and enabled to bear this great trial with christian composure and resignation. I did not hear of his death until Friday afternoon, although a melancholy duty, I wish I could have paid a last tribute of my sincere regard for him by attending his funeral.

I am, Dear Madam,
Yours most respectfully,
GEO. GOODMAN.

WILLIAM SMITH.

In the last decade of the eighteenth century and for about 30 years of the present, Mr. Smith was extensively engaged in business as a manufacturer of stuff pieces. He was brother to the late Joseph Smith, corn miller of Stock Bridge, also of Martin Smith, farmer, of Strong Close, and of David Smith, farmer, of Hainworth Wood Bottom; he had also another brother, who, for 40 years was engaged as a travelling preacher in the Wesleyan Connexion, named John Smith, who died in the South of England about 40 years ago. Mr. Smith, the subject of the present article, when a yonng man was for a short time engaged in the same benevolent enterprise, and from our own recollection of him, was a good specimen of an English gentleman of the olden time. He was of a ruddy countenance, had a robust and well knit frame, a fine flow of spirits, and a confident bearing, evidently shewing that he was every inch a man. He had a large family consisting of three sons and six daughters, all of whom attained to manhood and womanhood. Only the eldest son, the late Thomas Smith, assisted his father in the business, the two younger sons being of a serious turn of mind, entered the ministry in the established church. The elder of the two, the Rev. William Smith, went out to the East Indies, where he has laboured as a missionary for about 50 years; the youngest son should also have gone abroad, but being of delicate health he remained in England, and was at one time curate of the Keighley Parish Church. Mr.

Smith, during the first quarter of the present century, was one of the leading manufacturers of this town, employing a considerable number of combers and weavers, having his yarns spun at first by the hand wheel. His first place of business was at Hill Top, where he resided, occupying the farm, and where he delivered out work to combers and weavers, and, like other manufacturers of that early date, sending his tops to a distance to be delivered out to hand spinners. The class of goods he principally made consisted of shalloons, callamancas, plainbacks and wildbores. About the year 1810 he built the dwelling house and warehouse at the bottom of what is now called Leeds Street, which was at that time pleasantly situated in the open country, having green fields both before and behind, with a rookery within about 100 yards. There stood an old farm house at Holy Croft, occupied by a farmer and fish dealer, named Thomas Harrison, who will be remembered by elderly people by the name of 'Cockle Tom;' this house, although a quarter of a mile distant from Mr. Smith's residence, was the nearest building to be seen in that direction, and Harrison, though a good natured man, was in the habit of talking rather loud, so that Mr. Smith could hear him to his own house, when he would say with his accustomed good nature, "there is Thomas Harrison whispering again." Mr. Smith having completed his new premises, removed thither, where he stored and sorted his wool and delivered out work to combers and weavers. We have met with an old man to-day in his 85th year, who, nearly 70 years ago was one of Mr. Smith's weavers, and he speaks of him as being of a rather hasty temper, but upon the whole a cheerful, straightforward, and good humoured gentleman. Mr. Smith had no mill of his own, but about the year 1810 the late Berry Smith having built a mill for spinning worsted

at the old Clubhouses, he engaged Berry Smith to spin him all his yarns. Although he had the appearance of what we should call a good liver, yet neither he nor his family indulged in sumptuous fare, but, on the contrary, they kept a very plain table, and used the greatest possible economy to keep down the household expenses. We knew a young man who was engaged with Mr. Smith for a number of years to learn the business, of whom it has been reported that he was pleased on the arrival of Sunday, on which day he had the privilege of dining with his parents, for he was always sure to have a good dinner. Yet, notwithstanding Mr. Smith's carefulness and economy in his trade and family expenses, he did not succeed in making money, but on the contrary, for several years before his decease he felt, what is exceedingly painful to every honest mind, namely, embarrassment in his financial means. He had a peculiar way of coping with his difficulties, and which no doubt were the means of keeping the wolf from the door. When in Bradford market, surrounded by a number of tradesmen in the open street, if he saw a wool stapler, or an oil and soap merchant, or sizing dealer approaching, even at the distance of 20 yards, he would call out to them at the top of his voice, "you need not call to-day for I shall have nothing for you." We admit that when persons are owing money, which they are unable to pay just then, they for the most part prefer to speak to their creditors in whispers, or in their private office, but it is very likely that by this publicity in telling his creditors that he could not pay their accounts, seemed so very unlike a state of insolvency, that it might be the means of keeping up his credit as long as he lived. We believe, however, from all that we can learn of him, that he was thoroughly honest, and really intended to pay all his creditors twenty shillings in the

pound. Some may be ready say that when he felt himself embarrassed, why not call his creditors together; we believe he thought that by energy and perseverance, and, especially if there came a favourable turn in trade, he would be able to tide over his difficulties. Many a tradesman who has died rich, has, at some period of his career, found his balance on the wrong side of his ledger. The late John Mitchell, of Eastwood Square, was in the habit of saying that several times in his life, as a tradesman, he had been in a state of insolvency, but by perseverance he always recovered what he had lost, and at his death was in very comfortable circumstances.

THOMAS WATERHOUSE.

About the year 1810, Mr. Waterhouse opened a draper's shop in South Street, in which business he continued for more than 40 years. About the same time he opened this shop for the sale of drapery, he commenced the manufacture of cotton pieces, and bought his warp yarn from Mr. John Greenwood, of Knowle Hall, being mostly spun at the Cabbage Mill; but his weft yarn he obtained at Manchester where he sold his goods. The class of goods he principally made consisted of ginghams, plaids, and white cotton, the two former were woven partly with coloured weft. About 1834 he had a number of looms employed in weaving cotton at the old workhouse, which was situated at Exley Head. His brother, the late Joseph Waterhouse, was at that time

the workhouse master, and, being a weaver, he taught a number of the inmates to weave cotton, which would doubtless have a tendency to reduce the poor rates. In 1832 he took the Wood Mill near Laycock, where he was engaged in spinning worsted from his own tops; his warehouse was situate behind his shop, in South Street, where he sorted his wool and gave out work to hand combers. At this time he sold his yarn to other manufacturers. In 1835 he removed his machinery from Wood Mill to the Wire Mill, near Ingrow, and soon after he came to this mill he began to manufacture stuff pieces, spinning his yarn at this place. He had at this time his pieces woven by hand weavers, and the class of goods he made consisted of plainbacks and dobbies. In 1837 he took room and power at the West Greengate Mill, when he began to weave his pieces by power looms. In 1842 he commenced the use of cotton warps, and to manufacture orleans, cobourgs and delains. About the time he opened his drapers shop, he also began to sell milk, which was brought to his house on horse back, morning and night, from West Riddlesden Hall, the residence of Messrs. William & Thomas Leach, who sent it with one of their servant-men. At that time there was only one other party who brought milk from the country farmers, namely, John Bastow, or, as he was commonly called, Joan Bastow, who resided a few doors below the Fleece Inn, and fetched his milk from Utley. We believe at the present time all the milk is brought from the country farmers, and that no milk whatever is produced in the town; it was very different 60 or 70 years ago, when a considerable number of dairy farmers resided in the town. We have heard old people tell of no less than half-a-score barns and stables abutting into the main street, and people at that time had to fetch their milk from the farmers or the

two milk dealers; there was no such thing as the milk dealers carrying it from house to house. Mr. Waterhouse retired from the business of manufacturer about 1846, and if not a rich man, at least in comfortable circumstances; and, what was better far, with an unblemished character, and, we believe, an approving conscience, which is a treasure more valuable than silver and gold. He was a Methodist Local Preacher and class leader, and died a few years after he gave up business, a beautiful illustration of that scripture, "Mark the perfect man and behold the upright, for the end of that man is peace."

WILLIAM NEWSHOLME.

Mr. Newsholme resided at Newhouse, Oakworth. He was the grandfather of the late William Newsholme, who was for a number of years the collector of the poor rates for this parish. He was one of the leading stuff manufacturers in this neighbourhood during the latter half of the last century, employing a considerable number of combers and weavers, having his yarn spun by the hand wheel. As we have not seen his books we are unable to state exactly the class of goods he made, but like other piece makers of that early period, very likely they would consist of callamancas, shalloons and plainbacks. His place of business was in connection with his own house, and we have no doubt that on taking-in days Newhouse, a 100 years ago, presented a far busier

appearance than it does at the present day. He, like all the stuff manufacturers of that period, sold his pieces at Halifax market, to which place they would most likely be taken in his own cart. In the year 1780, one day, while attending this market, he heard that Robert Raikes had begun a Sunday School in the city of Gloucester, and taking the hint, the very next Sabbath he commenced a Sunday School in one of his cottages, adjoining his house, beginning with six scholars. Shortly after he added another cottage, and when these premises became too small it was removed to Sykes Head, where a school was built by subscription; and a Sunday School has been conducted at this place for nearly a century. The Sunday and Day Schools have only recently been removed to the beautiful and commodious new buildings at Lidget. It is believed this was the first Sunday School in Yorkshire, and no doubt this institution has had a powerful tendency in promoting the moral and intellectual well-being of the entire neighbourhood.

DR. LISTER.—SPEAK & HARRISON.

Dr. Lister entered into business as a stuff manufacturer about the year 1827; for doctors have sometimes sold other commodities besides quinine and bolases. The late Dr. John Mitchell, who built the house in North Street, in which Dr. Chaffers now resides, was at one time engaged in making stuff pieces. Dr. Sewell once told us that he was at one time

strongly urged to go into the worsted business, but he said he had no inclination to do so; neither Dr. Lister nor Dr. Mitchell succeeded in their new undertaking, but both came to trouble. We shall have to notice Dr. Lister again, but at present we proceed to notice the firm of Speak & Harrison. These two parties were gentlemen of sterling integrity and uprightness, who, to the end of their lives, bore a high moral character. They succeeded Calvert & Clapham at Ingrow Mill in 1818, and had their warehouse on the same premises where they stored their goods, and sorted their wool, and delivered out work to combers and weavers, spinning their yarn at the above mill. The class of goods made by this firm consisted principally of 5-eights and 3qr. plainbacks and wildbores. We recollect at the last Bishop Blaize which took place in Keighley, on the 3rd of February, 1819, that Speak & Harrison, along with Calvert & Clapham, refused to take part in the procession, as these two firms were composed of religious men, and doubtless were apprehensive that the large gatherings in the town might possibly lead to drunkenness and dissipation, as the procession was chiefly composed of wool combers, but they adopted a course which they wisely considered would promote the well-being of their wool combers better than parading the streets, viz., they gave to every married man a pair of blankets, and to his wife a stuff gown, and the single men one blanket each. Although Speak & Harrison were men of considerable energy, industry, and economy, yet, from some cause or other, they did not succeed in saving money, for after carrying on business for a few years they were involved in difficulties, and had to compound with their creditors, when the establishment was broken up and they both removed to Bradford. After several years of hard struggle they engaged in business again, but

not in partnership, and slowly but gradually succeeded in saving money; and at the end of 29 years they were able to pay, and they did pay, all their creditors twenty shillings in the pound. We recollect, more than 20 years ago, hearing the late Simeon Smith, heald and reed maker, saying, that within the past 12 months he had received two dividends, of which he had no expectation, one from the firm of Speak and Harrison, 29 years after they had failed, and the other from Dr. Lister, 22 years after he stopped payment; Mr. Smith added, "I believe I have got these dividends because the parties dared not face their maker with their debts unpaid." Dr. Lister, soon after his misfortune in connection with the worsted trade, emigrated to Canada. We met with a gentleman from Canada a few years ago, who had resided for some time in the city of Toronto, where Dr. Lister's family are settled, and he said, "I am very intimate with one of his sons in that city, who is a very prosperous and successful merchant, and said to be worth £100,000;" and from what he further said about the Listers in Toronto, we gathered that Dr. Lister himself never rose much above his embarrassment, but that it was this son who engaged to pay his father's debts; and about the time of the doctor's decease, nearly a quarter of a century ago, a solicitor was sent over to this country to pay the unfortunate doctor's debts; no wonder that the smile of heaven should rest on such a son.

THOMAS RAMSDEN.

Mr. Ramsden had three sons, all of them at one time extensively engaged in the worsted trade; James Ramsden, more than half a century ago, was a mannfacturer of stuff pieces; Thomas Ramsden, junior, about 30 years ago, was extensively engaged at the Cottingley Mill as a spinner of worsted yarns; and David Ramsden, another son, was for a number of years one of the principal buyers of stuff pieces in Bradford market, for that noted firm of stuff merchants, A. & S. Henrys, but afterwards commenced business himself as a stuff merchant, in partnership with a Mr. Firth, carrying on business as Ramsden & Firth; he is now residing in the United States of America, having retired from business some years ago.

Thomas Ramsden, senior, resided at Calversyke Hill, where, during the first quarter of the present century, he carried on business as a manufacturer of stuff pieces; he had his warehouse in connection with his dwellinghouse, at the above place, where he sorted his wool and delivered out work to combers and weavers, having his yarn spun by commission. We have met with an old man between 80 and 90 years old, who wove for him 60 years ago, who says, at that time Mr Ramsden's wife generally took in the pieces. Mr. Ramsden came to grief during the terrible panic of 1826, and we believe he never went into business afterwards, but was glad during the last years of his life to earn a scanty pittance as a hand comber, and the last time we recollect seeing him, was at the committee room of the Combers' Club, at the Black Bull Inn, Damside, more than 50 years ago; we believe

he was a member of this Club. There were three Combers' Club-houses in the town at that time, namely, the Black Bull, the Fleece Inn, and the Lord Rodney. At that time there were two combers' clubs, one called the Old System, commonly pronounced the 'Old Sist,' and the Union. The Old System had its ramifications of Club-houses in most of the towns in Yorkshire and Lancashire, where the worsted trade was carried on;—the other, called the Union Combers' Club, spread as far as Devonshire and Cornwall, having its stations or club-houses in the intermediate towns, its head-quarters being at Brigg, in Lincolnshire. The advantages derived from these clubs were two-fold, first, as a sick club, allowing the members about 8s. per week when laid aside by affliction, and the other was the claim they had on the other members when out of work, whilst travelling round the country in quest of employment. In the first place, they were entitled to a night's lodgings at the Club-house with other perquisites; and, when calling at the workshops, or combshops, as they were called, if they did not obtain employment, each club-man was required by the rules of the club to pay the man out of work one halfpenny; this may seem a small sum, but during flat times, or on the occurrence of a strike in some neighbouring town, sometimes as many as a dozen or a score would call in one day, which made it a heavy tax upon those who were in work. The payment at the Club-house was 1s. per month for full members, who had the advantage both of sick pay and travelling expenses, while half-pay members only paid 6d. per month, but they were not entitled to sick pay; but what we always looked upon as a most egregious blunder, was the way in which the innkeeper was allowed to tax the members of the club, for out of these payments 3d. must be spent in drink, as was said, for the good of the house

where the club was held, so that out of 1s. paid by the full members, only 9d. went to replenish the Club funds; and the case of the half members was still worse, for out of 6d. paid, 3d. or 100 per cent. was spent, not for the public good, but for the good of the public house. When the combers were crossing (the name given to combers seeking work) they were only allowed to cross or call at the same place once in three months, but some old stagers, who were more at home on the road than in the comb-shop, were sure to call again in the course of three months, when, sometimes the combers to save the paying of one halfpenny, which was now due, would obtain employment for those professing to seek work, who would comb a single weigh, consisting of one stone or 20lbs., but which was no sooner finished than they would be found on the road again.

ANDREW PEARSON.

Mr. Pearson, during the early part of the present century, resided at Braithwaite, where he occupied a farm, and in addition to farming was also engaged in business as a manufacturer of stuff pieces. He had his warehouse in connection with his dwellinghouse, where he stored his goods, and where his wool was sorted, and work delivered out to wool combers and hand loom weavers. He had also a weaving shop on his premises, where a part of his family and others were engaged in weaving; having no mill he had his yarns spun

by commission. Messrs. Lund & Sugden, of Castle Mill, were his spinners, and the class of goods he made consisted of plainbacks, tammies and dobbies; he sold his goods at Bradford market which was at that time held on Thursday only, the Monday market not being opened till several years after he gave up business. He took his goods to the market in his own cart, and to save expenses, he also carried the goods of the late John Smith, of Laycock. Although Mr. Pearson was an industrious, persevering, and painstaking tradesman, yet, like great numbers of his fellow manufacturers during the year 1826, (when it is believed that more than one half of the manufacturers in the town and parish were ruined) he was brought to grief. His creditors, however, believing him to be a thoroughly honest man, agreed to take a composition of so much in the pound, which, having been paid, he again entered into busines, but his means being limited, he did little more than employ the members of his own numerous family. Having given up keeping combers he bought his yarn; but after a few years, failing to see any prospect of making headway, he determined to give up trade altogether. He afterwards entered the service of Lund & Sugden as their weaving overlooker, which situation he held for a considerable number of years, till old age and failing health induced him to request that his grandson, the late William Pearson, who had been trained under him, might take his place, to which the firm consented.

From a very intimate acquaintance with him, spreading over a number of years during his engagement at Castle Mill, we have no hesitation in saying that a more honest, industrious, and conscientious man never earned his bread by the sweat of his brow.

RICHARD ROBINSON.

Mr. Richard Robinson was the son of Thomas Robinson, joiner, of Hill Top; this is the same party referred to in the article on John Brigg & Co., who was bound by an indenture to serve the firm of Craven, Brigg & Shackleton for the term of four years, at 13s. per week, under a bond of £100. He subsequently removed to Calversyke Hill, where he kept a small grocer's shop; the late William Shaw, of Coney Lane, in his 93rd year, could recollect when he was in his teens, living at the Rectory Row, and fetching groceries from Thomas Robinson's shop. He died in 1802, and his son, Richard Robinson, was engaged during the first quarter of this century in manufacturing stuff pieces. He was considered at one time one of the leading tradesmen in the neighbourhood, employing a considerable number of combers and weavers, spinning his yarn at the Wood Mill, near Laycock. In the year 1810, he went to reside at Hill Top, on a farm which then belonged to Mr. John Knowles, of Hallas Bridge; there being a water-fall in connection with this farm, the owner of it built Mr. Robinson a mill, and for several years he occupied both these mills. He had his warehouse at Hill Top, where he stored his goods, where his wool was sorted and work delivered out to both combers and weavers. The class of goods he principally made were callamancas, ribbs, plainbacks, tammies and dobbies. Though a prosperous tradesman, he had the good sense to bring up his family to habits of industry, several of them were employed about his mills. His business transactions for the most part pres-

ented a prosperous appearance, and he was looked up to as a successful man of business till the melancholy panic of 1826, when, having sold most of his pieces to that unfortunate firm, Messrs. Butterworths, their stopping payment gave him a terrible shake. Soon after, having deposited a large sum of money in the Bradford branch of the Wakefield Bank, that Bank, amid the tremendous crash of failing Banks all over the country, the collapse of trade, the loss of confidence and general stagnation, stopped payment, and he awoke to the realization of the mortifying fact that he was a ruined man. He now retired from business, gave up the Wood Mill, retaining only the Hill Top Mill, where his son Joshua carried on business for about 20 years as a commission spinner. Mr. Robinson, after his trade disasters, continued to occupy the Hill Top Farm for about half a century, only giving it up about two years before his decease.

We had the pleasure of his acquaintance for more than a dozen years before his death, and although considerably reduced in circumstances, yet he always appeared cheerful and contented.

ROBERT SMITH.

Mr. Robert Smith, at the beginning of this century, resided in a small cottage near the bottom of Fell Lane, where he had three sons and three daughters, all of whom grew up to man and woman's estate. The eldest son, the late Mr. James Smith, became a successful business-man as a grocer in High Street, Keighley; he began his business in a very small way

as a green grocer. One day, soon after he commenced business, he went to Bradford in company with his wife in order to purchase a stock of goods; while in the market they fell in with his father, the late Robert Smith, who, as was quite natural, began to inquire how they were getting on, and leaving them for about half an hour, he returned and presented the young couple with £40 in bank notes, "and did we not feel rich" exclaimed the old lady, our informant, who was no other than the widow of the above James Smith, quite hale and hearty in her 83rd year. About the same time he made a similar present to all his other five sons and daughters. He was engaged as a manufacturer of stuff pieces at the beginning of this century; while residing at Fell Lane he had no combers, but bought his tops and had them spun at first by the hand wheel; but when Berry Smith began to spin by commission at Acres Mill, he had his yarn spun by that gentleman. About the year 1820 he removed to Hoyle House, Exley Head, at present occupied by Mrs. Wall; here, in addition to farming the land, he greatly extended his business; soon after he settled at this place he begun to employ wool combers, having his warehouse at Hoyle, where, besides storing his goods and sorting his wool, he also delivered out work to combers and weavers. John Pearson, of Fell Lane, tells us that he was one of his combers, and that Benjamin Sugden, farmer, of the same place, was one of his weavers. In addition to the tops produced by his own combers he bought large quantities of tops from other parties. The late Mr. William Wright, of Silsden, who became a very wealthy tradesman, and began business as a top maker, used to say that he owed a great deal of his success to Mr. Smith, who was one of his best customers during the time he was a top maker. Mr. Smith was con-

sidered a large manufacturer at that time, giving employment to no less than 200 weavers; the class of goods he made consisted of plainbacks, tammies, russells and ribbs. His family seem to be of the opinion that he always sold his goods at the Bradford market, but, as the manufacturers in the early part of the century sold their goods at Halifax, it is very likely that he took his goods to the same market, as it was only about the beginning of the second decade of this century that the Halifax Piece Hall and the Wakefield Tammy Hall began to be abandoned for the Bradford market. He passed the panic of 1826 without any serious loss, while numbers of his neighbours were ruined by the failure of the notorious Butterworths; and it is somewhat a remarkable fact that he did not loose a single penny by those unfortunate merchants. More than 40 years ago he retired from business, and, at his death, which took place a few years after, left to his family by will about £5,000. His son John Smith, was never married, bnt remained with his father till he died, carrying on the business on a greatly reduced scale, but only for a few years, when he gave it up only attending to the farm. He died about 30 years ago; his end was hastened by a struggle he had one Sunday with a number of gamblers, (having been appointed a parish constable, there being about 20 thus appointed for the parish before the West Riding Police were established) while endeavouring to apprehend a gang of these roughs, he was so severely handled and mauled, that he never recovered from the injuries inflicted by them, but gradually sunk under them, and his premature death was greatly lamented, for he was a man held in very high estimation.

JOHN RISHWORTH.

Mr. John Rishworth, or as he was generally called 'John Rusher,' was extensively engaged as a stuff manufacturer during the first quarter of the present century; he resided at Fell Lane, occupying the farm at that place now belonging to E. H. Pickles. The old house and business premises were pulled down about 1854, and the new farm-house and barn erected on the site. In connection with this old farm-house Mr. Rishworth had his warehouse, where his goods were stored, his wool sorted and given out to hand combers, and yarn and sizing delivered out to hand loom weavers, and tops and pieces taken in. Benjamin Rishworth distinctly recollects a famous feast being provided by his father in this warehouse on the declaration of peace with France in 1814, to which the workpeople and the neighbours were invited; after which, music and dancing were continued in an adjoining field till a late hour in the night. Mr. Rishworth had his yarn spun at first by the hand wheel, but subsequently took the Goose Eye Mill, which had previously been occupied by Shackleton, Bottomley & Shackleton; and about 1814 he commenced spinning at Wood Mill, but, as Richard Robinson was spinning at this mill, probably they each occupied one room. At these two mills for more than 20 years he spun his yarns; Benjamin Rishworth, his son, says he was in the habit when only ten years old of carrying the cash for wages from Fell Lane, through Holme House Wood to the Wood Mill, sometimes at ten o'clock at night. Mr. Rishworth employed a considerable number of weavers, some of these weavers came from Haworth and the surrounding country, and, besides the yarns he spun at his own mills, he bought a considerable

quantity of yarn from other spinners, especially from Calvert & Clapham, of the Aireworth Mill. The class of goods he made consisted of tammies, dobbies, plainbacks, russells, and bombazines, the last class of goods were made by him during the last few years of his trading career. Although so extensively engaged in business at one time, yet business was begun by him in a very small way at first; it was his custom to carry four or half a dozen pieces on his back to Halifax market, he was his own designer for his dobbies, or figured goods, sometimes having as many as six different figures across the dobby piece. Frequently, when at Halifax market, if he saw anything new, he would take a drawing of it on the spot, and when he got home introduce it into his own goods. He seems to have had a very successful career till about 1824, when, having sold a large quantity of goods to a stuff merchant of Leeds, of the name of Pullan, who failed in business, he was involved in a loss amounting to no less than £2,000. Some short time after Mr. Pullan's son began to buy pieces in Bradford market, and persuaded Mr. Rishworth to let him have his goods, when, in 1826, the younger Pullan also failed, and this unfortunate affair proved the ruin of Mr. Rishworth. Although he afterwards made two or three attempts to retrieve his circumstances, yet he always failed to surmount his difficulties, and in a few years altogether retired from business, if not a better at least a wiser man. We recollect meeting with him about 20 years ago a hale and patriarchal looking old man; we asked him how old he was, when he replied, "three score and one," meaning thereby three score years and one score, namely, 80 years. Having lived in comparative obscurity during the last 30 years of his life, he ended his days in the neighbourhood of Hermit Hole, we understand, with some member of his family.

ROBERT SUGDEN.

Mr. Robert Sugden occupied a farm at Spring Head, near Bogthorn, at which place he was engaged in business during the early part of the century, as a manufacturer of stuff pieces. His place of business was in connection with his dwellinghouse at Spring Head; he kept no combers, but bought his tops from the top makers—a rather numerous class of tradesmen. At that time he employed about 40 hand loom weavers, and spinning his yarn at Castle Mill, where he was a partner in a firm of commission spinners, consisting of himself, Jonathan Sugden his brother, and James Judson; the last named party managed the spinning department. The class of goods made by Mr. Sugden consisted of shalloons, callamancas, both ribbed and plain; he also made plainbacks, dobbies, and 6qr. merinos. When manufacturers began to weave their goods with power looms, and cotton warps came into use, he did not choose to go into this new form of business, but about 40 years ago gave up manufacturing, and soon after the spinning business also.

He was a kind and considerate master, held in very high estimation by his workpeople and by all his acquaintance, both at home and in the market. He was the father of Robert Sugden, builder, of East Parade; his brother Jonathan, referred to above, was for some time master of the Endowed School, at Hare Hill. We recollect, about 40 years ago, frequently watching him while engaged in polishing plates for a reflector telescope which he constructed at his residence at Harewood Hill, though the polishing of these plates was done at

the mechanics' shop at Castle Mill. He was well versed in the sciences of astronomy and mathematics. We had in our possession, some time since, a pamphlet published by him about 60 years ago, giving the exact time of all the eclipses both of the sun and moon for 40 years subsequent to the publication.

The other partner in the spinning firm, Mr. James Judson, was engaged in commission work for nearly 20 years at the Holme House Mill. The father of James Judson was for some time engaged in manufacturing stuff picces: this unfortunate tradesman, about 50 years ago, when returning from Bradford market, was thrown from his horse and was so seriously injured that he died shortly afterwards.

SMITH & HARTLEY.

THIS firm commenced as manufacturers of stuff pieces about the year 1812. Mr. Smith was the grandfather of Mr. Charles Lister, paper tube maker, Greengate. Mr. Hartley was father of the late Joseph Hartley, wool buyer to Messrs. J. & J. Craven & Co. Messrs. Smith & Hartley employed a considerable number of combers and weavers, occupying a room at the Hope Mill, where they spun their yarns. The class of good they made consisted principally of plainbacks, tammies, and dobbies. The time when this firm commenced business was about the transition period, when the market for stuff pieces was divided between Halifax and Bradford, and when the rival of Halifax was fast gaining the ascendency, but

they always sold their goods at Bradford market. They appear to have done tolerably well in business till the trying year of 1826, when the property of the majority of the manufacturers in the parish was swept away, and this firm gave up business in the above year, to resume it no more during the rest of their lives.

We have heard of one of those unfortunate tradesmen who came to grief in 1826, (but not one of the above firm) who, when asked by one of the creditors at the meeting called about his affairs, why he had not given up sooner, (as it was discovered that the estate would have been more favourable to the creditors, if the bankrupt had called his creditors together at an earlier period) replied, "While I was in business I was always sure of a good dinner on the market day, and then I had the pleasure, when at home, to hear those who were in my employ accost me as 'master,' and this was something to give up." But we doubt not in many cases a nobler motive might induce the struggling tradesman in his endeavours to extricate himself; especially by habits of industry, economy and perseverance, and by the prospect of a favourable turn in trade, he might hope to tide over his present difficulties. Tradesmen, not a few from their own confession, after they have become wealthy, have declared that at certain periods of their mercantile career, they have been so low in their finances, that, had their creditors been hard upon them, they could not have paid twenty shillings in the pound; but, by taking advantage of some favourable turn in trade, they have not only extricated themselves from their difficulties, but have afterwards acquired considerable wealth.

JOHN JUDSON.

Mr. John Judson, during the early part of this century resided at Slack, near Bogthorn, where he occupied a farm belonging to the Earl of Burlington. In addition to farming he was extensively engaged as a manufacturer of stuff pieces; his warehouse was in connection with his dwellinghouse at Slack, where his wool, yarn and pieces were stored, and where he gave out work to hand combers and weavers. On the same premises he had a comb-shop, where he gave employment to a number of combers, besides having a number of combers who had comb-pots set up in their own cottages. He had his yarn spun at Castle Mill, and the class of goods he made consisted of shalloons, callamancas, plainbacks and dobbies. He died about the year 1830, when his widow continued the business, employing as her manager a very active intelligent young man, called Wignall. About 1833 Mr. Wignall died, when Mr. Judson's son, who had come of age, and was also called John, took the management of the business into his own hands. Soon after the commission spinners at Castle Mill, who had spun the yarn for the Judsons, came to the conclusion to dissolve partnership, when they sold the machinery to young Judson, and afterwards he spun his own yarn. Shortly after taking possession of the spinning machinery he introduced power looms for weaving 6qr. merinos, while he still continued to employ a considerable number of hand loom weavers. For a time he seemed to be a very prosperous tradesman, but, having a heavy stock of goods on hand during a falling market, he lost a consider-

able sum of money by depreciation of stock; and in addition to this he had the misfortune to sell a heavy stock of pieces to a merchant who was out-lawed, and we understand that he lost every penny owing by this merchant. Through these disastrous circumstances he was brought into trouble, and having compounded with his creditors he retired from the manufacturing business, and settled down to farming, and we believe greatly improved the Slack Farm, and appeared to take to agricultural pursuits as naturally as if he had never been a large employer of labour.

MICHAEL SUGDEN.

Mr. Michael Sugden, in the year 1827, having recently married the daugter of the late Richard Shackleton, of Green Top, went himself to reside at that place, and soon after commenced business as a stuff piece manufacturer, employing a considerable number of hand loom weavers. At this time he kept no combers but obtained his tops from top-makers, and had them spun by commission; we are informed by his daughters that the late Mr. Thomas Robinson spun most of his yarns. The class of goods he made at Green Top consisted of shalloons, callamancas, plainbacks and dobbies. In 1838 he removed to Keighley where he occupied part of the warehouse at Croft House, built by the late Thomas Binns, since pulled down; here he began to employ combers, delivering out work both to combers and hand loom weavers. Soon after he came into the town he commenced weaving

by power looms at Acres Mill, and the class of goods he made at first by power looms were 6qr. merinos. In about a year he began to use cotton warps in the manufacture of orleans and cobourgs. He was a very skilful and painstaking tradesman, but, in consequence of heavy losses occasioned by the failure of merchants with whom he did business, he did not succeed in saving money like some of his fellow-tradesmen. He had one son (we believe now residing in America) and two daughters, who reside in this town. His wife was the sister of the late Mrs. Butterfield, of Cliff Hall, mother of the Butterfield Brothers; these gentlemen, who are the first cousins to Mr. Sugden's children, have very considerately settled an annuity upon the two daughters, thus placing them not only above want, but in comparative comfort during the rest of their lives.

LUND & SUGDEN.

Mr. John Lund, the senior partner, resided at Damside, where he kept a grocer's shop; Mr. Abraham Sugden resided near the Grove Mill, where he occupied a small farm. About 1818 they entered into partnership as spinners and manufacturers; besides spinning their own yarn they spun on commission for several other manufacturers, employing a number of hand loom weavers. At first they had no combers, but bought their tops and spun them at Castle Mill, which was their place of business. The class of goods they made at first were 5-eights and 3qr. plainbacks. In 1836 they intro-

duced power looms, which were principally employed in weaving 6qr. merinos. About 1838 Mr. Lund retired from the firm, when Mr. Sugden took his brother and son-in-law into partnership, carrying on business under the name of Abraham Sugden & Co. About this time they begun to use cotton warps in the making of orleans and cobourgs; they also made figured goods with both worsted and cotton warps, woven in both dobby and Jacquard looms. Mr. A. Sugden died in the latter end of 1840, and the surviving partners carried on the business for a few years, when the firm was finally dissolved. Like numbers of tradesmen of those days, they were subject to heavy losses by the failure of stuff merchants; we have heard the late Mr. Sugden say, that after he had built a few cottages, and was making arrangements for building a few more, there came the panic of 1826, and swept away all his spare cash. This firm were careful in their business transactions, avoiding speculations or risky adventures. Mr. Sugden was the acting partner in the concern, Mr. Lund very seldom interfering in the business, beyond occasionally paying the wages. Mr. Sugden was a very kind master—very much respected by his workpeople, a many of whom appreciated his kindness by remaining in his service for a great number of years.

CRAVENS & SUGDEN.

MESSRS. Thomas & Hiram Craven were the sons of the late Mr. Hiram Craven, of Dockroyd. Mr. William Sugden belonged to a family of tradesmen; he had two brothers who for a number of years were engaged in manufacturing stuff pieces, namely, the late Robert Sugden, of Chip Hill, and Thomas Sugden, of Lane Ends. The firm of Cravens & Sugden occupied two mills, one at Ebor, near Haworth, and the other at Higher Providence. The old mill, which stood on the site of the present mill, was purchased from its former owner, Mr. Leach, by the late Hiram Craven, who was a noted contractor, and in partnership with his sons was for a considerable time engaged in building bridges, constructing docks, and in making railroads. We understand that he was first brought into public notice as a skilful engineer, by the very difficult but successful undertaking of building a bridge over the river Ouse, at York, after several other engineers and contractors had been baffled in the attempt. About 1819 he built Ebor Mill, and a few years after he bought Mytholmes Mill, which he enlarged about the same time he rebuilt Providence Mill. At great expense, in connection with this mill, he constructed a large reservoir to catch the water during floods. The entrance to the embankment of this reservoir was formed of two rib bones from the body of a whale, constructed in the form of an archway. Although he was never engaged in the worsted trade, yet, from the number of worsted mills he possessed, thus giving facilities for the extension of trade, common justice requires

that we should record his name in this work, as we feel anxious that the name of one of the most eminent men that ever resided in this neighbourhood should not be overlooked. We have often been pained at a very serious omission with regard to him in the life of the late Mr. Jonas Sugden, although he was the most prominent person in the neighbourhood of Oakworth, ever ready to give a helping hand to the cause of morality, education, and religion, either by personal effort or by his purse; and although Mr. Sugden, in early manhood, resided within 100 yards of Mr. Craven, when they must have been frequently thrown together in their benevolent enterprises, besides the families being also closely connected by marriage, (a son of Mr. Craven having been united in wedlock with a sister of Mr. Sugden) yet Hiram Craven's name is never mentioned in the entire volume. We do not think, however, that this omission was intentional, although we think greater care ought to have been taken in the collection of facts. We believe the omission arose in this way: when the memoirs were written the writer of them was living in Scotland; certainly he had resided a short time in Keighley, but that was several years after Mr. Craven's decease; and then the party who was appointed by the writer to supply local information, was not a native of the place, and had only resided at Oakworth a few years, and consequently never knew Hiram Craven.

The firm of Cravens & Sugden had their warehouse and offices at Higher Providence, where they commenced business about the year 1834. They employed a considerable number of hand combers, storing their goods at the above warehouse, where they also sorted their wool, and delivered out work to combers and hand loom weavers. They spun their yarn at the above two mills, where they also had a

number of power looms, in which they wove 6qr. merinos, orleans and cobourgs, besides a very valuable and heavy class of goods called double twills. Thomas Craven and William Sugden resided near the Providence Mill, while Hiram Craven, the junior partner, resided at Ebor. But as the race is not always to the swift nor the battle to the strong, this firm, with all their efforts did not succeed in making money; through a series of losses and other disastrous circumstances, they were ultimately brought to grief, on which account they gave up business about 30 years ago. The two Cravens died a few years after, but the senior partner survived till a few months ago, only departing this life in October 1878; and, notwithstanding the misfortunes of this firm, it must be admitted that they did good service in their day, by giving employment to a great number of workpeople, by whom they were held in high estimation.

THOMAS BAILEY.

Mr. Thomas Bailey, in early life, resided at Laycock, and having received a superior education to most of the parish lads at that time, although but a young man, about the year 1812, he received the appointment of Assessor and Collector of Income Tax for the town and parish of Keighley. This office he held for several years, and, if our memory serves us right, we have heard him say that when he held the appointment the tax on certain incomes amounted to as much as 10 per cent., or 2s. in the pound. He com-

menced business as a top maker in the year 1820, and in about two years after he got his tops spun by commission, and sold his yarns to manufacturers. In 1826 he took the mill in South Street, formerly built and occupied by Mr. Wilkinson, called at that time 'Plumper's Mill;' this mill was four stories in height, and stood on the site on which Bairstow's Corn Mill has been built. At this mill he spun his yarn; he also occupied the warehouse in Spring Street, built by Mr. Wilkinson; these buildings at that time belonged to one of the Halifax Banks, who obtained them when Mr. Wilkinson gave up business. The class of wools bought by Mr. Bailey were what are now called lustre wools, grown in Yorkshire, Lincolnshire, and Leicestershire. He stored and sorted his wool at the above warehouse, which is now converted into cottages, but still has the appearance of a three storied warehouse, with the large crane doors as they were fixed in times of yore. In 1832 Mr. Bailey began to manufacture stuff pieces, at first employing hand loom weavers, and in 1834 he introduced power looms into his mill. We have not been able to obtain a list of the class of goods he made, but we suppose, like those of his neighbours, they would consist of plainbacks, wildbores and 6qr. merinos. Notwithstanding Mr. Bailey being an industrious and persevering tradesman he did not succeed in making money, and about 1839 he gave up his mill, and ceased making pieces, but nearly to the end of his days he continued to employ a number of hand wool combers, getting his tops spun by commission, and selling his yarn to various manufacturers.

We were better acquainted with him than we were with most of the other tradesmen in the town, and we always found him an upright, straightforward, and honourable man of business.

JOSHUA COWLING.

Mr. Joshua Cowling was born at Well House, near Silsden, in the year 1759, and in 1784 he came to reside at Laycock, when he entered into business as a manufacturer of stuff pieces, employing both combers and weavers, and from the first journeying into Lincolnshire to buy his wool. The class of goods he made at Laycock consisted of callamancas and shalloons. About 1790 he married and went to reside at Well Head, near Harehill, where he had his place of business, still continuing to employ both combers and hand loom weavers, having his yarn spun by the hand wheel, and making shalloons and callamancas, selling his goods at Halifax market. He remained at Well Head till 1802, in which year he built himself a dwellinghouse and warehouse at the bottom of Wellington Street, and in the same year removed to his new premises, where he employed both combers and weavers, to which business he now added woolstapling, still continuing to go as far as Lincolnshire to buy his wool. In the memorable year of 1826 he left Wellington Street and went to reside at Braithwaite, but here he somewhat curtailed his business, still continuing, however, to buy his wool in Lincolnshire. While residing at Braithwaite he was engaged in making the figured goods called drawboys; these goods were always sold at the Halifax market, this being the principal market for stuff pieces during the first 20 years of his trade life, and he continued to attend this ancient market till he gave up business. We have frequently seen him about the year 1836, though nearly 80 years of age, going

along the Halifax Road, on a Saturday morning to attend the Halifax market, seated on his black cob or pony. We used to notice him more particularly because he had invariably a drawboy piece tightly rolled up, and fastened behind the saddle. It was said in common gossip that by this means the horse, in the eye of the law, was changed from a riding to a trade horse, and consequently the duty was reduced from a guinea to ten shillings and sixpence per year. He departed this life in 1839.

JOSEPH HARTLEY.

Mr. Joseph Hartley resided at Braithwaite Brow, where he farmed his own land, and we find from his books that in 1805 he was engaged in manufacturing stuff pieces, but bought his yarn or tops. These tops at that time were spun by the hand wheel; his warehouse was in connection with his house, where he stored his goods and delivered out work to hand loom weavers. The class of goods he made consisted of plainbacks, tammies and 6qr. merinos. We find from his books that he bought most of his yarn for a period of 19 years from only two firms, namely, Calvert & Clapham, of Aireworth Mill, and William Sugden, of Fleece Mills. He sold his goods principally to Manchester houses, as his books contain numerous entries of the receipt of considerable sums of money from merchants residing at that place. However, he sometimes sold to such houses as Butterworths, and also to Brooks, both of which firms went down, though we do not

find that he was deeply involved, financially, with either of these firms. He gave up business in 1839; though not wealthy, yet in comfortable circumstances. He died a few years after, leaving two sons and one daughter. Neither of his sons have entered the list of manufacturers, although, as if some of the old tradesman's blood runs in the veins, James Hartley, the younger son, has for a number of years been engaged in business as a woolstapler, though recently, we understand, he has turned over the business to his son J. W. Hartley; both father and son reside at Braithwaite Brow. For several years back they have principally dealt in wool grown in the district of Craven, meeting the farmers at the Skipton Market; but about clip time visiting the farmers at their own homes. More recently they have imported wool from Ireland, and we think in future they will go more extensively into this class of wool, as a short time ago the younger Hartley married the daughter of a gentleman residing in Ireland, and we understand it is this party who sends over the Irish wool.

JOHN HANSON.

Mr. John Hanson resided at Spring Row, now called Spring Street, near the old Club-houses. In the year 1816 he commenced business as a manufacturer of stuff pieces. His father, Joseph Hanson, was engaged in the same business in a small way several years before the son, and continued to make stuff pieces for a few years afterwards. Mr. Hanson

commenced business in a building adjoining the machine shop of the late Michael Merrall, who unfortunately lost his life, being caught by his own steam engine in 1819. After Mr. Merrall's death Mr. Hanson took this machine shop, and after the machinery was removed, converted it into his warehouse, and here he stored his goods, sorted his wool, and delivered out work to combers and weavers. He kept about 100 wool combers; a number of these combers were what were called 'basketeers,' many of them being small farmers living in the country, who used to bring their horse and cart about once a fortnight, with about 200 or 300 pounds weight of tops, which had been combed by them, assisted by their families, returning home again taking back a quantity of wool, with the requisite amount of oil and soap. Some of these 'basketeers' came for their work a considerable distance, even as far as from Nesfield, near Addingham. He also employed about 300 weavers at this time; he had no mill but had his yarn spun by Berry Smith, and Messrs. Marriners, of West Greengate Mill. The class of goods he made consisted principally of plainbacks, wildbores and dobbies, which he sold in Bradford market, though he sold a considerable quantity of his goods in yarn—generally warp yarn. He bought most of his wool from Wakefield woolstaplers; Wakefield being more noted as a wool market 60 years ago than at the present time. His banking was done at Halifax, where he stood very high with at least one of the banks in that town; so that taking him altogether he was considered one of the leading tradesmen in this town; but unfortunately for him, there came the trying year of 1826. Although he did not want quite £20 of Messrs. Butterworths when they failed, yet a considerable number of manufacturers who had obtained yarn from him were ruined during the

panic, and the very heavy losses entailed upon him by the failure of these piece-makers, so dried up his resources, (and especially the heavy loss occasioned by the depreciation of stock) and brought in their train such a financial embarrassment, that, although he tided over the panic, and was able to continue in business a few years longer, yet he was so paralized by the losses sustained during that year, that he never recovered his former standing, and about 1830 was compelled to place his affairs in the hands of his creditors. A firm in this town from feelings of respect for him, gave him a situation of trust; but it is seldom that a person like him, who has been a large employer of labour can feel happy and content afterwards in the capacity of a servant; so after a short stay with the above firm he left the situation, and some time after took a room at the Hope Mill, where he continued but a short time as a spinner on commission. His business prosperity seems to have forsaken him, and we recollect passing the Hope Mill about 40 years ago, when an auction sale was going on, and on inquiring whose property they were selling, we were told that it was Johnny Hanson's machinery. Mr. Hanson in early life had served an apprenticeship to learn the trade of brazier, and old people used to say that no one in the country round could make a copper kettle like him; and we understand that he turned his attention to this business after he gave up spinning at Hope Mill.

Mr. Hanson had a small freehold left by his father, and we think some income with his wife, (who was sister to Mrs. Metcalf, the widow of the late Mr. Metcalf, solicitor.) He died about 30 years ago, and we have little doubt he passed the last few years of his life in comparative comfort and tranquility.

JOHN SUGDEN.

Mr. John Sugden resided at Bracken Bank, where he cultivated his own freehold farm. Early in the present century he was also engaged in manufacturing stuff pieces; he had his warehouse in connection with his house, where he stored his wool, tops, yarn and pieces, and where his wool was sorted and work given out to combers and weavers. He spun his yarns at his own mill, which stood in Ingrow Lane, now converted into cottages. This mill had no steam engine, but was run by water power from a small stream which would hardly suffice for condensing the steam for some of the powerful engines of the present day. Manufacturers' daughters at that time had very frequently to work in the mill, or to take some active part in the manufacturing process, such as warping, reeling, drawing, and sometimes in hand loom weaving, and Mr. Sugden's daughters were no exception to this rule, but were brought up to habits of industry, so that if thrown upon their own resources they would be able to earn an honest living. We have heard old people tell how the tops were brought from the warehouse to the mill in the morning by some member of Mr. Sugden's family, and the yarn taken back at night, and if they carried those goods to and from the mill on their backs or shoulders, it was quite in accordance with habits of both men and women 50 or 60 years ago, when hand loom weavers carried heavy loads of pieces three or four miles on taking in days, and again when returning home carrying an equally heavy load of warp, weft and sizing. We have not been able to learn what class of goods he made, and as none of his children are

living, we have no means of learning, probably they would be similar to neighbouring piece makers. He retired from business nearly 50 years ago to spend the remainder of his days amid the tranquility of rural scenery, having, in addition to his farm, several other properties, that at his decease, (which took place a few years after he gave up business,) were divided amongst his children.

LUND & WHITEHEAD.

THESE parties, about the year 1829, entered into partnership and commenced business as manufacturers of stuff pieces. They employed both hand combers and weavers, and had their yarn spun by commission. Their place of business was the warehouse formerly occupied by Joshua Cowling, at the bottom of Wellington Street. The members of this firm were persons combining the virtues of economy, energy, industry and perseverance. Mr. Lund attended to the weaving department, and, besides taking in the pieces and delivering out work to the weavers, he sized most of the warps used by the firm. Mr. Whitehead sorted most of the wool which he weighed out to combers, besides taking in the tops and sending them to the spinners. In addition to the manufacturing business they were engaged in the waste trade, in which both the partners took a part, calling at the various mills in the town and neighbourhood about once a fortnight, on certain fixed days to take up the waste. The class of goods made by this firm consisted principally of 5-eights and

3qr. plainbacks, wildbores, and 6qr. merinos. By great industry, during the 15 or 16 years they were in partnership, they succeeded tolerably well. About 1848 Mr. Lund died, when the partnership was dissolved, Mr. Whitehead taking the waste department of the business, while Mr. Lund's three sons carried on the manufacturing department; and had they been content with the plodding, and painstaking industry of their father, we think they would have succeeded. Instead of that, however, they entered upon a project of far too ambitious a character, and with but limited resources, they added to the business of manufacturers that of stuff merchants, exporting a considerable quantity of pieces to Ireland. This new scheme failed to realize the fond expectations of these inexperienced, though industrious young merchants, for, either they had heavy losses in Ireland, or the goods they sent were not suitable for the Irish market, and the consequence was that in a few years they came to grief, and the savings of their excellent father were scattered to the winds of heaven.

JOSEPH KEIGHLEY.

THIS party was a manufacturer of stuff pieces more than 60 years ago, employing both hand combers and weavers. At first he spun his yarn at a small mill at Lower Wood Head, Morton Banks; it was turned by a water-wheel, the water being brought from a spring and conducted by a drain from a higher level, supplemented by a number of small reservoirs

on the adjoining land to catch flood and surplus water. This mill was occupied till recently by Mr. Fortune, chair maker. About the year 1820 Mr. Keighley built a mill and dwelling-house in Coney Lane, where for a number of years he carried on business as a maker of stuff pieces; the class of goods he made consisted principally of plainbacks and wildbores. However, Mr. Keighley did not succeed in making money, but after a time the business was taken up by his sons, after which Mr. Keighley turned his attention principally to farming. The sons, after their father gave up, carried on the business sometimes on their own account, and sometimes on commission; but, after a series of losses and disasters, it fell into the hands of its present owners, Messrs. Sugden Keighley & Co., and this firm have replaced the house in Coney Lane by handsome offices and shops; they have also rebuilt the mill, the architecture of which is very elegant in design, occupying the site of the old mill, but considerably larger. The class of wools used by this firm are imported from Russia and other foreign countries, and their yarns are doubled and twisted before they leave the works, and are sold for braiding and similar purposes.

WILLIAM MITCHELL.

Our earliest recollections of Mr. William Mitchell are of a visit we paid to his place of business at the Fleece Mills, about 40 years ago, where he was engaged as a commission spinner. Everything about his mill seemed to be adapted to its proper purpose, and everything in its proper place, and

we came away with the idea that he was about the neatest and tidiest spinner we had ever seen. About 30 years ago he went into partnership with the late John and William Roper, at the Cabbage Mills; they kept a considerable number of hand wool combers, and during this partnership they spun their own yarn, which they sold to manufacturers or to foreign merchants, at Bradford market. This partnership, however, did not prove a success, and, about the year 1854, the two Ropers left the firm, when Mr. Mitchell a second time became a commission spinner. In a few years, however, by painstaking and industry, he so far won the favour and esteem of his landlord, the late Frederic Greenwood, Esq., of Norton Conyers, near Ripon, that he offered to sell Mr. Mitchell the Cabbage Mill, and he seems to have been so favourably impressed with the rare business talents of his tenant, that he would take no denial, and the Cabbage Mill became Mr. Mitchell's by purchase. For several years after he got the mill to himself, he was extensively engaged in spinning for Forster & Fison, of the Burley Mills; this Mr. Forster is the senior member of Parliament for Bradford. Soon after Mr. Mitchell purchased the mill he made several alterations and extensions: first he built a large spinning mill, then a wool warehouse of large proportion and beautiful design, also a combing shed. Several years ago he gave up spinning on commission and began on his own account, combing his wool by machines and selling his yarn principally at Bradford market. Besides being a very clever spinner, we always found him to be a kind and genial gentleman, one with whom it was always a pleasure to do business.

TIMOTHY HIRD & SONS.

Mr. Timothy Hird, in the year 1813, went to reside at the Holroyd Mill, situate between Micklethwaite and Morton, in the parish of Bingley. At this mill he was engaged as manager for Messrs. J. Illingworth & Sons, manufacturers, of Bingley; only a part of their yarns, however, were spun at this mill. Mr. Hird was held in such a high repute as a spinner of worsted yarns, that old James Garnett, of Bradford, who was spinning at the Paper Hall, at Bradford, in 1794, (though the spinning frames he had at this place were a sort of throstles or mules, with 18 or 24 spindles each, and turned by hand,) sent one of his sons to him at Holroyd Mill, in order to learn the spinning business. As the firm of James Garnett & Sons became one of the most noted in the Bradford trade, possibly it might, in a great measure, be owing to the excellent training young Garnett received under the instructions of the late Mr. Timothy Hird. In the year 1834 Mr. Hird removed to Keighley and took the Acres Mill on a lease; at this mill he commenced at first as a commission spinner, and soon after he took his sons into partnership. About this time they introduced a power loom into one of the spinning rooms, and had it set up in the middle of the room, lest it should be seen from outside through the windows. To this they shortly after added a few more looms, which were employed in weaving on commission for the late Mr. William Wright, of Silsden, for whom they were also spinning. About the year 1839 they began to buy their own wool, and also to employ a number of hand combers,

spinning their own tops and selling their yarn to manufacturers. We believe this firm never wove pieces of their own, but kept to the yarn trade. They likewise appear never to have aimed at doing a very extensive business, hence we never heard of any great speculations or adventures of a risky character which, by possibility, might have landed them in trouble; but by carefulness in their business transactions, and by economy in their domestic affairs, we think they have done tolerably well, as the mill they occupy became theirs several years ago, by purchase from the executors of the late Berry Smith.

To the late Mr. Isaac Hird, who, for more than 30 years was the most active partner in the firm, and the concern owes to him a considerable part of its success. He was one of the ablest mathematicians in the town, and for many years was a member of the Local Board of Health, and, during the time he sat on the Board, for wise counsel and for general business ability, he stood second to none. The firm gave up spinning some time ago, and are now engaged principally in combing wool by commission, the spinning plant being let to commission spinners. All the members of the firm, except the late Timothy Hird's youngest son, Mr. Abraham Hird, are dead, and, as he has no sons of his own, it is quite possible, and perhaps probable, that the business may go out of the family.

THOMAS IVESON.

Mr. Thomas Iveson, about the year 1810, was engaged in business as a worsted spinner, for the most part spinning for hire. Mr. John Anderton, of Manor House, Cullingworth, who, besides being a woolstapler, was also a manufacturer of stuff pieces, had part of his yarns spun by Mr. Iveson at the East Greengate Mill. Mr. Anderton, at Broomfield House, Keighley, recollects that, when a very young man, he was in the habit of bringing tops belonging to his father, John Anderton, of Manor House, to spin at this mill. Mr. Iveson was only a tenant at this place; the freehold belonged to Mr. John Craven, of Walk Mill, whose brother-in-law, Mr. Mitchell, succeeded Mr. Iveson in its occupancy. Mr. Iveson built himself a new mill on his own land at Hey's Gardens, where he carried on business as a commission spinner for a few years. This business must have been a very profitable affair at that time, for it is said that he gave up commission spinning when it got so low as 2s. 6d. per gross, not considering it worth while to continue spinning at so low a price. Since then thousands of tons of yarn have been spun at 1s. per gross. Mr. Iveson, after giving up the business, sold the mill to the late Mr. John Butterfield, the woolstapler, and he at his death left it to his brother, the late Mr. Isaac Butterfield, who, along with his sons, the Butterfield Brothers, occupied it for spinning their yarns till they built the Prospect Mill, after which it was turned into cottages.

THOMAS ROBINSON.

MR. Thomas Robinson was the father of the late Mr. William Robinson, of Dalton Mill, and was in business as a commission spinner nearly 60 years ago. He had his works at West Greengate Mill, but he subsequently removed his machinery to the Fleece Mills; but, although he was a steady, sober, and industrious tradesman, yet he did not succeed in making money like some of his fellow tradesmen, or like some commission spinners of more recent times. He was in the habit of saying in his old age, that during his business life he had several times been worth £1,000, and then during bad times he had been reduced to nothing. We understand when he retired from business he was in middling comfortable circumstances, with an approving conscience, which is better far than wealth.

AMBLER & COLLINGHAM.

WALTER Bailey Ambler is the son of the late Mr. Thomas Ambler, superintendent of the Keighley Market, and of the Waterworks. James Collingham was the son of the late Mr. Bernard Collingham, whom we recollect 50 years ago as a hawker of drapery goods. Although Mr. Collingham senior, was a Roman Catholic, he had the good sense to send his sons to a Protestant Sunday School, and we think that, in consequence of this wise measure, James Collingham grew up to be an intelligent, industrious and clever spinner

of worsted yarns. This firm commenced business at first as commission spinners, at Mr. Thompson's mill at Greengate. Shortly after this they begun machine combing, having room and power at premises in Park Lane, formerly occupied by the late John Sugden as a joiners' shop. In this combing department they worked Lister's patent machines, and the business proved so remunerative, that shortly after they commenced spinning their own yarns for sale at their mill at Greengate. About the year 1862, Mr. Ambler senior, built a new mill at Beech Grove, to which, when completed, the firm removed all their machinery; and, if they could have agreed to remain in partnership, we think it would have been better for them, as Mr. Ambler, junior, was well skilled in the nature and quality of wool, while Mr. Collingham was one of the best spinners in the neighbourhood. However, a dissolution of partnership took place, when Mr. Collingham went to the Alexandra Mill, and was there when it was burnt down. He then took room and power at the new mill in Dalton Lane, built by Croft, Butterfields & Wilkinson, where he remained till his new mill at Holy Croft was completed, which he named Spring Field Mill, a beautiful, compact, and well lighted factory. At this mill, as long as he lived, he carried on machine combing and spinning worsted yarns. There is ample room for extension, either for building warehousing, or for extension of mill premises. Since his death the entire premises have been sold to the firm of Messrs. Smith & McLaren. The Beech Mill was once enlarged during the partnership, and, since the dissolution, it has been enlarged again, so that it now forms very large and convenient mill premises, every way calculated for carrying on a very large business.

HENRY SMITH & Co.

THIS firm was engaged in business at the Alexandra Mill about a dozen years, as spinners on commission; they were young men of considerable abilities, and, during the short time they were in business, had a considerable run of prosperity; but the disastrous fire which took place at that mill in 1865, destroyed nearly all their machinery and stock. When this calamitous affair took place they gave up business, and only survived a few years, when they both died, each leaving a widow and family to deplore their heavy loss; but, notwithstanding these adverse circumstances, their families were left comfortably provided for.

GEORGE BOTTOMLEY.

MR. George Bottomley was engaged in business as a commission spinner, his place of business was at the Coney Lane Mill. He commenced business at first in partnership with James Dickinson and Joseph Lodge, all three partners having married sisters, the daughters of the late John Feather, of Oxford Terrace. After a few years co-partnership Dickinson and Lodge retired from the firm, and left Mr. Bottomley the sole owner of the concern. Mr. Bottomley was a very kind and genial gentleman, and it was always pleasant to be in his company. He was also a very clever tradesman, for,

dying comparatively young, and having only been engaged in business for a short period, he was able to leave behind such ample means for the maintenance of his family that, in our opinion, proved, in the event of his life having being spared, he possessed capabilities for trade which would ultimately have made him a man of mark amongst his fellow tradesmen.

The following parties in the worsted trade were mostly in a small way, and to notice their trade transactions in detail would only be a repetition of former articles, and would occupy more room than our limited space will allow.

MANUFACTURERS.

Peter Hall, yarn dealer, died	1724	John Hanson, Calversyke Hill	
John Slater, shalloon maker	,, 1724	James Ramsden,	do.
Jonas Blakey	,, ,, 1744	Abm. Ramsden,	do.
Matthew Barwick	,, ,, 1749	Joseph Hanson, Clubhouses	
Thomas Keighley	,, ,, 1749	Thos. Emmott,	do.
Mr. Newton, Ingrow		John Clough, Newsholme	
John Walker, ,,		John Hindle, Woodbottom	
Robert Sharp, Park Lane		Samuel Wood, Newsholme	
Geo. Leach, Harewood Hill		Frederic Smith, Eastwood Square	
Robert Sugden, Bogthorn		Mr. Murgatroyd, Chapel Lane	
James Hartley, Providence		James Shackleton,	do.
Joseph Hartley, Goodley		David Butterfield, White House	
Moses Hey, Laycock,		Thomas Walker, Thwaites	
Holmes & Smith, Holme House		John Sugden,	do.
John Driver, Bunkers Hill		William Lund, Wellington Street	
Geo. Jackson, Damems		Abraham Moore, Newsholme	
Jno. Shackleton, Lwr. Bracken Bank		Cockshott & Farrar, Greengate	
Benjamin Feather, Lidget		Geo. Greenwood, Townfield Gate	
Frank Thompson, Bogthorn		Jno. Blakey,	do.
Jno. Haggas, Oakworth Hall		Abrm. Wildman, High Street	
Thos. Sugden, Lane Ends		Saml. Newton, Hog Holes	
John Heaton,	do.	John Midgley, Fleece Street	
Michael Heaton, Scholes		Joseph Radcliffe, Low Street	
Richard Newton, Eastwood Row		William Smith, North Street	
George Ramsden, Spring Gardens			

These parties were piece makers and bought their warps from Sharps, of Intake.

George Anderton
Jonas Sunderland
James Lund
William Watson
John Foster
John Sutcliffe
Josh. Whitaker

Richard Sugden, Castle Mill
John Hodgson, College Street
Joseph Smith, Exley Head
David Smith, do.
Thomas Smith, Keighley
Jno. Holmes, Pitcher Clough
Math. Foster, Ingrow
Thomas Pearson, Fell Lane

REMARKS.

We have given sketches of about 50 manufacturers and firms, and there are as many more that we have not noticed, (except giving their names) which, for want of books, or other sources of information, we feel it would be impossible to do justice to the parties. Amongst those we have noticed, some have been very prosperous, and by their enterprise and skill have greatly promoted the extension of the town, and the happiness and prosperity of its industrious population. We have also referred to a number of those manufacturers who, through adverse circumstances, were not equally fortunate, though they did good service in their day by giving employment to a large number of workpeople; circulating a vast amount of money in wages, and thus promoting the comfort, the happiness, and the well-being, not only of the working classes, but also of the shopkeepers and farmers. But those manufacturers to which we now wish to direct the attention of our readers, who, not being able to take the tide as it

flowed, and, as a natural consequence, were not led on to fortune; or, to drop the figure, did not succeed in making money; numbers of them were so injured in their circumstances by the disastrous failures which took place about the year 1826, commonly called the Butterworth panic, that they were never able to regain their former standing. Several had to succumb at once, while numbers more were so straightened in their financial resources, that although they managed to go on for some time, yet after a few years they were compelled to place their affairs in the hands of their creditors. All men are not fit for business; they may be intelligent, steady, industrious and even persevering, but if they do not possess the requisite forecast, push, and tact to form a successful tradesman, it is more than probable that they will not succeed. We well recollect, nearly 30 years ago, trying to call to mind the names of persons who had been engaged in the worsted trade in this neighbourhood during the previous 25 years, and out of near 100 who had been so engaged, less than a score remained in business at that time. We could call to mind numbers who had gone into business with an income from freehold and other property, sufficient to have supported them in comfort during the rest of their lives, but who, having in some cases from the best of motives embarked in trade, were in a few years shipwrecked in fortune; not only having lost all their property, but were landed considerably in debt, while others had the good sense, when they saw that they were coming to grief, to retire from business while they had as much left as would pay their creditors 20 shillings in the pound. We recollect one of this class of manufacturers more than 30 years ago, saying in our hearing that he could neither eat nor sleep, for he saw that his money was slipping out of his hands. The

number of failures which were taking place almost every week, so agitated his mind that he was determined to give over, and give over he did, while another manufacturer, who joined with him at the same piece warehouse, went only a few months longer, and became insolvent; and we well recollect him saying with tears in his eyes, "I went into business with £700 in good money, and now after struggling hard for a number of years I am a ruined man."

A Description of the Different Classes of Goods made by the Keighley Manufacturers.

1.—Shalloons,—full twilled stuffs that are twilled on both sides, made of single weft and warp, woven with four treadles in a variety of qualities, some having five score hanks of weft in a piece, others eight or nine score, and ranging in breadth from 32 to 36 inches, and 29 yards long. They were made from Lincolnshire and Yorkshire wool. This class of goods formed the material for female dresses. A great number were dyed scarlet and forwarded to Turkey.

2.—Says,—a stout shalloon twilled the same, and woven with a four heald twill, but the warp and weft for says were heavier to make stouter stuff, and they were also usually fabricated from wool of a superior quality, and made 42 inches wide and 42 yards long. They were largely exported to Spain, Portugal and the Italian States, to make priests' attire. Both says and shalloons were made heavier at the commencement of the century than at present.

3.—Russels,—a kind of lasting manufactured of double warp and single weft, and with a five heald twill, like the callamanca which it resembled in all respects except being stouter and having a double warp. They were woven in many qualities, varying from 180 to 400 hanks of weft in a piece, 27 inches broad, 28 yards long, and on being finished were sometimes glazed. They were used for ladies' petticoats, boots, shoes, and men's waistcoats.

4.—Lastings,—or, as they were formerly called, everlastings, a stout fabric only 18 inches wide with double warp, sometimes of three threads and single weft, made with a five heald twill, of Nottinghamshire and best Lincolnshire wool. There were different sorts of lastings, as prunelles wrought with three healds, also serge-de-Berry, a variety heavier, and woven with seven healds.

5.—Drawboys—were figured stuffs woven in a loom of peculiar construction, and at first required the aid of a boy to draw a string to work the figure; this circumstance appears to have given these goods the name of drawboys. More recently the weaver has been able to dispense with the services of the boy, by touching a spring which enables him to work the figure and change the pattern. This class of goods was always sold at Halifax market. In weaving these goods the weaver had to scour his weft in a sud made from warm water and soap, when sometimes a quantity of suds would be left over, which could be warmed up and utilized for a future scouring. We have heard tell of a drawboy weaver with a large family of boys, getting up one morning to make the family breakfast, which consisted of oatmeal porridge made with old milk, who, mistaking a quantity of drawboy suds for old milk, poured them into the porridge pan, and proceeded to make the porridge. His wife coming down

stairs while he was doing so, found the vessel empty in which the suds had been left the day before, and when her husband became aware of his mistake, not liking the oatmeal to be lost, he called out at the top of his voice, "Lads come down stairs and see if ye can sup these porridge." Mr. Robinson Greenwood, of Thwaites, was the last party in this parish to make this class of goods; he, however, gave up making drawboys more than a dozen years ago.

6.—AMENS,—a figured stuff made with double warp; the late William Sharp, of Intake, was making this class of goods in the year 1793.

7.—CALLAMANCAS,—plain and striped stout stuffs, 17 inches wide and 29 yards long; made with single warps and glazed in finishing, chiefly employed for making ladies' petticoats and chair seating.

8.—TAMMIES,—a plain piece from 18 to 36 inches in width, made from deep stapled Lincolnshire and Yorkshire wool, and manufactured in great variety from 48 to 80 threads of weft, and 48 to 60 threads of warp to an inch. They were a fine class of goods and often glazed in finishing. 70 years ago, besides being sent abroad in great numbers, they were much used in England for ladies' dresses. At a county ball given at York in 1808, comprising the rank and fashion of the north, the ladies were attired in tammy dresses, and very gay they appeared. Tammies are now made, both warp and weft, of botany wool.

9.—WILDBORES,—a tammy, made much stouter and closer woven, but not glazed and of a lower class of wool.

10.—CAMLETS,—made both plain and twilled, width 18 to 27 inches, length 29 yards, some woven with single warp and weft, others with double warp, and sometimes with double weft also, and of thicker yarn. They were woven in the

grey state and afterwards dyed various colours, and hot pressed, ready for the market, and they were largely exported to the East Indies and China, those for the home market were mostly used for making cloaks.

11.—MOREENS,—made of stout heavy materials, watered and embossed, chiefly used for bed curtains and furniture, width 28 inches, length 24 yards. The late Mr. Walbank made this class of goods.

12.—BOMBAZINES,—made with silk warps and worsted weft, spun from fine Norfolk and Kent wool, the worsted being thrown upon the face or right side. There were two widths of this article, the narrow about 18 or 19 inches, used principally for home consumption, and the broad from 40 to 50 inches wide, principally sent abroad; both kinds were generally 60 yards long. The late John Rishworth, of Fell Lane, made this class of goods.

WE are not prepared to say that the stuff manufacturers of 50 or 60 years ago were perfect, or that they manifested on all occasions proper sympathy and consideration for their workpeople, especially when we take into consideration the low state of wages paid to the combers and weavers; for at that time about 80 per cent. of the male population of Keighley were employed in those two trades. From what we have been able to make out, the average rate of wages paid to these two classes of artisans did not amount to more than 10s. per week; yet it must at the same time be admitted that the manufacturers were as much sinned against as sinning, especially if we take into consideration the losses entailed upon them by the dishonest practises of mill robbery and embezzlement, or as it was commonly designated the "ronge system." To explain the term 'ronge' we remark

that there were certain piece makers who were in the habit of purchasing stolen tops and yarn, not only from combers and weavers, but also from mill robbers; if it had not been for these dishonest tradesmen, the parties above referred to, could have had no vent for their stolen goods.

MILL ROBBERY. A case of burglary of this description took place at Addingham Low mill, about 70 years ago. The owner of the mill, the late Mr. William Cunliffe, discovered that tops were missing from the bins in the warehouse from time to time. The door of the warehouse was regularly locked, and all was left apparently safe at night, still the tops were missing. At length they took the precaution to string threads of yarn across the top bins at night before they left the warehouse, and in the morning they found these threads were broken, which left no doubt of the robbery. They then resolved to watch the premises, secreting themselves inside the warehouse, when one night they heard the door unlocked from the outside, and waited in their hiding place a few minutes till the thief had got to work in filling his bag from one of the top bins, when the watchers left their hiding place and pounced upon him in the very act of helping himself to his master's property—for he was one of Mr. Cunliffe's combers. We need hardly say that he was placed in the hands of the parish constable, and by him taken before the magistrates, when the case being so clear against him, it was out of question his attempting to deny his guilt. He told them, moreover, how he had accomplished his object; he said, "Being in the warehouse one day left alone, just after I had got a weigh of wool, along with the soap which was given out at the same time, and seeing no one near, I took the key which had been left inside the

lock of the warehouse door, and took the impression of the wards of the key on the soap, and when I got home I found an old key about the same size of the warehouse door key, I then filed this key down till it would fit into the impression left by the warehouse door key on the soap, and then, during the night, I took this key and found that it would open the warehouse door."

Another case of attempted robbery of tops took place at the Aireworth Mill, then belonging to Messrs. Calvert & Clapham, about 50 years ago. The custom of the watchman was to go round the works once every hour during the night, and then retire into his own house which stood in the mill yard, but at a considerable distance from the warehouse. One night during the interval of the watchman's going round, a gang of thieves broke into the warehouse, having picked the lock, and proceeded to fill four bags with tops; (one or two of these bags being bed-ticks, which the robbers had utilized for the purpose) they also managed to get all the four bags fastened up, and carried two of them into an adjoining field, ready to carry away, and if they had had a few minutes longer they would have accomplished their purpose. The watchman, however, had trained his dog to go the round of the works every half hour, and being sent out at the end of the half hour, and seeing strange men running about, it at once raised an alarm, when the watchman ran out of his house, and, seeing how matters stood, called up several of the workmen who resided in the mill yard, when the robbers took to their heels without getting any of the tops away, and, although the workmen gave chase, the robbers had got so good a start as to enable them to elude their pursuers. We recollect going into the warehouse the following morning, where we saw four pairs of shoes which the robbers, in their

hurry to escape, had not had time to take with them, and we recollect, also, the warehousemen making remarks about the largest pair of shoes, which they fathered upon a powerfully built man, who was strongly suspected of being a thief; and what was somewhat remarkable, it was made out afterwards that this very man had, a few days before the robbery, overtaken one of the workpeople, an unsuspecting mill girl, and learned from her the practice of the watchman respecting his going his hourly rounds; but, as the firm lost no property, and the thieves went away minus four pairs of shoes and four bags, nothing further was attempted to be made out about the robbers.

About 50 years ago mill robbery was so common, and mill owners finding their property was so exceedingly insecure from these prowling gentry, that it was considered necessary to take measures, if possible, to put a stop to it, when the late Mr. Bernard McVay was appointed deputy constable for the town and parish of Keighley; and, whatever might be the failings or errors of this parish officer, he certainly was the principal means of putting a stop to this class of burglaries. The plan he adopted was to get into the confidence of one of these suspected thieves, and offering him a considerable fee or bribe on condition that he should lead one of those mill robbers into a trap. In this way he was successful in getting some of the most notorious characters banished out of the neighbourhood. We recollect a case of this sort which occurred more than 40 years ago, when the above constable hired one thief to assist in catching another. The plan was arranged between the constable and the thief who took the bribe, that the said hired thief should persuade another thief, whom the constable was anxious to apprehend, to rob a certain mill. Both the time and place were specified, and

the mill owner confided in the constable; arrangements were made that the betrayer should escape while the other should be apprehended. In this case, the constable with two or three assistants secreted themselves within sight of the mill door at which the thieves had arranged to effect an entrance. Soon after midnight the two thieves came, and, having picked the lock, the betrayer took his companion to the top bin, and after assisting him to fill the bag, he made some excuse for leaving for a short time, when the watchers rushed upon the other thief, who was secured and safely lodged in jail, while the betrayer was allowed to escape. All was done so quietly that, although we were sleeping within 40 yards of the mill door, we knew nothing about the robbery till breakfast time next morning.

With regard to stealing tops and yarn by the workpeople who were employed at their own homes, the embezzlement of the manufacturers' property had become so prevalent, and the difficulty of obtaining conviction so great, as to lead to the appointment of worsted inspectors 100 years ago. We shall refer to these inspectors farther on. We recollect being in company with a gentleman about 40 years ago, who told us that he had been in business as a piece maker a few years before, and whilst thus engaged, a party whom he named, called upon him and offered to sell him yarn at half the market price, but, believing the yarn so offered to have been stolen, he declined to have any dealings with this yarn seller. We recollect once seeing two bags of tops sent to a commission spinner, in which there were eight or ten different classes of tops, some made from long wool, and others from short, and varying in quality from 28's to 44's. The party who spun the tops was so confident that they had been stolen, that he would never spin for that yarn seller any more. We

also recollect an amusing case which came before the Keighley Magistrates when the late Mr. Ellis, of Castlefield, sat on the bench; a certain weaver residing some distance from the town, had his house searched by the late Joseph Redman, the worsted Inspector for Keighley, when he found some worsted yarn, for which the weaver could not give the Inspector a satisfactory account, consequently he was taken before the magistrates, when Mr. Ellis, as chairman of the bench, asked the weaver how he came into possession of the yarn found in his house, the prisoner replied, "as I was going home I got over a wall for a necessary purpose, and there I found the yarn lying under the wall, and I took it home," upon which Mr. Ellis in his arch way said," I have such a dread of Mr. Redman that I durst not have touched it even with a pair of tongs." The prisoner was sent to Wakefield House of Correction. Another cause of loss to manufacturers arose from what is called tipping, or the taking of fees, or bribes by foremen, managers and woolbuyers, which we hope has now ceased to exist. It was the duty of the parties above referred to to order or purchase goods from various tradesmen for the use of their employers, such as leather and roller cloths, as well as goods from hardware and machine makers' shops, and the tradesman supplying the foreman, or manager with such goods would very naturally wish to keep upon the best terms with their customers, so as to secure their future orders; to effect this he might offer them a Christmas present or a New Year's gift, and, if the tradesman knew that he recommended his goods in preference to those of other tradesmen, he might make them gratuities at shorter periods. Now we hesitate not say that for a servant to take fees from tradesmen without his master's knowledge is absolutely dishonest, for as Moses says, "A gift doth

blind the eyes of the wise, and pervert the words of the righteous." Some managers have not only taken gifts but have been known to obtain goods in their employers' names, and then sell those goods to other parties and pocket the spoil. But perhaps the most extensive tipping, and that which has realized the largest amount of those nefarious gains, are the bribes given to woolbuyers; at the same time we consider the woolstapler who gives the bribe equally dishonest with the woolbuyer who receives the bribe, for they are both simply conspiring to cheat the manufacturer. We have heard of honest woolstaplers who were above the meanness of bribing a woolbuyer. One of these, by considerable entreaty, succeeded in getting a tip-taking buyer to look at his wool, who time after time had refused to do so, although he was buying the same class of wool from week to week which was offered him. On this occasion he shewed him a pile of middle hogs for which, in order to try him, he offered to take 10s. per pack below the market price, but still the buyer would do no business, when the woolstapler felt quite satisfied that nothing would tempt him to buy except it was accompanied by a bribe. As an illustration of these dishonest proceedings, we will give a case of tipping which took place about 30 years ago, at a certain firm where they were using a considerable quantity of hog wool. This firm had a woolbuyer who was somewhat proud and stiff in his manner, but who was above taking a bribe; the same firm employed a foreman who was over the sorters, and this foreman occasionally bought wool, and it was believed that he would not refuse a fee. On one occasion the honest buyer bought a sample sheet of hogs at Halifax, with the offer of about 60 sheets more of the same class of wool, if the sample sheet should please when the wool was brought home. At the

same time the foreman over the sorters bought a sample sheet of the same class of wool at Bradford, with an offer of 50 or 60 sheets more of the same sort. When the two sample sheets came to the warehouse, the foreman who had bought the sample sheet at Bradford, selected one of the sorters to sort the two sample sheets, (we had this account from this identical sorter) and instructed him to sort each sheet into four large skeps, according to the quality, as 1's, 2's, 3's and 4's, but he further said, "When you sort the Bradford sheet which I bought, place all the coarsest and worst wool in the bottom of the skeps, but when you sort the Halifax sheet place all the best and finest wool at the bottom of the skeps;" "I did as I was ordered," said my informant, "and to the best of my judgment the Halifax sheet of wool was better by 30s. per pack than the sheet that came from Bradford. While I was sorting the two sheets the other sorters seeing what I was doing, and being aware of the instructions I had received from the foreman, in a joking way said, 'The foreman intends a tip of a five pound note.'" When he had finished sorting the two sheets the master, along with the two buyers, came to look at the wool, when the master at once declared they must have the Bradford wool, the man who bought the Halifax sheet acknowledging that the Bradford wool was better. The party who bought the Halifax wool left the firm soon after, as the wool he bought was generally found fault with by the foreman, and after he left the foreman bought most of the wool used by the firm. Our informant said, "About 20 years after this transaction, one day when coming from Leeds, I found myself in the same compartment in the railway carriage with the gentleman who bought the Halifax sample sheet of wool, above referred to, when he saw me he recog-

nised me in a very friendly manner, when I told him if he had shewed himself as friendly on a former occasion, I could have saved him considerable trouble." He at once said, "I do not know what you mean;" "I then asked him if he recollected the two sample sheets of wool, one coming from Halifax and the other from Bradford," he said, "I recollect it as well as if it was yesterday;" "I then told him that the Halifax sheet was better by 30s. a pack than the Bradford sheet, and at the same time I told him how the affair had been cooked, and the wool faced by order of the foreman, when, with considerable excitement, he exclaimed," "Why did you not tell me?" I answered, "I wanted to tell you. I saw that the foreman was doing you such a great wrong that I waited in the street to tell you, and I would have told you if I had lost my work through telling; but you were so stiff and high that I could not get an opportunity to speak to you; had you shewn yourself as friendly then as you do now, I should most certainly have told you." Let us see what this manufacturer lost by this one case of tipping; suppose he bought 50 sheets weighing say 100 packs, these at 30s. per pack would amount to a loss by this one transaction of £150.

WORSTED INSPECTORS.

CERTAIN Acts of Parliament, passed in the reign of George II. against embezzlement on the part of wool combers, spinners and weavers, were found defective; for in the case of a master, bolder or more energetic than his neighbours, putting in force the law, such a combination existed among the operatives that he could not obtain hands because they refused to work for him, and frequently plotted mischief against his person and property. Thus few manufacturers had the resolution to enfore the penalties against embezzlement, and the evil increased so alarmingly as to threaten the prosperity of the whole trade. To avoid this a number of meetings and deliberations were held by the stuff manufacturers of the West Riding of Yorkshire, joined by those of Lancashire and Cheshire, when they arrived at the conclusion that no other remedy remained but to apply to Parliament to constitute a committee for the purpose of watching over the interests of the trade, and bringing delinquents to punishment. A strong case was presented to the legislature exhibiting the extent and value of the manufactures; the injury caused by the frauds of the workpeople obstructing its growth and prosperity; the difficulties with which offences were detected, and convictions obtained; the combination of the offenders, and outrages committed against those who prosecuted them, and to meet this anomalous case, extraordinary but just powers were granted in two Acts of Parliament, passed in the year 1777, commonly called the Worsted Acts. According to the provisions of these two

Acts, a committee was chosen, composed of gentlemen of the highest and most respectable class among the manufacturers extensively engaged therein, intimately acquainted with all its bearings, and having its interests at heart. They had every inducement to carry into full effect, but with moderation, the law. The first of these two legislative measures (17 Geo. III. ch. 11) constitutes the committee for carrying them into effect and for that purpose to raise a fund, and it relates that by the previous Acts of Geo. II. and Geo. III., penalties and punishment were inflicted upon all persons reeling false or short yarn, and on persons embezzleing the materials used in manufactories; but that the good purposes of those laws had been greatly frustrated from the manufacturers of combing wool, worsted yarn, and goods made from worsted, being unwilling to expose themselves singly to the loss attending the resentment of the spinners and workpeople by prosecuting them for those offences, so that this important branch of the woollen manufacture would be greatly prejudiced unless the manufacturers were enabled jointly to carry the law into effectual execution, which could not be done without the aid of Parliament. It was therefore enacted that a general meeting of the manufacturers of combing wool, worsted yarn, and goods made from worsted, in the counties of Yorkshire, Lancashire and Cheshire should be held at Halifax, on the second Monday in the month of June, next ensuing after the passing of the Act; at which general meeting the manufacturers present by themselves, or proxies appointed by writing under the hand of such manufacturers as should have votes, having first chosen a chairman, it was resolved that the Yorkshire manufacturers should elect 18 persons from amongst themselves, and the Lancashire and Cheshire manufacturers should in like manner elect 9 others,

such 27 persons to be a committee of the said manufacturers, and to nominate and recommend two or more persons to be licensed by the Justices of the Peace of the West Riding of Yorkshire, at any of their Quarter Sessions, or any adjournment thereof, to be Inspectors for the purposes of the Act. Such committee to have the direction of all prosecutions of the offenders against that and the said before-mentioned Act, and to have the management of the fund to be created, and to do all other matters and things which might be deemed necessary and proper for carrying the Act into execution, in such manner as the said committee of the manufacturers for the time being, or any seven or more of them, at a public meeting to be assembled, might judge and think best for the interest and advantages of all the said manufacturers. In order to meet the expenses of the committee and the salaries of the Inspectors, the collectors of duties on soap within the counties of Yorkshire, Lancashire and Cheshire were now required to deduct and retain two pence out of every shilling of drawback to which any person being a master manufacturer of combing wool, worsted yarn, or goods made from worsted, residing within the said counties might be entitled, and to pay the same two pence in the shillling to the treasurer of the West Riding, to be paid and disbursed as the committee, or any four of them, should in writing under their hands direct. And in case the fund, after payment of all charges and expenses, amounted to £600, then power is given to the Justices of the West Riding at the Quarter Sessions, upon the application of the committee, or 50 or more of the said master manufacturers, to reduce the two pence in the shilling to three halfpence, one penny, or one halfpenny per shilling, as they might think necessary, until the fund should be reduced to £300. Without delay the necessary steps for putting in

force these Acts were taken. A general meeting of the manufacturers of combing wool, worsted yarn, and goods made from worsted, was held at the Talbot Inn, Halifax, on the 9th day of June, 1777, for the appointing of a committee as before directed. At this meeting it was resolved, in order to make the committee more generally useful, that the members should be chosen out of different districts; thus, Halifax including the whole parish had six, Bradford four, Leeds two, Wakefield two, Huddersfield one, Keighley one, Skipton one, and Ripon one. The following persons constituted the Yorkshire portion of the first committee.

HALIFAX.
Mr. Adam Holden,
,, Robert Swain,
,, William Currer,
,, Jeremiah Carter, junior,
,, John Fielden
,, John Knowles

BRADFORD.
Mr. Thomas Hardcastle
,, George Kellit
,, James Garnett
,, Thomas Atkinson

LEEDS.
Mr. William Benson
,, Charles Clapham

WAKEFIELD.
Mr. John Broadhead
,, Michael Wortley

HUDDERSFIELD.
Mr. Edward Houghton

KEIGHLEY.
Mr. Samuel Blakey

SKIPTON.
Mr. William Alcock

RIPON.
Mr. Richard Brown

During the last 30 years the following gentlemen have represented Keighley on the committee: namely, the late Robert Clough, the late John Brigg, the late William Sugden, the late Samuel Blakey Clapham, and the late John Craven. The present members of the committee representing Keighley are John Brigg and John Clough. Five Inspectors were appointed for Yorkshire 30 years ago, viz: for Bradford two, for Halifax two, and for Keighley one. At the

present time there is only one Inspector appointed for Yorkshire, namely, Mr. Yewdall, at Bradford, with an assistant residing at Halifax. We have been told by a gentleman who was at one time a worsted Inspector, in this county, that it was no uncommon thing, when hand loom weaving was in vogue, when one of those weavers wanted a pound of candles, a little sugar or a few ounces of tea, to carry a few bundles of weft to a grocer's shop, in exchange for those groceries. These shopkeepers would have two or three looms on their premises, and were manufacturing a few pieces on their own account. Talking with the above mentioned Inspector, who suspected that a party of this class was dealing in embezzled yarn, he said, "I one day paid him a visit and I did not find anything wrong at first, but whilst I was there a boy about 12 years old came to the door with an overcoat on, apparently belonging to a full grown person, with a very bulky appearance in the breast, when the shopkeeper saw him he called out that he had nothing for him, at the same time saying, 'That lad winds bobbins for us.'" The Inspector believing that all was not right, followed the lad and brought him back to the house, and on unbuttoning the overcoat, out came several bundles of weft. The Inspector said, "I gathered up these bundles and took the lad outside, and asked him where he had got the weft, when he began to cry, but afterwards told me that his grandfather had sent him with it. This grandfather was apprehended, taken before the magistrates, and convicted in a penalty of £30; the boy being placed in the witness box, had to give evidence against his grandfather." We said to the ex-Inspector that we had never heard of cotton warp dressers being accused of embezzleing their master's property, but he said several cases had come under his notice. He mentioned the case of a dresser who obtained from his

employer four warps all at one time. A short time after, having finished dressing one warp he took it in, and having placed it in a room outside the taking-in room, amongst a great number more dressed warps, without any one seeing him, he then went forward into the taking-in room. The person whose duty it was to look after the dressers, asked him how many warps he had brought, when he replied, "I have brought the whole four," the taker in then paid him for the four warps dressing, when the warp dresser went and sold the other three warps. Our informant mentioned another case where a search was made, and a number of cotton warps found, for the possession of which the party failed to give a satisfactory account; he was then taken before the magistrates, when he procured a party to come forward as a witness that he had sold the warps to the party accused. The warps in question happened to be 600 yards in length, a length of warps newly come into vogue in the cotton warp trade; the party who came forward as a witness for the defence confessed that he had never before heard of cotton warps of that great length, and when questioned about the length of the warps in the case before the bench, his evidence completely broke down, and the embezzler was mulcted in a heavy fine.

WOOLLEN CLOTH.

THE earliest textile manufacture in this neighbourhood it appears was the making of woollen cloth, commonly called Home Spun Cloth. This is evident from the fact of several places, both in the town and parish, bearing the name of Tenter Croft, places where pieces or webs of cloth were stretched out in the open air. It is also evident that the Walk Mill was once occupied as a cloth mill, or as it was called, the old Fulling Mill, or Walker's Mill, from the circumstance of Walker's Earth being used in fulling or milling cloth. The register kept at the Parish Church contains the following entries; John Hartley, a clothier, buried 29th December, 1571; also of Thomas Brook, Fulling Miller, who was buried 9th of March, 1738.

WOOLSTAPLERS.

THE woolstapling business has never been very extensively carried on in Keighley, not having assumed the same proportions as at Bradford, Halifax, Wakefield and Leicester; nevertheless a few parties have been engaged in this business during the last 100 years.

The Claphams of Utley were engaged in business as woolstaplers during the latter half of the 18th century and the early part of the present. The late Holmes Clapham, of Utley, who died in the year 1827, was the grandson of Holmes

Clapham, gentleman farmer, of Utley, who died in 1743, leaving a widow, Mary Clapham, and one son, John Clapham. The above Mary Clapham seems to have been a lady of considerable energy and spirit, from the measures she took to protect her son's property, who, at the time of his father's death, was only 12 years of age. In 1752 Mary Clapham bought the Weet Head Farm, from a gentleman of the name of Sutcliffe, which farm was left to Judith Clapham, her granddaughter. This Judith Clapham married a gentleman named Green, with whom she went to reside at Hull, where she remained to the end of her days. Mrs. Green survived her husband many years, dying at the good old age of 84, leaving no family, when the farm at Weet Head reverted back to the Claphams of Utley, and is now the property of Sarah and Ann Clapham, of the above place. John Clapham, the son of the above Holmes and Mary Clapham, was engaged in business at Utley as a manufacturer of stuff pieces; the class of goods he made consisted principally of shalloons. John Clapham had two sons, Henry and Holmes, and one daughter. This Henry Clapham was the father of the late Samuel Blakey Clapham, of Aireworth House, and the above daughter of John Clapham was the late Judith Green of Hull. The above Holmes Clapham was engaged in business as a woolstapler; we find from his old books that he was doing a considerable business so early as 1788. About this date he sold wool to James Haggas, of Oakworth Hall, the great-grandfather of Messrs. William & John Haggas, of Ingrow and Lane Ends; also to John Holmes, of Pitcher Clough. Mr. Holmes sometimes bought as much as 40 packs at a time, which would be considered a large quantity at that time, when the yarn had all to be spun on the hand wheel, one thread at a time. He also sold to Cunliffe &

Cockshott, of Addingham Low Mill, who were the first in Yorkshire to spin worsted by machinery. He also sold to William Hodgson, of Paper Mill Bridge, to Peter Smith, of Cross Hills, besides a many of the manufacturers in the town. Mr. Clapham had two places of business or warehouses for storing and shewing his wool, one situated at Church Green, in the premises now occupied by Wilkinson Overend, furniture dealer, and the other at Low Utley; and the old crane doors with the crane are on the premises at Church Green at the present time. During the last quarter of the 18th century, and the early part of the present, Mr. Clapham was in the habit of going into Lincolnshire, Leicestershire, and the East Riding of Yorkshire, to purchase and take up his wool, and when the wool was brought home, he generally sent word to his regular customers to come and view the wool, and according to report these parties generally got the wool at little more than prime cost, including, of course, travelling expenses, carriage, warehouse room, and interest of money invested in the trade. Mr. Clapham had several sons, two of whom, the late John and Holmes Clapham, for a number of years assisted their father in business, though we understand they were not in partnership. In the year 1827 Holmes Clapham senior died, when the business was given up, subsequently the above John and Holmes Clapham occupied the warehouse at Church Green, for the sale of paper manufactured by their two brothers, Thomas and William Clapham, of East Morton, at the mill belonging to Messrs. John William and Holmes Wright, their nephews.

The above John Clapham died in 1861, and his brother Holmes soon after; and, from our own individual experience, two kinder and more obliging gentlemen never carried on business in Keighley.

WILLIAM SHARP.

About the beginning of this century Mr. Sharp resided at Whorls, above Laycock, where he farmed the land in that out of the way place; in addition to which he was engaged in business as a woolstapler, journeying into the North and East Ridings of Yorkshire, besides Lincolnshire and Leicestershire, to purchase his wool from the growers. Mr. Sharp's father at that time kept the Mason's Arms Inn, which stood on the site now occupied by the offices of the Local Board of Health, in Low Street. Behind the old public-house stood some farm buildings, occupied by Mr. Sharp as innkeeper; one of these buildings he allowed his son William the stapler to use as his warehouse for storing and weighing his wool. Joseph Town, butcher, who is about 84 years old, remembers William Sharp carrying on business at this place, and he relates what seems to be as fresh on his memory as if it only took place yesterday, that when he got more wool brought out of the country than his warehouse would hold, how he was in the habit of stacking the fleeces out of doors in the farm yard. In the absence of books or other sources of information, we are not able to tell to whom he sold his wool. This old stapler had a son called William, alias "Old Three Laps." When young William was about 30 years old he obtained the consent of a young woman to become his wife, the wedding day was fixed, and he in company with a friend made his way to the Parish Church, and there in anxious suspense waited the arrival of his lady-love, but the father of the damsel not approving of the match, kept her confined at home. This terrible disappointment

preyed so heavily upon the mind of this ardent lover, that he, on returning home, went to bed determined to spend the rest of his days between the blankets, and the infatuated man kept his resolution to the last, enjoying good health till within a week of his death, which took place in 1856, having kept his bed for the long period of 49 years. We recollect once going to see him, about ten years before his decease. His bed was on the basement floor of a cottage attached to the Whorls Farm-house. This room was about three yards each way, with a small window to the north; in the room stood a small round table of black oak, and a four post bed without hangings. His father, by will, made provision for his temporal wants, and he was apparently quite unconscious of any other. When we saw him an old woman of the name of Marshall had the care of him, and when we went into his bed-room he covered himself with the bed clothes. Mrs. Marshall uncovered his head and breast, and we noticed that his hair was quite grey; and although nearly 70 years old, his skin was as white and fair as that of a little child. It is said that he obstinately refused to speak to any one, and if spoken to he never answered, not even those who were his constant attendants; however, he was sometimes overheard to say to himself, "Poor Bill, poor Bill."

DAVID SPENCER.

DURING the early part of the present century Mr. Spencer was engaged in business as a woolstapler, his place of business was in Chapel Lane, in the warehouse belonging to and formerly occupied by Mr. W. G. Roper, wholesale grocer. Mr. Spencer was the father of the late Mrs. Marriner, of Spring Gardens, and the grandfather of Messrs. W. L. and E. D. A. Marriner, of West Greengate Mills.

JOHN BUTTERFIELD.

THIS party was brother to the late Isaac Butterfield, and uncle to the five brothers who composed the very successful firm of Butterfield Brothers. Mr. Butterfield was in business as a woolstapler at the beginning of this century, his place of business, where he stored and sold his wool, was situate at Mill Hill, in the eastern portion of the machine works of Messrs. Hattersleys. Mr. Butterfield must have been a very clever tradesman, for dying comparatively young, more than 60 years ago, he is said to have left about £30,000 to his relatives.

ISAAC BUTTERFIELD.

THIS party, after the death of his brother, carried on business as a woolstapler in the warehouse formerly occupied by Mr. Spencer, in Chapel Lane, where he was assisted by his eldest son, the late Mr. Richard Shackleton Butterfield, of Woodlands. We should have had great pleasure in giving a

more extended description of the above three woolstaplers, as no doubt they did good service in their day by developing the trade and industry of the town and neighbourhood, but from want of books and other sources of information, we can do little more than record their names.

JOHN SUGDEN.

This party was the father of William Sugden, who built Eastwood House and the Fleece Mills. He was engaged in business as a woolstapler about 70 years ago, but as his descendants are all either dead or have left the neighbourhood, we simply record his name.

WILLIAM ROPER.

This party was either the son or the grandson of the Mr. Roper who built the Damems Mill to spin cotton. Mr. William Roper was engaged in business about 50 years ago as woolstapler. About 1829 he built a warehouse in Sun Street, where he carried on business for nearly 20 years. He generally bought his wool in Lincolnshire, had it brought up the rivers to Leeds, and forwarded by the Leeds and Liverpool Canal to Stock Bridge. About 30 years ago he built a larger warehouse in Bow Street, to which he removed his business, but we do not think he succeeded as well in his new place as he had done in the old. Some of his principal customers died or else gave up business soon after he went there, and he likewise retired from business in a few years.

JAMES HARTLEY.

THIS party has been engaged in business as a woolstapler for a number of years.—See Joseph Hartley page 158.

COTTON MANUFACTURERS.

CONSIDERABLE alarm was excited in the minds of the stuff manufacturers about the middle of the 17th century, by the importation of cotton goods manufactured in India. These goods consisted of chintzes and calicoes used for beds, window hangings, and other furniture, and also for dresses, and the use for worsted goods for the like purposes had much diminished, and the makers were exceedingly alarmed lest these productions of the east should altogether ruin their trade. In this out-cry the growers of wool and those interested in the price of land joined together and made vigorous attempts to stop the importation of cotton goods. Frequent and angry debates took place thereon in Parliament; from a speech in one of these debates the following is extracted:—"It is well known what advantage redounds to the nation by the consumption of our manufactures abroad and at home, and how our forefathers have always discouraged such trade as tended to the hindrance thereof. By the best computation that can be made we now spend in the kingdom per annum to the value of £200,000 to

£300,000 worth of goods manufactured in the East Indies, what part thereof are spent instead of our stuffs, serges, cheneys and other goods I leave to every man's judgment that hath observed how their Persian silks, Bengal's printed and painted calicoes, and other sorts are used for beds, hangings of rooms, and vestments of all sorts." One writer of that period says, "That instead of green says that were wont to be used, painted and Indian stained and striped calicoes were used, and instead of perpetuano or shalloons to line men's coats with, is used sometimes glazened calico, which in the whole is not above 12s. cheaper and abundantly worse." Thus it is apparent that calicoes were extensively used to line clothes. The main object of the above debate was to get rid of the Charter of the East India Company; it was likewise alleged to be extremely unfair that calicoes woven by workmen in India at 1d. per day, with materials cheap and on the spot, should be brought into competition with worsteds, the weavers whereof were paid 1s. a day besides the cost of the wool. Many powerful writers employed their pens to convince the public that the East India Company's importations benefited the nation by causing a far greater exportation of worsted goods, but the populace were not to be appeased by reasons like these. Tumults took place among the weavers in various parts of the country, which were excited by the growers of wool and others interested in the great staple manufactures of the country. To quell the storm a statute, after much opposition passed which recites, "That the continuance of the trade to East India in like manner as had been for two years before, must inevitably be to the great detriment of the kingdom, by exhausting its treasure, and taking away the labour of the people, and prohibiting the importation of all wrought silk, Bengals, and

stuffs of the manufacture of Persia, China, or East India, and also all calicoes printed, painted, or dyed, so that none should be worn or used in either apparel or furniture in England, on pain of forfeiting it, and also under a fine of £200 on the person having or selling the same." An Act was also passed prohibiting any one from being buried in a shroud made from any other material but wool. Like all prohibitory or restrictive laws attempting to invert the natural course of trade, and prevent the supply of commodities in demand, the statute above referred to, intended to prohibit the use in England of all calicoes, painted, stained, or dyed in the East Indies, was speedily evaded. The taste for this kind of goods was so general that to satisfy it, home printing in imitation of the East India patterns and colours was commenced in earnest. A writer of the period thus alludes to the subject, "Some whom we call drapers, set all their arts to work to evade the law of prohibition, by employing people to imitate the more ingenius Indians, and to legitimate the grievance by making it a manufacture. The manufacturers of Norwich, at this date the most wealthy and powerful in the kingdom, and representing then the enterprise and influence now possessed by Manchester in the affairs of the state, determined by the assistance of the prime minister to altogether repress the use in England of calicoes printed either at home or abroad. In this endeavour the aid of the whole population employed in the working up of wool signed numerous petitions to Parliament. Complaints were loudly uttered that the national interests were in danger, and finally the legislature decreed that, after the 25th of December, 1722, none should wear in Great Britain any printed, painted or stained calico under a penalty of £5, and that after this time no such calico should be used as furniture.

An exception was made in favour of muslins, neckcloths and fustians. Ever since the passing of the above calico Act a struggle had been maintained between Manchester and Norwich, and it continued for many years; the manufacturers of the former place, had to a great extent, frustrated the intention of that statute by new articles of manufacture, so as to resemble in some respects an ancient fustian, which it will be remembered was, along with muslins and neckcloths, excepted from the operation of the Act. These fustians and these imitations, made in various methods of linen and cotton, mixed and printed so as to resemble East India prints, had come into great vogue. The Manchester men having, with the increase of their town and trade, risen into importance and wealth, had now sufficient influence in the councils of the nation to obtain in their favour a statute for the purpose of settling controversies and doubts, which affected the prosperity of the trade, as to whether these fustian stuffs, when printed, were in accordance with the laws of the realm. Accordingly, in the year 1736, what was termed the Manchester Act was obtained, and hence we may date the first great instance of the power of that town in the senate, which has been so remarkably developed in modern times. This Act recites, "That great quantities of stuffs, made of linen yarn and cotton wool, had for several years past been manufactured, printed and painted in Great Britain; which manufacture, so printed and painted, was a branch of ancient fustian manufacture of the kingdom, and had been, and was then used and worn in apparel and furniture, and enacts that there should be no prohibition of the stuffs made of linen warp and cotton weft, manufactured and printed in Great Britain, in as much as the making of such kind of stuffs had been carried to such perfection as to closely re-

semble calicoes. Henceforward the laws obtained by the worsted weavers against their use were nugatory, for printed linens and these mixed goods, under the name of fustians, speedily became the fashion and rapidly extended. They were termed English chintzes, and received even the countenance of the Royal Family, much to the chagrin of the producers of wool. It appears that a class of goods were manufactured at Manchester about the end of the 17th century, made with linen warps and cotton weft; they used linen warps because they could obtain a yarn both tougher and stronger than from cotton. When, however, they were able to spin from cotton a more even thread, (consequently much stronger) they were able to dispense with the linen warp, thus Manchester became the metropolis of the cotton trade, and it has maintained its pre-eminence ever since.

It would appear that certain localities are specially adapted to special trades, and that they seldom flourish so well elsewhere; thus Staffordshire seems specially adapted for the pottery trade, Sheffield and Birmingham for hardware, Nottingham for hosiery and lace, Coventry for ribbons, Leeds and the West of England for cloth, and Bradford for the stuff trade. Norfolk, in earlier times, possessed advantages for the manufacture of worsted stuffs, from the excellence of its wool, but when the factory system commenced it was left behind for the want of coal, of which Bradford had an abundance. Cotton, as well as all other yarns for the textile manufactures, was spun by hand till the middle of the 18th century, either by the distaff or the hand wheel. The consequence was, as Edward Baines states in his very able and exhaustive History of the Cotton Manufacture, "Cotton yarn was produced in such small quantities that, when a weaver had obtained a warp, he had sometimes to go

round in the morning to three or four, and sometimes to half-a-dozen spinners before he could obtain as much weft as would serve him during the day." Until the publication of Mr. Baines's "History of the Cotton Manufacture," it was generally understood that the process of spinning by rollers either originated in the mind of Sir Richard Arkright, or a person named Highs, but Mr. Baines has clearly proved that John Wyatt had, at least 30 years before, discovered the principle and to some extent carried it out in a rude machine patented in the year 1738. Mr. Wyatt's son relates that his father, in the year 1730, or there abouts, residing at a village near Lichfield, conceived the project of spinning by rollers, and in the year 1733 prepared a model of about two feet square, which he set up in a house at Sutton Coldfield, and spun thread with it; in this model the material was passed between two cylinders, thence to the bobbin by means of the twist. Wyatt's means being inadequate to carry out successfully the experiment, he sought a monied partner to aid him, and unfortunately was imposed upon by one Lewis Paul, a foreigner, who made offers and bargains which he never fulfilled; and finally, Wyatt's partner, contrived to obtain in his own name a patent for the invention. The letters patent granted to Paul, described of Birmingham, are dated the 24th day of June, 1738. Arkright's more perfect machine is the same as Wyatt's in principle, for in Wyatt's there is the succession of rollers drawing out the fibres, then the rollers being made to revolve at different speeds, and thirdly a similar process in giving the twist and winding the yarn on the spindle. Thus the grand and fundamental principle upon which all modern spinning machinery is based, or by which its construction is determined, the elongation and drawing out with evenness and precision the

fibres, and giving them a uniform twist and strength, are comprised in Wyatt's invention. Wyatt's machine in 1741 was first set to work at Birmingham, where it was turned by a gin worked by a couple of asses, and attended by ten girls; but, owing to the poverty of the partners, the concern after a short time was closed. A larger manufactory moved by water power was afterwards opened at Northampton, by a gentleman of the name of Cave. The establishment consisted of several frames bearing 250 spindles, each being moved by a separate wheel and pinion; this factory appears to have been carried on up to the year 1764, but it is evident that it turned out, chiefly from mismanagement, to be an unprofitable adventure. Wyatt suffered the fate of most inventors, who, as history shows, rarely obtain the fruits of their genius. On the failure at Birmingham he became a prisoner for debt, and died in comparatively indigent circumstances. Having established a prior claim for Wyatt to the honour of first spinning by rollers, great difficulty occurs in determining who after his invention, had rescued it from oblivion and perfected its details, so as to approximate it more closely to the machinery of the present day. Besides Arkright there is another claimant, Thomas Highs, a reed maker at Leigh, and it has been by some eminent writers contended that to him we are indebted for the beautiful machine called the Water Frame, attributed to his more fortunate rival. In support of the claim there is first the evidence of Highs himself, on the occasion of the great trial which took place in the year 1785, to try the validity of Arkright's patent. Highs was examined as a witness, and stated that he himself made rollers for the purpose of spinning cotton in 1767. In his machine there were two pairs of rollers, the second revolving five times as fast as the first,

for the purpose of drawing the threads finer; it was used, he asserted, both to rove and spin, and at first he only made use of two spindles. He explained that he did not follow out his invention simply for want of pecuniary means, but contemplated keeping it a secret until he was enable to do so by providing assistance, and that he communicated the principle of his invention to one Kay, a clock maker, whose services he required to make a small model of the machine with brass wheels. He also added, that having once met Arkright at Manchester, after the latter had taken out his patent for the water frame, he reproached him for having made an unfair use of his invention, which Arkright did not deny. Kay likewise affirmed in court, and was corroborated by his wife, that he made the wheels and rollers for Highs in 1767, and that in the same year or early in the following year, he communicated the plan to Arkright, who was then a poor man, and at whose request he made him two models. In addition to this testimony we are credibly informed that in the latter part of the 18th century, when the facts were notorious, the public opinion in Lancashire universally adjudged that Arkright derived his invention from Highs; even the strongest supporters of the pretensions of the former do not deny that he employed Kay to make him his frame, and that the latter had been previously employed in constructing models of spinning machines. It seems, indeed, sufficiently clear that by some means or other, Highs had obtained a knowledge or hint of the peculiar construction of Wyatt's apparatus, and that he had developed his plan to Kay, the clock maker, who informed Arkright of the circumstance, and explained to him the principles of the machine. Mr. James says, "With the above noticed facts before us we cannot accord to Arkright any great rank as

an inventive genius;" however, it must be admitted that he was a most remarkable man, born and reared amid poverty and want, with little or no education, but, being possessed of great sagacity and perseverance, he was enabled to bring his water frame to a tolerable state of perfection, and undoubtedly was the founder of the factory system. In the year 1767 Arkright, who had a strong inclination for mechanical experiments, and, at that time the scheme of perpetual motion being a prominent object of scientific hallucination, engaged in the pursuit with all the natural ardour of his constitution. To give effect to his contrivances he employed Kay, already alluded to, who from his business was an expert machinist in the more delicate operations of the constructive arts, to assist him during these joint labours. Kay, according to his own account, and with every appearance of truth, imparted to Arkright a knowledge of Highs' model, and that in consequence Arkright induced him to prepare a counterpart. However this may be, it is nevertheless certain that, from that period, the Preston barber abandoned all other pursuits and devoted his whole time and energies to the production of the spinning machine. Having, by his intense and persevering application to this and other speculative pursuits, become reduced in circumstances, he applied to Mr. John Smalley, a spirit merchant at Preston, to render him pecuniary assistance to enable him to perfect his plan. As an instance of the poverty of the Preston barber, but future millionaire, it is related that in the famous contested election which occurred at Preston in the year 1768, he being a free man and required to record his vote, had to borrow a decent suit of clothes to appear at the polling booth in, such was the tattered condition at that time of the future knight. Mr. Smalley, however, joined him in his undertaking, and the first of Arkright's

spinning machines was set up in the parlour of the house adjoining the Grammar School in the same town. Having thus made his apparatus practicable, and removed any imperfection which had become apparent during the process of construction, he took out a patent in the year 1769. In his specification he stated that he had by great study and long application invented a new piece of machinery, never before found out, practised and used for the making of weft or yarn from cotton, flax or wool, which would be of great utility to a great many manufacturers, as well as to his majesty's subjects in general, by employing a great number of poor people in working the said machinery, and by making the said weft or yarn much superior in quality to any heretofore manufactured or made. With the completion of Arkright's spinning machine commences a new epoch in the manufacturing history of this country. It occasioned a complete change in the old mode of manufacturing, and rendered business transactions of a magnitude and celerity never before contemplated. Arkright gave to his new machine the name of 'Water Twist Frame,' because it was subsequently driven by water. In this frame there were four pairs of rollers, the bottom ones fluted and the others covered with leather; that one pair of rollers moving quicker than the others, elongated the roving to the requisite fineness. Before it was twisted by the spindle it was originally used to reduce the rovings into yarn, but afterwards by the same process rovings were made. Before his death he very considerably improved his machine and multiplied the number of spindles. In Arkright's first patent, taken out in the year 1769, the spindles were a considerable distance from the rollers, and there was no traverse or lifting motion for the bobbin; in his second patent, obtained in 1775, he intro-

duced the underclearer, and a contrivance for stopping one spindle without affecting the others, and a means of giving a traverse motion to the bobbins. To Arkright is due the adaptation of the drawing and roving frames which form such important preliminary processes in the spinning of yarn. These frames are, however, merely modifications of the water frame principle, and therefore, do not require any lengthened notice here. About the same time that Arkright brought out his water frame, James Hargreaves, a Lancashire weaver, invented the Spinning Jenny, which, although in the universality of its application to Arkright's machine, yet exercised some influence on the cotton manufacture. Hargreaves is said to have received the original idea of his machine from having accidentally overturned a one thread wheel into an horizontal position, and the wheel and spindle continued to revolve, the thought instantaneously struck him that by placing a number of upright spindles side by side, several threads might be spun at once. Another spinning apparatus, termed the Mule Jenny from its combining Arkright's drawing rollers with Hargreaves' Jenny, owes its birth, in 1780, to Samuel Crompton, a weaver residing at Bolton. Crompton, a very ingenius and worthy man, began to make his machine in 1774 or 1775, and completed it in 1779. He first aimed at merely providing yarn for the requirements of his own family, and endeavoured to keep his mule a secret to prevent public indignation, which then ran high respecting these kind of machines, being directed against him. But the superior quality of the yarn produced by him, excited the attention of his neighbours, and the construction of his apparatus became known. He took no steps to secure by patent the right to his own use, and the mule became the property of the public. The mule as it came from the hands

of Crompton, was a clumsy wooden machine, which might be expected from his inexperience in the use of tools. It was, however, soon after being made public, much improved by many ingenius men, and rendered capable of working with several hundred spindles.

The impetus given to cotton spinning by the above inventions and discoveries, led a number of enterprising gentlemen in this parish to embark in the cotton trade, by building mills turned by water power. Watt's discovery, with regard to steam power, was not available for turning mills till the year 1789. The first cotton mill built in this parish commenced spinning in the year 1780, and this was followed shortly after by several others, built both on the Worth and Laycock becks; most of these have since been enlarged and converted into worsted mills.

LOW MILL.

THE first cotton mill built in this town, being also the first built in Yorkshire, was Low Mill, now belonging to Messrs. J. & J. Craven & Co. This mill was begun by Ramsdens, of Halifax, and completed by Clayton & Walshman, gentlemen from Lancashire. It was built on leasehold land belonging to Lord George Henry Cavendish; the freehold of this mill was bought by the late Mr. John Craven from the Earl of Burlington, about 40 years ago. Clayton & Walshman commenced spinning cotton on the 30th June, 1780, and the machinery for this mill was made under the direction

of Sir Richard Arkright; and, as it was the first cotton mill in the county, the proprietors sent a number of children and young persons to Arkright's works at Cromford, in Derbyshire, to learn the various processes connected with cotton spinning, such as the minding and tending the carding, preparing and spinning machinery. We were acquainted with two old women, 50 years ago, living in what was then called Clayton Barracks, named Ann and Hannah Stell, who when children, in company with several others were sent to the works at Cromford, and who, on their return to Keighley, were set to learn the new mill hands who applied for work. More than 50 years ago we knew a number of old men who, towards the end of the last century and at the beginning of the present, were employed at Low Mill, some as overlookers, some as mechanics and others as bobbin turners. Mr. Clayton, although himself a churchman, was one of the founders of the Temple Row Sunday School, which was opened a few years after he came to reside at Keighley. When we knew him he resided at Low Mill, in the house occupied by Mr. Tom Craven, and from our recollections of him, we should say that he was a fine looking old gentleman, (somewhat like Mr. James Mitchell, manufacturer, late of Lane Ends) a well built man with a ruddy countenance, dressed in a long coat and broad brimmed hat. He built the house at Low Mill, and in this house he died about the year 1827, when the business was carried on by his son, William Clayton junior, who had been in partnership with his father several years before Mr. Walshman had retired from the firm. More than 40 years ago William Clayton left this town and went to reside at Giggleswick, where he was engaged in cotton spinning, having also several large mills at Preston; and was at one time considered the largest cot-

ton spinner in Lancashire, but we understand he did not succeed in making money.

Up to the time that Mr. Craven purchased the Low Mill, there stood to the south west of the building, a very peculiarly shaped engine chimney, very bulky, though no higher than the mill; it was taken down nearly 30 years ago. As the engine in connection with this chimney was erected for the purpose of pumping the water from the tail goit into the mill dam, in order to supply the water wheel a second time; it has generally been thought a very round-about-way of utilising the steam power, but in the year 1780, when this mill was completed, steam engines could only be used for lifting or pumping, Although steam engines had been invented for pumping the mines in Cornwall by Savery and Newcomen 100 years before, yet it is well known that Watt, with all his improvements, did not bring out an engine for turning machinery in mills till 1789; so if a steam engine was used before the above date, it could only be on the lifting principle; and pumping water out of the tail goit, after all, was the only way in which steam power could be obtained for driving machinery in mills.

DALTON MILL.

A few years after the erection of the Low Mill, a cotton mill was built by Miss Rachael Leach, sister to Thomas and William Leach, who resided at West Riddlesden Hall, a decent structure in the Elizabethan style of architecture, and was for a long time the residence of the Mauds; but on

that family failing male issue, the Leaches came into possession. The way in which the Leaches acquired this estate was very remarkable; the tradition is that the last of the Mauds who owned the estate, (which then included a great part of Morton Banks) reared a family of seven sons and one daughter, the daughter danced at the marriage-feast of her seven brothers in succession, every one of whom died childless. She married, in 1634, John Leach, and surviving all her brothers, ultimately carried the property over to that family; the family resided at this place till 1854, when it became extinct by the death of William Leach, aged 93, the last of two worthy brothers who had lived in harmony together for about 70 years; it is now the property of Mrs. Sedgwick. Miss Rachael Leach, having built this mill, was engaged for a number of years in spinning cotton; she had a manager of the name of Dalton, and, as he was the party with whom the workpeople and others had principally to do, it took the name of Dalton Mill. We were acquainted with an old woman 30 years ago, who was then nearly 80 years old, who, when young, had worked for Miss Leach at Dalton Mill; she used to describe her as a bold and masculine sort of woman; and doubtless she needed all the courage and energy she could command to resist the persecution and wrong that was attempted upon her rights by the owners of the Low Mill. The proprietors of this mill, in order to deprive the Dalton Mill of its water power, and to utilise it for the benefit of the Low Mill, proceeded to construct a tail goit all the way from the Low Mill, carrying it through the intervening land till it came out into the North Beck, about 200 yards below Dalton Mill; but this tail goit they were never able to use, as a law suit was commenced which terminated in Miss Leach's favour; the end of this goit is now

walled up, but 60 years ago it was open. We recollect about the year 1821 a great sensation was excited in the town in consequence of the sudden disappearance of a very quiet old man, named William, or Billy Bottomley, who resided in Pin Fold, and was known to keep a considerable sum of money about him. It was generally believed that he had been murdered; and numbers of people volunteered their services to go in search of the missing old man. A party of these searchers went up the whole length of the goit with lanterns till they got to the water wheel at Low Mill, but without finding the body, and he has never since been heard of to the present day. Miss Leach gave up cotton spinning at this mill about the beginning of the present century, and it was subsequently occupied as a cotton mill by two brothers named John and David Cowling; these gentlemen were cousins to the late Joshua Cowling, of Braithwaite. John Cowling resided at the dwelling house formerly standing near the old mill which, along with the mill, was pulled down a few years ago to make way for the splendid new mill now built at Dalton. David Cowling resided at Bank House, in Morton Banks, and, when they had been about a dozen years at this mill, one dark winter's night, he was accidentally drowned when going from the mill to his home at Bank House. At the top of the mill dam, belonging to what was then called the Screw Mill, there was a narrow plank placed across a pool of very deep water, and, on crossing this narrow plank, Mr. Cowling seems to have missed his footing, and falling into this deep water lost his life. Such, however, was the apathy of the public authorities in those times, that this narrow plank was the only way to cross this dangerous stream for 20 or 30 years afterwards. It appears that soon after this fatal accident John Cowling

gave up the mill, which, we recollect, was commonly called Cowling Mill 60 years since. After the Cowlings left this mill, the Claytons of Low Mill occupied it for cotton spinning, and continued to do so till they gave up Low Mill and left the town, when both these mills ceased to be occupied as cotton mills.

NORTH BROOK MILL.

MANY of the old cotton spinners were previously engaged in business as stuff manufacturers, and it appears that John Greenwood, the great-grandfather of the late John Greenwood, of Swarcliffe Hall, near Ripon, was engaged in the stuff trade before he commenced the cotton business. An old man residing in Sun Street, called Edward Sunderland, tells how his father taught Mr. Greenwood's son, the late John Greenwood, of Knowle Hall, to comb wool when he was a very young man, which looks as if he designed him for the stuff trade. Edward Sunderland's great-grandfather, who was also called Edward Sunderland, was one of Mr. Greenwood's woolsorters; he was also a Methodist class leader, and Mr. Greenwood met in his class. John Greenwood resided at Damside, in the house now known as the Royal Hotel, and, soon after the erection of the Low Mill, he built a small cotton mill at North Brook, the premises now belonging to Geo. Hattersley & Sons. This mill was only about the size of four cottage houses, and, before Messrs. Hattersleys built the new machine shop over the beck, two

slates stood out from the building shewing the elevation of the old cotton mill; and we recollect how pleased the late George Hattersley was to point out those two slates in connection with Mr. Greenwood's first cotton mill, and where he laid the foundation of the greatest fortune that was ever acquired by any one man residing in the town of Keighley. There was no other cotton mill in the neighbourhood except the Low Mill, and the owners were too jealous in guarding what they called the mystery of cotton spinning to allow any rival spinner to view their works. At first Mr. Greenwood was seriously put about by a defect in his spinning operation, for which he could not find a remedy; one day, however, he saw a girl going past his mill who worked at the Low Mill, he was acquainted with the girl, and knew that she was employed at the Low Mill, when he saw her he accosted her in the most friendly manner, saying, "Betty, I have begun cotton spinning," when she answered, "Yes, I understand you have," he then said, "Will you step in and look at us," she did so, when he told her that he could not make the bobbins draw, and that the yarn formed what is called a snarle on the top of the flyer; she at once examined the spindle, and lifting up the bobbin she exclaimed, "You have no washer." "Washer," said he, "what's a washer," when she said, "If you will let me have a bit of cloth and a pen knife I will make you one." He at once pulled out his pen knife and cut a piece of cloth out of his coat lap, from which she shaped a washer, and, having placed it under the bobbin, it drew to perfection, when he put his hand into his pocket and gave her half a guinea. About 1790 he was engaged in cotton spinning at the Aireworth Mill, then called 'Screw Mill,' which had been built a short time before. The works at Screw Mill were superintended by his son John, late of

the Knowle Hall. About the end of last century Mr. Greenwood was one of the partners in the cotton mill at West Greengate, and about the same time he built the Cabbage Mill, to which, when completed, the machinery both at North Brook and Screw Mill was removed, and the Greenwoods occupied this mill in cotton spinning for more than 40 years. Mr. Greenwood also built himself the Cabbage House, to which he went to reside, and soon after built the Knowle Hall for his son John. Mr. Greenwood, senior, died in the year 1807, having done good service in his day; he was a member of the Methodist Society, and, although by far the wealthiest man in the neighbourhood, he was not ashamed to identify himself with what was, at that time, a poor and persecuted church; and when the Society in this town was struggling with financial difficulties, he voluntarily took upon himself to maintain one of the travelling preachers for the space of two years. A gentleman residing in the town, who entertained no very friendly feelings towards the Methodists, hung a gate which he fastened with a lock, at the end of Temple Street, to prevent the Methodists who resided at the higher end of the town from going that way to the chapel; Mr. Greenwood hearing of it, at once sent word to the persecuting party that, if he did not at once remove the obstruction, he would bring two of the best horses he had in his stable and drag it away by main force, and in consequence of this threat the gate was at once taken away. In the early part of the century Mr. Greenwood took his son into partnership, when they built the Vale Mill for cotton spinning, besides a row of cottages for the workpeople, and at one end of the row they built a school-room in which was held a Methodist Sunday School and preaching-services, which we believe was entirely supported by the firm. This

Sunday School was continued by the present proprietors of the Vale Mill till about 1877. Soon after the decease of the senior partner, Mr. Greenwood, of Knowle Hall, bought a small farm adjoining the Vale Mill Estate, and, as he gave a very liberal price for it, people were at their wits end to know why he had given so much money for so little a farm, but he had no sooner got the conveyance signed and the purchase money paid than people had their eyes opened, as he proceeded to take in a very excellent and valuable water-fall which he had bought along with the farm. He conducted the water down to the mill, at the same time putting in another water wheel, and thus using the water from the Haworth Beck twice over. Early in this century the firm bought an estate at Swarcliffe or Raikes, near Ripon, where they also built a large cotton mill five storeys high, and at this mill, for nearly half a century, they were engaged in spinning cotton yarn. Old people can recollect how, 50 or 60 years ago, the Raikes' waggons used to travel once or twice a week between the Cabbage Works and the Swarcliffe Mill. Mr. Greenwood took his two sons, Frederic and Edwin, into partnership as they grew up to man's estate, the firm were also in partnership with the Whitakers of Burley, or Green Holme Mill, more recently occupied by Messrs. Forster & Fison, as a worsted mill. Early in this century the firm were in the habit of obtaining young girls from the Foundling Hospital, London, to be employed in the mill; there was a sort of agreement between the parish authorities in London, and the firm, by which the girls were bound as apprentices to serve the firm for a certain number of years as workers in the mill, and the firm were bound to find the girls with food and clothing, besides lodging, washing and other perquisities. Many of those poor girls never knew either father or mother,

and had they been questioned about their genealogy, they might in all probability have answered with Topsy, "We were never born, we growed." We were acqainted with several of those girls 50 years since, who had come to this town, and who, after the expiration of their apprenticeship, entered into married life and had families. Mr. Greenwood, of Knowle Hall, was very much attached to his Swarcliffe Estate, and spent considerable time at that place enquiring into the circumstances and relieving the wants of the poor, in addition to which, entirely at his own expense, he built a Methodist Chapel, doubtless intending that it should belong to that religious body for ever. He built the chapel, and very likely never thought of the necesssity of giving them a conveyance of the property, and after his decease it was lost to the Methodists, and passed into the hands of another denomination. Although Mr. Greenwood, of Knowle Hall, was not so closely identified with Methodism as his honoured father, still he was a very liberal supporter of the various benevolent enterprises of that Church; the Sunday and Day Schools received his hearty support. At the Sunday School Anniversary he always gave, at the least, the sum of £10, not only attending the services himself, but bringing with him his son-in-law, the Rev. Theodore Dury, rector of Keighley; while on another Sabbath the rector was in the habit of making a collection in the Parish Church in behalf of the Wesleyan Methodist Sabbath School. Mr. Greenwood's benefactions to the poor, the destitute and the afflicted, were numerous and long-continued. He died in the year 1846, greatly regretted and universally lamented throughout the entire neighbourhood. The firm gave up business a few years before his decease.

LOW BRIDGE MILL.

This mill was built by a gentleman of the name of James Fox, about the beginning of the present century, for cotton spinning. Mr. Fox was one of the ancestors of Charles Fox, who was one of the first to make power looms in this town. It does not appear that he was very successful in the cotton business, and a disastrous affair which took place in his family points in the same direction, and probably led to his giving up the business altogether. About 1810 Mr. John Ellison, senior, who subsequently kept the Crown Hotel, was engaged in spinning cotton at this mill, but neither did he succeed in making it a paying concern, and about the year 1821 a fire broke out in the mill, and both machinery and stock-in-trade were reduced to a complete wreck, when the cotton business was given up.

CASTLE MILL.

This mill was built about the year 1783 on land belonging to the Cavendish Family, by a gentleman of the name of Joseph Smith, commonly called the "Old Merchant." He was the great-grandfather of Jeremiah Carrodus, of Gladstone Street, Keighley. It appears that Mr. Smith did not continue in the cotton trade more than eight or nine years. Mrs. Illingworth, the wife of David Illingworth, draper, of

Church Green, was the daughter of the above Joseph Smith. We learn from a document in the possession of Mrs. Robinson, of Utley, the daughter of the late William Illingworth, of Grove Mill, that when Joseph Smith gave up spinning cotton at Castle Mill, the business was continued by the two brothers, David and William Illingworth, with William Marriner in partnership. This firm commenced cotton spinning at Castle Mill in 1792; however, in 1795 Mr. Marriner left the firm in order to become a partner in the firm of cotton spinners at the West Greengate Mill; and, in 1797, William Illingworth commenced cotton spinning at the Grove Mill, when it appears that the partnership at Castle Mill was brought to an end. About the beginning of the present century William Wilkinson was spinning cotton at this mill; he was the grandfather of Mrs. Rishworth, the present lessee of the Castle Mill, and was the son of John Wilkinson, who was the first to introduce Methodism into Keighley more than 100 years ago. John Wilkinson had some relations residing at Birstall, and went one Sunday to see them, when John Nelson, a stone mason, who had been converted under the ministry of the Rev. John Wesley, in London, had returned to Birstall, his native town, and begun to preach. When John Nelson came to Birstall he had no idea of beginning to preach, but he told his neighbours that he knew his sins were forgiven, and when they said, "No one could know that their sins were forgiven in this world," he answered, "If they would call at his house in the evening after he had left his work, he would prove it from the Bible." Considerable numbers went to his house, and while he was proving the truth of the doctrine of a sinner's justification before God from the Bible, numbers were awakened, and, feeling themselves sinners, began to pray for mercy. The

excitement became so great that Nelson had to stand up in the street and shew, before vast crowds, what were the glorious privileges of the gospel, and, before he was aware, and without any intention of doing so, he had begun to preach. When John Wilkinson was at Birstall, on the Sunday above referred to, he heard Nelson, and was so enamoured with what he heard that he invited the preacher to visit this town. Shortly after he did so, and the first sermon he preached in Keighley was in an old farm house occupied by Joseph Scott; this house stood on the site of the house in Low Street occupied by Mr. Gott, dentist. Farmer Scott had in connection with his house an out-chamber, a pretty large room to which access was gained by a flight of stone steps, and this room was for some time used for preaching-services. Soon after Mr. Nelson's visit to Keighley, John Wilkinson came to reside near the preaching room, and in his house the Methodists held their class meetings, and tradition tells how mischievous lads were in the habit, during the time the class meetings were being held, of placing a beesom shaft across the door, and then fastening it with a string to the door handle, so that, when the meeting concluded, the members of the class could not get out till some one outside set them at liberty. The above William Wilkinson did not succeed in the cotton business, but about 1815 found himself involved in difficulties, and totally unable to meet his engagements, when his son John Wilkinson, unable to bear the idea of his father being made a bankrupt, took the cotton business into his own hands, with all its responsibilities. At the same time he was engaged in business as a timber merchant and ironmonger, but the timber trade he soon after gave up, and partially the ironmongery business, in order that he might be better able to retrieve the cotton concern. However, the

cotton business turned out an unfortunate affair, and, after struggling on for a few years, that terrible panic overtook the town in 1826, commonly called the Butterworth panic, when the majority of the Keighley tradesmen were ruined, and Mr. Wilkinson had to succumb to the overwhelming pressure. Being a man of sterling integrity and uprightness, the fact of his not being able to meet his engagements and pay twenty shillings in the pound, so preyed on his mind that he was laid in his grave shortly after. However, his daughter, Mrs. Rishworth, out of her own savings, divided amongst his creditors the sum of £1,200, about a dozen years after her father's decease.

WALK MILL, AND BROWEND MILL.

See Craven, Brigg & Shackleton.

EAST GREENGATE MILL.

The site on which this mill stood was purchased from the Crown by John Craven, of Guardhouse, along with the Walk Mill, after those estates had been escheated to the King on the demise of Joseph Stell, the former owner. This mill was built either by Mr. Craven or by the firm of Craven, Brigg & Shackleton, towards the end of the last century, and here it is very probable that the above firm carried on cotton spinning till the death of Mr. Craven, which took place in 1808, when it was left to his daughter who had married Mr. William Corlass, a cotton spinner of Barrowford, near Colne. How-

ever, we cannot learn that Mr. Corlass ever spun cotton at this mill. About two years after Mr. Craven's decease it was changed into a worsted mill, and occupied by A. & J. Hey, and afterwards by Mr. Thomas Iveson who at this mill spun worsted by commission. Mr. Iveson was succeeded at this mill by Mr. J. Mitchell, who subsequently married another daughter of Mr. John Craven; he had begun to manufacture stuff pieces some time before, but it was at this mill that he first began to spin his own yarns. After a few years he removed to Hope Mill, after which East Greengate Mill was fitted up for sizing cotton warps. This sizing business was carried on by a gentleman of the name of Thompson, who resided in the house adjoining, and we recollect his widow and family residing in this house 50 years ago.

DAMSIDE MILL.

A SMALL cotton mill was built at Damside, Keighley, towards the end of the last century, but this was replaced by a new mill of much larger dimensions in the year 1802. These mills were built by a lady called Betty Hudson, for the rage was so great to embark in the business of cotton spinning, that not only the leading gentlemen and land owners of the neighbourhood, but ladies also embarked in the enterprise, doubtless being lured by the prospect of acquiring wealth. This mill was run for several years by the above lady. We have met with an old woman residing in Mill Street, 85

years of age, who relates that about the year 1804, she was in the habit of carrying her mother's breakfast to this mill, where she was employed as a reeler for Mrs. Hudson, who was a widow, and had a daughter married to a gentleman of the name of Parker who was running a cotton mill at Arncliffe, near Kettlewell, and this Mr. Parker's son was manager for his grandmother at the Damside Mill. About 1805 Mrs. Hudson left the mill at Damside, and went to reside with her daughter at Arncliffe, when the mill was run for a few years by John Greenwood, and William & Lister Ellis. Mr. John Midgley, of Newsholme Higher Mill, who is about four score years old can recollect the Ellises occupying the Damside Mill upwards of 60 years ago. The engine was taken out afterwards and the mill converted into cottages. We recollect, about 30 years since, these cottages were mostly occupied by hand combers, who obtained employment from the late Mr. John Greenwood Sugden, to whom the property at that time belonged, and for a number of years these buildings have gone by the name of the Barracks, we suppose from their bearing some resemblance to soldiers' barracks.

HOPE MILL.

This mill was built about the end of the 18th century by a gentleman of the name of Thomas Corlass, grandfather of Mr. Joseph Corlass, of Henry Street, Keighley. For several years Mr. Corlass was engaged at this mill in spinning cotton, but, like the majority of cotton spinners in this parish, he found it anything but a paying concern. Being vexed

and agitated by the unfavourable state of the markets, he one morning went to the engine tenter and ordered him to rake out the fire and stop the engine; and this being done, he from that time ceased to be a cotton spinner. After Mr. Corlass gave up business it was occupied by Mr. John Mitchell, of Eastwood Square, as a worsted mill. More than 40 years ago it was occupied for a short time by John Hanson, of Spring Row, as a commission spinner. Afterwards it was occupied by Thomas & John Corlass for worsted spinning; in their hands it did not turn out favourably. Sometime after it was rebuilt by Thomas and Joseph Corlass, and again changed to cotton; but, as if the cotton trade somehow was not adapted for Keighley, this firm was in a short time brought to grief. Afterwards it was taken by John Feather who occupied it for about 20 years. A few years ago it was bought by B. Bedford. The Hope Mill, Damside Mill, and the Low Bridge Mill were the only three cotton mills which were not turned by water power. We have observed in a former article that mills could not be turned by steam power till the time that Watts discovered the rotary motion for the steam engine. It is said that another party had obtained access to Watts' place of business and pirated his invention and obtained a patent for the rotary motion, which he called in his patent the Crank Motion; when Watts, in order to avoid clashing with his rival's patent, called his invention the Sun and Planet Motion.

WEST GREENGATE MILL.

See B. & W. Marriner.

GROVE MILL.

This mill was built by Mrs. Ann Illingworth, on her own estate at the Grove; she was the mother of David Illingworth, draper, of Church Green, and William Illingworth. These two gentlemen, in partnership with Mr. William Marriner, had been engaged at the Castle Mill as cotton spinners. Mrs. Illingworth built the Grove Mill in the year 1797 for her son William Illingworth, who, for the period of 22 years was engaged in spinning and manufacturing cotton pieces at this place, and who, besides delivering out cotton yarn to the weavers here, and taking in the pieces on certain fixed days, had also certain taking-in days at Utley and Steeton, which places he attended regularly to put out work. He also put out weaving at the house of Mary Betts, in Baptist Square. Mrs. Betts was the sister of the late Rev. Jonathan Edmondson, M.A., an eminent minister in the Wesleyan Connexion, and the author of several popular works, and was, at least on one occasion, elected president of the conference. When we take into consideration the fact that, before he went out into the ministry, he was a poor lad, a wool comber, and probably all the learning he had obtained before he left home was of the most meagre character, yet notwithstanding these drawbacks, he became by his own effort and diligent application an excellent classic scholar, being critically acquainted with the Latin, Greek and Hebrew languages. We recollect his coming over to Keighley nearly 60 years ago, on a visit to his sister Mrs. Betts, which we believe he generally did once a year about conference time. On one of these annual visits to this town

he was one day taking a walk through the narrow lane near the rectory, when he noticed a poor old man in this lane sat under a tree, he stopped, and putting his hand into his pocket gave the old man a guinea, saying, "I give you this as a thank offering, for so many years ago under this very tree God pardoned my sins and made me happy." Mr. Illingworth was a genial and kind hearted master; from the conversations we have had with parties who knew him well, we are persuaded that he was a gentleman who manifested a great amount of sympathy and consideration for the welfare of his neighbours and workpeople—frequently visiting them at their homes during seasons of sorrow and affliction; and, in our opinion, if there was more of sympathy and consideration manifested on the part of the employers of labour towards their workpeople, there would be less bitterness shown in certain quarters between capital and labour. Mr. Illingworth, however, like the majority of those who in this neighbourhood were engaged in the cotton trade, did not succeed in saving money, but ultimately came to grief. He gave up business in 1819, and died in the following year, leaving a large family most of whom are passed away.

DAMEMS MILL.

THE Ropers who built this mill were farmers and manufacturers of worsted pieces in the middle of the last century. That they were considerable land owners and gentlemen of position is evident from the fact that John Roper, of Damems, shalloon maker, in the year 1764, was one of the seven trustees of the Boocock Charity, an office which has

always been held by gentlemen of the highest position in the town and parish. Whether it was the above John Roper who built the cotton mill at Damems, or a younger member of the family, we have not been able to ascertain. Mr. William Roper commission spinner, of Lawkholme Lane, says the party who built it was either his great-grandfather, or else his great-great-grandfather; he also says that the owners of the mill in their family have always been of the name either of John or William Roper. This family were engaged in spinning cotton yarns at this mill for a considerable period, but the concern, instead of increasing their wealth, turned exceedingly calamitous, for not only was the cotton mill built by them brought to the hammer, but also the broad acres at Damems were lost to the family; the Greenwoods, of Cabbage Mill, being the fortunate purchasers.

HIGHER PROVIDENCE MILL.

See James Haggas & Sons.

SPRING HEAD MILL.

This cotton mill was built by the late John Heaton, son of Michael Heaton, of Birks, and his mother was a Miss Sugden, of Dockroyd. There was a gentleman residing at Dockroyd in the year 1764 of the name of Abraham Sugden, and it is very probable that John Heaton's mother was his daughter. Mr. Heaton built the mill together with the dwelling house

and cottages in the year 1790, and at this mill for a number of years he spun his yarns. He was also a manufacturer of cotton pieces, employing a considerable number of weavers, delivering out work at the mill to the workpeople who wove the pieces at their own homes. Cotton goods were sold at the Manchester market in those early times as they are at the present day, and this market Mr. Heaton regularly attended for the sale of his pieces, and for the purchase of the raw cotton. Although he was very diligent and persevering in his business pursuits, yet it does not appear that he succeeded in making money as a cotton piece manufacturer, for the Spring Head Estate, with all the buildings, passed out of the hands of the Heaton family in the early part of the present century.

PONDEN MILL.

This cotton mill was built near the end of the 18th century by Mr. Robert Heaton, of Ponden House, who was the grandfather of Mr. Robert Heaton residing at Ponden House at the present time. Mr. Heaton was the owner of considerable property besides the Ponden Estate in the township of Haworth; the Royd House Estate was his property, besides several farms in the parish of Keighley. The mill was built in the latter parish, and at this mill he for a number of years was engaged in spinning cotton yarns, but this undertaking was by no means a successful affair, the very heavy losses he sustained in the cotton trade brought heavy

incumbrances upon his freehold estates, which, notwithstanding the carefulness and economy of his sons and grandsons, is scarcely got rid of to the present day. Mr. Heaton who built the mill died more than half a century ago, since which time it has been occupied by several parties both in manufacturing cotton and worsted pieces, and also by commission spinners. This mill was purchased a few years ago by the Keighley Local Board of Health, in order to carry out the construction of the Compensation Reservoir in connection with the extension of the waterworks.

NEWSHOLME HIGHER & LOWER MILLS.

It appears that these two mills were built by a gentleman residing at Newsholme, towards the end of the last century, of the name of Robert Hall. He was a descendant of Robert Hall who, in the year 1672, built one of the best dwelling houses at that time in the parish; besides being most substantially built of ashlar, it is so large that, more than 30 years ago, a large room was utilised out of it for the Church Service, holding nearly 200 people; and another room for the Sunday School. The house occupied as a farmhouse is uncomfortably large, the gentleman who built it and owned a great part of the land in Newsholme, was either the grandfather or the great-grandfather of the Robert Hall who built the two cotton mills. Whether Mr. Hall spun cotton at these mills himself or let them to other parties, we have not been able to make out. John Hall, of Lidget, grocer, says his grandfather John Hall was brother to the above Robert Hall, and when his great uncle Robert Hall died, his grandfather went to

reside at the great house. We have not met with anyone who can recollect cotton being spun at the Higher Mill, but William Wade of Slack, an old man between 80 and 90 years of age, can recollect a gentleman of the name of Midgley spinning cotton at the Lower Mill. This mill for about 40 years has been occupied by Jonas Laycock, as a bobbin manufactory. The Higher Mill has been occupied by John Midgley for more than 20 years, where he is engaged in making cotton band used principally for driving spindles. That these two mills were originally cotton mills is evident from the fact that we have conversed with several old men who have resided about Newsholme all their lives, some of them about 80, and others between 80 and 90 years of age, and not one of them can recollect these two mills being built; besides, worsted yarns were not spun in mills till several years after the beginning of the present century. It is true that Lodge Calvert was spinning with a throstle about the year 1801, and that Blakeys of West Greengate Mill, obtained a few throstles from William Carr soon after, and Joseph Hey had one in his chamber at Hey's Gardens in 1808, but these miniature spinning frames were mostly turned by hand.

A very serious difference or squabble took place between the above Robert Hall who built the large house at Newsholme, and the Rev. Miles Gale, the Rector of Keighley. An innkeeper, who kept the King's Arms, of the name of John Drake, having made an offer to certain trustees, of the sum of £25 per annum toward the salary of a schoolmaster, on condition that the trustees would build a school-house; the above Robert Hall's name stands first on the list of the lay trustees. A difference arose between Mr. Hall and the Rector about the building of the intended new grammar school, in which it appears that Mr. Hall used

some strong language, at which the Rector was greatly offended. On the following Good Friday Mr. Hall and his wife went to the Parish Church to take the Sacrament, but when the Rector saw Mr. Hall in the congregation he sent one of the churchwardens to tell him that, unless he would confess his fault to the Rector, he would not administer the Sacrament to him, when Mr. Hall replied, "God forgive us both, but I will try him," accordingly he went up to the Communion Table, but when the Rector came to where he was he passed him by; Mr. Hall at once left the church taking his wife along with him, and on the following Sunday they took the Sacrament at Skipton. In consequence of this squabble the Rector wrote a long paper or manuscript, which is now in the possession of Mr. Bailey, of Temple Street, Keighley, in which is set forth an account of the difference which had taken place between Mr. Hall and himself. Also a letter addressed by the Rector to the Archbishop of York, to which is added several pages of poetry abusing the character of Mr. Hall, and the language in which it is written is of the most smutty and filthy description, quite unbecoming any decent person, much less a professed minister of the Lord Jesus Christ. In this paper Mr. Gale gives an account of Mr. Drake's benefaction to the intended new grammar school, and, if his language is less vulgar, it is nevertheless, the very personification of bigotry; we give a few lines as a specimen: "The town of Kighley having no school, nor any encouragement for promoting humane learning, whereby for want of knowledge some were seduced by that vile sect the Quakers, and others by that wicked crew the Anabaptists, to follow false ways of worship."

HOLME HOUSE MILL.

This cotton mill was built about the year 1794, by a gentleman farmer named Horsfall; it was built on his own land At this mill he was engaged for several years in spinning cotton yarn, but it would have been better for him if he had been content with the cultivation of his farm; for, by embarking in the cotton trade, like numbers in this neighbourhood, he found it a losing concern, and in a few years was so involved in financial difficulties that both mill and land had to be sold to meet his engagements. It passed into the hands of the late Mr. Thomas Teal, of New Road Side, near Hermit Hole, in the early part of this century, and now belongs to Mr. Nimrod Mitchell, who married the granddaughter of the above Thomas Teal. Since it got into the Teal family it has been occupied as a worsted mill by a considerable number of different tenants. We have met with an old man about 80 years old, who can recollect when he was quite a lad, seeing the last of the Horsfalls, who resided in the neighbourhood of Holme House. This Horsfall was a drunken rake, and it being the Parish Feast, he, with several others, went over to the Lane Ends' public-house where there was held a sort of fair, and while standing near the stalls, my informant said he saw this Horsfall come out of the public-house without paying his ale-shot, making towards home when the landlord, the late John Weatherhead, followed and overtook him, and took from him his coat and hat in payment for the liquor he had drunk at the Golden Fleece.

WOOD MILL

THIS mill was built by a gentleman farmer of the name of John Shackleton, who resided at Laycock. We have not been able to learn whether he ever was engaged in the worsted business like many of his class. However, towards the end of the last century he built a cotton mill, about a quarter of a mile away from his own residence, but upon his own estate where there was a very good water-fall—an invaluable requisite before the steam engine came into vogue. It appears that at this mill he was engaged for a few years as a spinner of cotton yarns, but for some reason he did not continue in this business very long; perhaps his prospects of making money began to assume a more gloomy aspect, though it would appear that he was very successful during the time he was engaged in the cotton trade, for he retired into private life as one of the wealthiest men in the neighbourhood. He died at a good old age about 40 years ago.

GOOSE EYE MILL.

THE following three yeomen or gentlemen farmers, in the year 1797, entered into partnership to build a mill for cotton spinning, namely, John Bottomley, of Holme House, the grandfather of Mr. John Bottomley Lund, of Oaklands; Richard Shackleton, of Green Top, the grandfather of Mr. Henry I. Butterfield, of Cliffe Castle; and Thomas Shackleton, of Truewell Hole, the grandfather of the late Mr. Thomas

Shackleton, woolbuyer for Messrs. Wm. Lund & Son. This mill was built on the site now occupied by the office of Messrs. Joseph Town & Sons and the adjoining cottages; and at this mill the firm were engaged for a number of years in spinning cotton yarns. However, this speculation does not appear to have answered the expectation of the enterprising parties composing this firm, for after the mill had been running only a few years, Mr. Bottomley left the firm, declaring that if he remained in it he should lose all the money he had. The other two partners continued to carry on the business a few years longer when they came to grief, Mr. Shackleton, of Truewell Hole, having lost three-fourths of his means by the speculation, and soon after his estate at Truewell Hole was sold to the Greenwoods of Cabbage Mill, and remained in the possession of that family for about half a century, when it was happily restored to the family of the former owner a few years ago, having been purchased by the late Mr. Shackleton of Oaklands, from the Greenwoods. Mr. Richard Shackleton, of Green Top, had the mortification of finding that all his property was lost by this most unfortunate adventure in the cotton trade.

SCREW MILL.

See Thomas Binns, of Holme Mill.

SANDYWOOD MILL.

The Sandywood House, now occupied by the Bowling Green Club, was built in the early part of this century by Mr. John Oldridge for a dwelling house and cotton mill. From

the genteel appearance of the building, and from its standing in the most fashionable quarter of the town, and also from the fact of its having been occupied as a ladies' boarding school for the long period of nearly half a century, one feels it somewhat difficult to realise its ever having been occupied as a cotton mill. This mill was turned by water power, obtained from two small streams, one of which came down Highfield Lane, and was conducted on the west side of Skipton Road to near the site on which has been built the Roman Catholic Chapel, where it met another small stream which came down Spring Gardens Lane. The united streams were carried across the Skipton Road in a culvert or large drain to the water wheel, which was fixed in the basement floor of the building, power being conveyed to the top storey either by an upright shaft or by a strong belt, and in this room for several years Mr. Oldridge was engaged in spinning cotton yarns. We have heard some parties who, while admitting that it was built with the intention of spinning cotton, say that the intention was never carried out, but Mr. David Booth, butcher, can recollect when a lad going into the top storey of this building and seeing cotton spinning in operation, and Mr. John Town, of Temple Row, also says that he has witnessed cotton spinning in this room. We have heard old people tell of seeing the water wheel laying in a field on the opposite side of the road. After spinning was given up Mr. Oldridge emigrated to the United States of America about the year 1819, when the cotton spinning at Sandywood Mill came to an end.

WORSTED MACHINERY.

After Mr. Arkright had brought his Water Frame to a tolerable degree of perfection, one would have thought that there would not have been much difficulty in adapting it to worsted spinning; but, owing to the wide difference between the nature of sheeps' wool and cotton, it was some time before the new principle of spinning by rollers could be successfully applied to worsted. It is said that the first worsted yarn spun at Dolphin Holme was both knotty and broken, and of a very inferior description; but, by making the front rollers of a greater diameter, and by properly adjusting the distance between the back and front rollers, the difficulty was at length overcome, and the machinery made properly adapted to the nature of the raw material. As, however, the steam engine had not come much into vogue, and as most of the water-falls on both the Worth and the North Becks had been taken up before the end of the last century by the erection of cotton mills on the streams, worsted spinning by water power did not become common till towards the end of the first decade of the present century. About the beginning of this century a small spinning frame called the Throstle was brought into use, containing from 18 to 24 spindles; this machine was made single and turned by hand, requiring only to be made double and propelled by water or steam power to become what is at present the worsted frame. The old Water Frame had separate gearing to every six or eight spindles, but the double Throstle or the more modern worsted spinning frame had a tin cylinder the full length of the frame, the rollers being coupled together of a corresponding length with one set of wheels or gearing for the whole. Whilst

water continued the principle element of power, Keighley appears to have taken the lead in the spinning department; but, in consequence of Bradford and Halifax being better situated for coal, when the steam engine came into use for mill power, Keighley was left in the rear, still this town maintains its rank as the third manufacturing town in the worsted trade, and it is second to none of the same size for its extensive machine making establishments. The greatest part of worsted spinning machinery is made in this town, besides a large quantity of power looms. The iron trade, during the last 20 years, has made rapid strides in Keighley in a new direction, such as the making of washing and sewing machines, besides there are several extensive firms which are engaged in making very costly machine engine tools, which are exported to all parts of the world.

MACHINERY FOR WORSTED SPINNING.

GEORGE HATTERSLEY & SONS.

THE founder of this firm, the late Mr. Richard Hattersley, in the year 1789, removed from Eccleshall, near Sheffield, to Keighley, and commenced business as a mechanist and whitesmith, at Stubbing House, and was for some time extensively engaged in making bolts and screw nails, as we find in his books which have been carefully preserved to the present time, and which the firm have kindly placed at our

disposal. We find in his day book, bearing date 28th of May, 1796, "Supplied to Charles Dixon of Colne, 59 gross of screws of different sizes, £7 18s. 7d.;" again in 1797, "Sold to John Greenwood of North Brook Mill, a quantity of screws, besides rollers, spindles and flyers." It is very probable that, from the extensive way in which he was engaged in making screw nails and bolts, it led to the place where his works were carried on being called "Screw Mill." It appears that at this early period of his career, he added to his business of making screws, that of making spindles, flyers and rollers, as this class of goods were supplied to Mr. Greenwood in 1797. Again in 1799 he sold to Craven, Brigg & Shackleton, the following goods, namely, "January 16th, one gross of flyers, 18s.; February 1st, 47 spindles mending, 4s. 10½d." In the year 1801 he supplied to Messrs. Blakey & Co., of West Greengate Mill, the following goods, viz., "February 18th, to rollers, £4 4s.; April 23rd, 10 dozen spindles and flyers, £6 15s.;" in 1800 to William Smith, "July 3rd, 18 spindles and flyers, 23s.;" in 1801 to Lodge Calvert, "16th of May, 24 spindles and flyers, 24s.;" Mr. Hattersley did not, however, confine his trade entirely to parties engaged in spinning, but he also supplied goods for agricultural purposes, as we find that he supplied to Lord George Henry Cavendish, from March 5th to July 11th, 1801, the following goods, viz., a quantity of bolts, chisels, wedges and plates to the sum of £26 10s. 5d. But Berry Smith appears to have been one of his best customers, as his bill, principally for rollers, spindles and flyers, in the year 1808, came to nearly £1,000. Mr. Hattersley, while at Stubbing House Mill, did not lack power like his friend Berry Smith, as this old mill had the advantage of a powerful water-fall. In the beginning of this century Mr. Greenwood

left North Brook Mill to occupy his new mill at Cabbage, when Mr. Hattersley succeeded him at the North Brook Mill, where his sons and grandsons have carried on the machine making works ever since. He continued to carry on business at the North Brook Works as spindle and roller maker, and, although it does not appear that he ever made either spinning frames or preparing, yet he supplied most of the parties who made the frames with both rollers and spindles, and we believe that William Carr, Berry Smith and Titus Longbottom got their spindles and rollers no where else. This continued to be the principal trade of the firm till about 30 years ago, when they went more extensively into the making of power looms. Mr. Hattersley had a numerous family, and, when his two sons, George and Samuel, grew up to manhood, he took them into partnership. In 1821 Mr. Samuel Hattersley removed to Bradford, where they established additional works, carrying on business under the name of Richard Hattersley & Sons. In the year 1832 Richard Hattersley, the head of the firm died, and a few years later, the partnership of the two brothers was dissolved, when Mr. George took the Keighley works into his own hands, and carried on the business in his own name, at the same time Mr. Samuel took the Bradford works into his own hands. In the year 1861 Mr. George Hattersley took his two sons, Richard and Edwin, into partnership, when they carried on business under the name of George Hattersley & Sons, which is the name of the firm at the present time. About the year 1840 the firm added to the business of machine makers that of manufacturers of stuff pieces, at first occupying a building adjoining the machine works. Mr. Edwin has always taken the oversight of the manufacturing business, while Mr. Richard has confined his attention to the

machine making, in which department he has manifested first-rate abilities. This firm began to make power looms in the year 1835; we have seen an entry in the books of the firm bearing the above year's date, when they made a number of power looms for Mr. Hargreaves of Shipley. About 20 years ago, in consequence of the extension of their business, they removed the stuff manufacturing to Mytholmes Mill, near Haworth, to which they subsequently added the Higher Providence, and shortly after they purchased the Lower Providence, where they have built a beautiful and substantial new mill, and more recently they have occupied the Spring Head Mill; all these four mills are the property of the firm. See power looms.

WILLIAM SMITH & SONS.

The Low Mill began to spin cotton in 1780, and soon after it commenced running William Smith went to work at the mill, being then only nine years old. A few years after he was apprenticed to the firm to learn the trade of a mechanic. A number of mechanics, joiners and woodturners were at that time employed at Low Mill, and over these artisans Adam Pearson was placed as foreman, and, as Adam was somewhat noted as a skilful mechanic, it was no small privilege for William Smith to be taught by him the art and mystery of machine making. Our earliest recollections of Adam Pearson, nearly 60 years ago, was in connection with the lightest coloured ass we ever saw, being nearly white, of which he was the owner; this ass was reported by common gossip among us lads to be 100 years old. Mr. Smith,

having completed his apprenticeship at the Low Mill in the year 1795, he commenced business in a small way on his own account, taking two cottages in what was then called Waggon Fold, now Market Street, and on these premises which have been several times enlarged, he and his sons carried on the business of machine makers for the long period of nearly 70 years. The above two cottages for several years formed his workshop, but, when he extended his business premises by building a new workshop, these cottages were made into his office. His first essay in business was in the capacity of a clock maker, to which he subsequently added the making and repairing of flyers and guides. Although he did not begin to make the modern spinning frame till about the year 1819, yet, so early as the year 1800 he was engaged in making those miniature spinning frames called Throstles, which were turned by hand, for he obtained from Richard Hattersley, on the 3rd of July, 1800, 18 spindles and flyers, which were doubtless obtained for the construction of a throstle. Mr. Prince Smith, senior, says he recollects the late Lodge Calvert marking out with chalk on the floor of the old office in Waggon Fold, nearly 50 years ago, the place where a Throstle was set up made by his father for the above Lodge Calvert. Whether this was the identical throstle for which Mr. Smith obtained spindles and flyers from Richard Hattersley, on the 3rd of July, 1800, in the absence of books we cannot be quite certain, as all the books belonging to the firm up to the year 1824 have been destroyed. About 1808 Mr. Smith began to make rollers and spindles, principally supplying these goods to spinners who were in the habit of having their spinning frames made on their own premises, obtaining their rollers, spindles and flyers, with various castings from some of the iron firms. We recollect

Calvert & Clapham, of the Aireworth Mill, replacing about half a score old spinning frames which had wooden ends, with as many new frames which they made on their own premises, obtaining the rollers, spindles, flyers and castings from this firm, and the first of this series of spinning frames they made was labelled in the casting on the frame end, "William Smith, 1820." Mr. Smith had no foundry till 1830, but obtained his castings from other iron and brass founders, supplying those founders with his own models. Amongst the parties who supplied him with castings were the following, viz.; Thomas Mills, Joseph Frankland and John Brook. Mr. Smith had a numerous family, consisting of seven sons and two daughters, all of whom attained to manhood and womanhood; however, two of the sons, Joseph and Samuel, had scarcely obtained their majority when they sickened and died. The other five sons, viz.; James, Lawrence, William, Prince and George, soon after they came of age were taken into the firm. All the sons were apprenticed to their father to learn the business, and, on the coming of what was called the loosing day, or the day on which their term of apprenticeship expired, that day was celebrated with festivities and rejoicing, in which all the men and boys employed at the works took a part. In the year 1819 the firm commenced the making of spinning frames and preparing, having the various castings made after their own models, in which, from time to time, they were able to make improvements wherever they discovered defects in machinery made at a former period. By employing clever and expert foremen over the different departments of their works, and by making their machinery of the very best material, and by great care and attention on the part of the different members of the firm to secure the best possible workmanship in all the goods they sent away

from the works, the firm grew into greater repute year by year, giving great satisfaction to their numerous customers. When Mr. Smith took his sons into partnership, the firm took the name of William Smith & Sons, in which name it was carried on till the year 1865. About the year 1830 they introduced planeing machines and similar tools made by McLean & March, and other tool makers; and, although this class of tools had for some time been in use for making machinery for spinning flax and cotton, yet this firm were the first to employ them in the making of machinery for worsted spinning. The introduction of this class of tools into their works was the means of giving a completeness, finish and beauty to the various parts of their machinery, which they had failed to realise heretofore; and from this, combined with the steady habits and industry of all the members of the firm, they became exceedingly popular in the Bradford trade. From information we have obtained from parties who were on very intimate terms with the late Mr. Smith, the head of the firm, we are led to the conclusion that the genius, the skill, the energy and perseverance, we might almost say the natural instinct of Mr. Prince Smith, senior, has contributed more than anything else to the success of the firm. Mr. Smith died in 1850, and in the year 1865 a dissolution took place in the partnership of this firm, when Mr. George Smith, the youngest partner, retired from business altogether, while James, the eldest brother, built the new machine works at Threaproyd, where he carried on business in partnership with his sons, taking the name of Smith & Sons. Mr. James Smith died in 1869, since which time the business has been carried on by his eldest son, Thomas Ellison Smith; and, as he was trained with the old firm at the Market Street Works, no doubt all the excellencies of those noted works will be

carried into effect at the Royd Works. After the first dissolution of partnership two of the brothers, namely, William and Prince, built new machine works near the Low Mill, on land purchased from the Duke of Devonshire, where they carried on the machine making business for a few years, giving the name of "Worth Valley Works" to the new premises; but in the year 1869 a second dissolution took place. At the first dissolution of partnership, which took place in 1865, the Market Street Works were sold—the older portion of the works were purchased by Ramsden Brothers, machine makers, while the new portion was purchased by Mr. William Smith, but, through failing health he did not again enter into business at the Market Street Works, but handed them over to his son, Joseph Smith, who carried on business for a few years, but it did not prove a successful undertaking. Lawrence Smith retired from the firm about 30 years ago. When the dissolution took place at the Worth Valley Works Mr. Prince Smith, senior, purchased from Mr. Samuel Cunliffe Lister, the Burlington Shed, where he has established very extensive works, and, having taken his son, Prince Smith, junior, into partnership, they now carry on business under the name of Prince Smith & Son. We understand that it was arranged at the dissolution which took place in 1865, that none of the brothers should carry on business under the old name of "William Smith & Sons." Mr. Prince Smith, senior, from his long connection with the business, and from his long and extensive acquaintence with all the leading worsted spinners in the Bradford trade, (having regularly attended the Bradford market for the long period of 50 years) has secured to the firm such a high reputation that it is no wonder that it should be the most noted concern for the making of worsted spinning machinery in the Bradford

district; and we believe that it stands unrivalled throughout England and the whole world, having been engaged for a number of years in making spinning machinery for manufacturers in various parts of the continent of Europe, and also in the United States of America. The firm have recently enlarged the works by about one-third, but previous to this extension they were employing between 700 and 800 workpeople, and thus circulating a vast amount of money in weekly wages. If the recipients of those wages would act upon the principles of prudence and economy, avoiding the deteriorating and ruinous influence of drinkshops, and especially by acting upon the principles laid down in the New Testament, it would result, we are persuaded, in the producing of scores if not hundreds of happy homes.

WILLIAM CARR.

Mr. William Carr, the grandfather of Joseph Carr, of Coney Lane, and of Thomas Carr, reed and heald maker, of Hanover Street, was a native of Scorton, near Preston, in Lancashire; having become expert at his trade as a mechanic, he resolved to try his fortune at Keighley, to which place he removed about the year 1790, taking a house which stood on the site now occupied by the Fleece Inn. In connection with this house he had his mechanics' shop and smithy, and at this place, for about eight years, he was engaged in business as a jobbing blacksmith and whitesmith. Although worsted spinning by machinery had not begun in this town so early as 1790, yet cotton spinning had become common at

several mills both in the town and parish. Soon after commencing business he was engaged in doing work for the cotton mills, in repairing flyers and guides. Old Joseph Town, who knew him well, says it was commonly reported at the beginning of this century that Mr. Carr was the cleverest mechanist in the town. In the year 1798 he went to reside in the house now known as the Golden Lion Inn; it is probable that this house was built for him, as the top storey formed his workshop, and any one passing up or down Low Street, may see in the top room of this house a crane doorway, now walled up, and from this crane door he used to lower his machinery into the carts or waggons standing in the street below. He had his smithy behind the house, but had no steam engine, or wind or water power, and when he had occasion to use the lathe in order to turn a wheel or pinion, or any other article in connection with his trade, he had to employ a person to turn the lathe, and although he was engaged in making machinery on these premises for more than a dozen years, he had no other power during that time save manual labour. In the year 1798 he began to make those miniature spinning frames called throstles, containing about 18 spindles, and turned by hand, obtaining his rollers and spindles from Richard Hattersley. In Mr. Hattersley's books we find the following entries, viz.; "7th of November, 1798, sold William Carr 18 spindles, £1 0s. 3d. besides screw nails, bolts and studs, and on the 10th of December, 18 flyers; on the 2nd of July, 1799, spindles and flyers, £1 18s. 8d., on the 15th of December, 30 spindles and flyers, £2 0s. 6d., and on January 16th, 1800, 55lbs. of rollers, £1 7s. 9d." It appears that Mr. Carr was the first in this town who made this class of spinning frames. Joseph Carr, his grandson says "that it has always been reported

in the family that the first throstle he made was supplied to Messrs. Blakey & Co., of West Greengate Mill," and although the occupiers of this mill were cotton spinners, yet it was no uncommon thing at that time for parties to be engaged in both the cotton and worsted trades. Mr. Carr was subsequently engaged in making the more modern spinning frames which were driven by water power; but it appears that he gave up business about 1817, as in the year 1818, the late William Dean, cabinet maker, occupied the house, and had the room on the top storey for his workshop. Mr. Carr rented a farm at Scorton, which had been in the family for several generations. Soon after he came to Keighley one of his daughters was married to a Mr. Smith, and the young couple after their marriage went to reside at the Scorton Farm; this daughter having been left a widow about 1820, he left Keighley and went to reside with her, and spent the remaining years of his life on the Scorton Farm. Three of his sons were engaged in the machine making business, viz.; Edward, John and Thomas. Edward had his shop in Low Street, and was for some time engaged in making throstle frames; and, besides supplying the manufacturers in the neighbourhood, was in the habit of sending these machines as far as to Chester and Whitehaven. He also made the modern spinning frame to be propelled by water power; and his son, Joseph Carr of Coney Lane, says, "That in making the first spinning frame with iron ends he employed the late Joseph Beldon, of Paper Mill Bridge, to make the model, which contained considerable fancy work. Mr. Beldon was subsequently employed at a machine making establishment in Russia for a considerable number of years. John Carr was engaged for a number of years in making and repairing flyers and guides; he was also somewhat noted as a gun-

smith. Thomas Carr went half a century ago to reside at Bingley, at which place he was for a long time engaged in business as a machine maker, and his son John succeeded him; he is at the present time almost exclusively engaged in the manufacture of steam engines.

BERRY SMITH.

Mr. Berry Smith served an apprenticeship with William Carr to learn the trade of a mechanic, and must have entered Mr. Carr's service soon after he commenced business in Keighley, which was in 1790, as he was himself engaged in business in the year 1800. He was a poor lad without means; and, as he could not have worked as a journeyman more than two or three years after his apprenticeship expired, it is evident that, as a young man, he possessed great energy of character, for by using the greatest economy and prudence, taking into consideration the low scale of wages paid at that time, yet he was possessed of pecuniary means to begin business in a small way. It is a common thing for young men to distress themselves because they have not capital wherewith to begin business; we believe, however, that a real business man, if he has no capital, will make capital, and some of the most successful tradesmen that this country has ever produced have created their own capital, or have been what are commonly called Self-made men; such a man was Berry Smith. After Mr. Smith's term of apprenticeship expired with Mr. Carr, he went to work as a mechanic at West Greengate Mill, then occupied as a cotton mill by

John, Joseph and Thomas Blakey, and William Marriner. However, Mr. Smith had not been more than three years in their service before he commenced business on his own account. He resided in a cottage which stands in the Hope Mill Yard, just opposite the gate which leads to the dwelling-house attached to the mill. He had his workshop in his own chamber, where he set up his benches and lathes. Under his house there was a cellar cottage occupied by a man of the name of Sunderland, one of whose sons, named John, worked at West Greengate Mill while Berry Smith was mechanic there, and when Mr. Smith left to commence business, this young man went to be his apprentice without any indentures, his work was principally turning the lathe; but in the year 1807 he enlisted for a soldier, and, being sent abroad, fought in several engagements during the Peninsular War, and died in Spain in 1812. Being an intelligent young man he frequently wrote home to his parents, describing the joys and sorrows of the military life; in order to shew the filthy habits of the Spaniards he said, "The women mostly washed their clothes in a pond, and when they had finished, the pond would be literally covered with a scum of lice, which had been washed off the linen." Mr. Smith commenced business by repairing machinery for the cotton spinners; for this purpose he obtained from Richard Hattersley, on the 19th of July, 1800, four roving spindles and flyers, £1 1s. 4d.; on the 14th of October, 66lbs. of rollers, £2 12s. 6d.; and October 23rd, 30 spindles and flyers, £2 5s. 11d. In the year 1801 he began to make throstles; for on the 22nd of May in that year, he obtained 98lbs. of rollers, £3 5s. 4d.; and on the 28th of May, 74 spindles and flyers, £4 9s. 5d., which Mr. Hattersley's books state were for making throstles. For some time after he commenced

business he had neither steam nor water power, but, like his old master Mr. Carr, had his lathe turned by men and boys. The late Mr. Thomas Smith, machine maker, commonly called "Tom Ragill," was his first indentured apprentice; and, doubtless, the apprentice lads would long remember the wet shirts they got whilst turning the lathe. When very young we recollect an old man living at Park Lane, commonly know as "Old Laddie," who was employed by Mr. Smith to turn one of his lathes. It was common in mechanics' shops and comb shops at that time, to have what they called Shop Laws, or a sort of rules for the guidance of the workpeople, hence, if any of the workmen should throw a missile at another, he was fined twopence, and if any one swore in the shop he was subject to a penalty of twopence for every oath; but they had to make "Laddie" an exception to this rule or he would have had no wages to take home at the end of the week, for he was so in the habit of swearing that he scarcely knew when he did swear, and when charged with swearing swore that he never had sworn. About five years after Mr. Smith began business he removed to a new shop which he had built at the "Acres," which stood near the bottom of what is called Berry Lane. Through the kindness of Mr. Abraham Hird we have seen a number of old title deeds, from which we learn that, in the year 1804, Mr. Smith bought of Thomas Corlass a plot of land for £83, and in 1805 he bought a further plot of land of a John Wilkinson, for about £60, and on this land he built his machine makers' shop, and a short time after put down what was called a donkey engine. In 1809 he purchased from John and David Spencer, woolstaplers, of this town, a more extensive plot of land on which he subsequently built the Acres Mill and a dwelling house. About the year 1805 he appears to have

begun to make his own spindles and flyers, for after this date, although he obtained from Mr. Hattersley a large quantity of rollers, bolts and screws, sometimes amounting to nearly £1,000 a year in value, yet he seldom obtained from him either spindles or flyers; still he was for many years one of Mr. Hattersley's best customers. About the year 1809 he began to make the modern worsted spinning frame; for this purpose we find that on the 31st of August in that year he obtained 961lbs. of rollers, £36 0s. 9d. But, as all the best water-falls in the neighbourhood had already been taken up by the cotton mills, it was some years before the worsted spinning generally took the place of cotton at the above mill, and he was accustomed to sending his worsted spinning frames to distant places. We met with an old woolcomber a short time ago, who, more than 50 years since, obtained employment from a worsted spinner at Stockton-on-Tees, in the county of Durham, and when his master discovered that he came from Keighley, he asked him if he knew Berry Smith, when our informant replied, "I know him very well for he is a neighbour of mine," when his master said, "All my spinning frames were made by Berry Smith." In the year 1809 Mr. Smith was still engaged in repairing machinery for the cotton spinners, as on the 27th of September, 1809, he got from Mr. Hattersley 231lbs. of rollers for cotton spinning. Worsted spinning frames made at this time consisted in a great part of wood, hence the machine makers had to employ a number of joiners. We recollect seeing a number of worsted frames made by Mr. Smith with wood ends more than 50 years ago. Mr. Lund had some of these frames when he came to North Beck Mill, which they liked very well for spinning warp yarn. About the year 1810 he filled the Acres Mill with worsted spinning

machinery, and commenced spinning on commmission for the manufacturers who had no mills of their own, and both G. Hattersley and William Smith & Sons added commission spinning to machine making 40 years ago. Perhaps one reason might be that by so doing they could the more readily try experiments in their endeavours to improve the spinning machinery. It was as a commission spinner that we first knew Berry Smith, as he gave up machine making more than 50 years ago. He was a gentleman very highly respected by his workpeople and by all who had the pleasure of his acquaintance.

JOHN & SAMUEL SMITH.

Thomas Smith, the father of the two brothers John and Samuel Smith, was an overlooker at the Low Mill, and soon after Mr. Hattersley went to the North Brook Mill, Thomas Smith sent his two sons to Mr. Hattersley's works, where they each served an apprenticeship to learn the trade of roller and spindle making. Being steady and careful young men, and having husbanded their means so as to be able to go into business on their own account; in the year 1818, Mr. John Smith left the North Brook Works, and took a small workshop which stood behind a row of low cottages at the bottom of Coney Lane. These cottages were pulled down about 20 years ago, to make way for the extension of the gas works. Soon after John Smith commenced business he took his brother Samuel into partnership, and this would, doubtless, prove a mutual advantage, as John, the elder

brother, while at North Brook, had confined his attention principally to the making of rollers, whilst Samuel had acquired a more perfect knowledge of the manufacture of spindles and flyers. At this shop in Coney Lane they had neither steam nor water power, which would no doubt prove a great inconvenience, as the class of goods which they made consisted principally of spindles and rollers, requiring the almost uninterrupted use of the lathe. For turning the lathe they at first obtained the services of a half-witted fellow, called Cornelius Holmes, better known as "Old Corney;" for the same purpose they also employed a blind man called Holmes, commonly called "Blind Jim." They only stayed at this very inconvenient place for a short time, for in 1820 they removed their works to the Low Bridge Mill. This mill was occupied by the late John Ellison, senior, as a cotton mill; the machine makers' shop of John and Samuel Smith was on the basement floor, and, on these premises, they continued the business of manufacturing rollers, spindles and flyers, having the advantage of steam power for turning their lathes and other purposes. But at this place their prosperity was of short duration, for in the following year a most disastrous fire broke out in the cotton mill, and, as there was no fire engine at that time belonging to the town, and only a small engine belonging to Mr. Clayton, of Low Mill, with no ready facilities for getting it to the fire, both the cotton mill and the machine works were reduced to a complete wreck. But being young men of energy and perseverance, they at once set to work and built new premises of their own at Long Croft, situate on the north west end of the Low Bridge, where they put down a steam engine. They continued to manufacture rollers, spindles and flyers, not only for worsted spinning, but also for flax and cotton,

and carried on a prosperous trade. During the life-time of the original partners the premises were twice enlarged, by adding a block to each end of them. At the same time they continued to increase the number of their workpeople, consisting of forgemen, grinders, and turners or lathemen, besides a considerable number of apprentices. The first apprentice they employed was the late Hophni Mason, a steady, sober and industrious man, whom we had the pleasure of knowing for many years. This man, after having brought up a family, was, by habits of prudence and economy, able to lay a little by against a rainy day out of his wages, (although his wages never exceeded 22s. per week, except he might sometimes earn a trifle more by overtime) so that when he was about 60 years old, he could give up working with a realised income of nearly a pound a week. It is really painful to reflect upon the number of clever workmen in this town who have had a far better opportunity than Hophni Mason had of saving money, but who, through their love of strong drink, instead of having anything laid aside against sickness or old age, have ultimately become a burden to the ratepayers. The last of the original partners in this firm, Mr. Samuel Smith, died about the year 1850. A few weeks before his decease, his brother, the late William Smith, of Flosh House, and his nephew, Mr. Samuel Smith, were taken into the firm, and soon after the new partners entered the firm they extended their business premises to the opposite side of the street, where they built a large shed, besides foundry, fitting shops, and offices. In the year 1856 they commenced the making of engine tools, and in 1863 they began to make spinning frames, and we understand that this class of machinery has given great satisfaction to their numerous customers, both at home and abroad. From our own personal know-

ledge we have no hesitation in saying that all the members of this firm have been gentlemen of good moral character, men of integrity and uprightness, which circumstance has doubtless exerted a moral and benign influence upon the numerous workpeople in their employ. We met with two of their old workpeople one day while making enquiries respecting this firm, who had been in their service for about half a century, and we were happy to find that, although they had been at the expense of bringing up families, yet they were not under the necessity of working for their living in their declining years. The firm have always been held in high estimation by their workpeople for their uniform kindness and urbanity, as is proved by the number of their employès who have spent the whole of their working lives in the service of the firm.

TITUS LONGBOTTOM.

Mr. Titus Longbottom was the son of John Longbottom, of Steeton, who carried on the business of joiner and machinist at the above place. As evidence of his doing iron work besides that of a joiner, we find that he obtained from Richard Hattersley, in the year 1797, the following goods, viz., July 1st, 5 gross of screws; July 17th, 65 pairs of rollers; August 4th, 8 pairs of card rollers; August 23rd, 28 shafts; and on the 12th of September, 4 cranks. Mr. Longbottom, senior, had five sons, all of whom he brought up to the same business. His son Titus, the subject of this sketch, came to Keighley about the year 1807, and was engaged by Berry Smith as a joiner in the making of worsted

spinning frames. At that time these frames were made in great part of wood, and required a considerable amount of joiner's work; and although Mr. Longbottom only remained in the service of Berry Smith about two years, yet, from the respect they had for each other, a close friendship sprung up between them which remained unabated to the end of their lives, notwithstanding they were for many years rivals in trade, as, with the exception of William Carr, there was no other worsted spinning frame maker at that time in the town. Mr. Longbottom being an ingenious and enterprising young man, began business on his own account, in the year 1809, as we find that on the 5th of December in that year, he obtained from Mr. Hattersley, 36 spindles at 6d. each; and a short time after he took room and power at the North Brook Works, where he continued till 1815. He not only made spinning frames but also preparing, or drawing and roving frames, besides warping mills and reels, as, in 1812, he obtained from Mr. Hattersley, spindles and rollers for both slubbing boxes and roving frames. All the three frame makers in the town at first obtained their rollers and spindles from Mr. Hattersley; roller and spindle making was the principal business at the North Brook Works for the long period of 50 years. In the year 1815 Mr. Longbottom built his new house and machine shop in South Street; the premises, however, were destroyed by fire about 1863, and, till very recently, remained in ruins, shewing the folly of leaving business premises uninsured. At his new works in South Street, he carried on a very flourishing trade for several years, being considered one of the best machine makers in the district. He supplied worsted spinning frames to most of the leading firms in the town; Craven & Brigg, who occupied both the Walk Mill and the mill at Browend for worsted spinning from

1812, and for several years after, obtained all their worsted spinning machinery from him; also the late Mr. Sugden, who commenced worsted spinning at the Fleece Mills in 1819, obtained most of his machinery from him; and the late Mr. Lund, 50 years ago, was running several of his frames. But like many of the tradesmen in this town he suffered very heavy losses during the panic of 1826, partly from parties for whom he had given bond, and especially from tradesmen who had obtained machinery for which they could not pay. No wonder that he subsequently came to grief; and the troubles brought on by the above disastrous events, preyed deeply upon his mind, and the anxiety and mortification of seeing the savings of 20 years at once swept away, so affected his bodily health as to hasten his dissolution, for he only survived his losses about five years, and he died in 1831, in the very prime of his life.

MICHAEL MERRALL.

DURING the last decade of the 18th century, Mr. Michael Merrall served an apprenticeship with William Parker, blacksmith, of Low Street, Keighley. Shortly after his term of apprenticeship expired, he went to work for Mr. Hattersley, and, being a clever and painstaking young man, he soon made himself acquainted with the various processes as carried on at North Brook Works, which consisted principally in the manufacture of rollers, spindles, flyers and guides. About the year 1812 he commenced business on his own account, and had his machine makers' shop at the bottom of Nelson Street, at the old Club-houses. On these premises he

made spindles, rollers, flyers and guides, and was in the habit of supplying a considerable quantity of this class of goods to Berry Smith, who was, at that time, extensively engaged in making worsted spinning frames. He had at least one essay at steam boiler making. Thomas Corlass the owner of Hope Mill, was in want of a new boiler, which he employed Mr. Merrall to make; this was the first steam boiler ever made in this town, and such was its excellent quality that it supplied power to the steam engine at Hope Mill for about 60 years, and we are informed that it was only taken out about eight years ago. In the early part of this century two steam engines were in use at the Morton Banks Colliery, principally for pumping water out of the pits, one of these engines was erected above the canal, near to West Riddlesden Hall, at that time the residence of William and Thomas Leach. These engines being worked day and night seven days a week, frequently wanted repairs, and these repairs were invariably done by Mr. Merrall so long as he lived, but unfortunately he died when comparatively a young man; this melancholy event took place in the year 1819. One day being in his workshop while the engine was running, he heard the screaming noise which, as every one conversant with machinery is aware, is caused by friction from the want of grease or oil, and perceiving that this noise proceeded from the engine, he took the grease kettle in order to lubricate the joint from which the noise proceeded, when his hand was caught by the crank, and, not being able to extricate himself, he was drawn into the machinery and killed. At the time of his death he was employing about 20 workpeople with every prospect of a successful career in the future; his sad end teaching us the uncertainty of all sublunary undertakings.

THOMAS SMITH.

Mr. Thomas Smith learned his trade as a mechanic with Berry Smith, at his machine making works at the Acres Mill, and was his first indentured apprentice. After his term of apprenticeship expired Thomas Smith appears to have remained in Berry Smith's service only a few years, for, in the year 1815, he began business himself in partnership with his brother-in-law, the late William Keighley, clock maker, of the old Clubhouses, well-known as the party who collected the materials for the "History of Keighley" edited by Mr. Robert Holmes. Messrs. Smith & Keighley had their place of business in a chamber situated in Coney Lane near the site on which the old gas works were subsequently erected. This firm, not having either steam or water power had their lathes turned by hand; however, instead of beginning the machine making business at first by manufacturing rollers, spindles and flyers, they at once began to make spinning frames, drawing and slubbing boxes, and roving frames; this class of machinery at that time consisting largely of wood. About the year 1820 Mr. Keighley left the firm and engaged in the business of clock making. About the same time Mr. Smith left Coney Lane and took room and power at the Walk Mill, to which place he removed his business, and, in the year 1822, he again removed his works to a room on the basement floor of the Low Bridge Mill, which had recently been rebuilt after the fire in Mr. Ellison's cotton mill, but now changed into a worsted mill where worsted spinning was for several years carried on by Hartley Merrall, Joseph

Rhodes and Miss Butterfield, but not in partnership. In 1827 Thomas Smith removed his works to the opposite side of the road at Low Bridge, to a building afterwards occupied by Edward Chatburn as a pipe maker's shop. In this new place he was supplied with steam power from the Low Bridge Mill by a shaft carried across the road. In all the three last named places he continued to manufacture spinning frames and preparing, besides making rollers, spindles, flyers and guides. In the year 1834 he removed his business to the Acres Mill where he continued to make the same class of machinery. About the year 1840, a very destructive fire took place at the works of Messrs. Fox & Bland, who were making power looms at the Acres Mill, and, as Mr. Smith's work's adjoined those of Fox & Bland, he was also a very serious sufferer by the fire, especially in the destruction of his joiners' shop, where his benches, tools and models were mostly destroyed. As the insurance of business premises was but seldom resorted to, a destructive fire generally proved ruinous, but, although he was without doubt greatly injured in his trade finances, yet he bravely struggled on to the end of his life, which took place in the year 1850, when the business was carried on for about three years by his two sons, Charles and Allan Smith. Although Mr. Smith was a steady and industrious tradesman he did not succeed in amassing wealth like a few other machine makers in the town; still he did good service in his day by circulating a considerable amount of money in wages. When this firm gave up business, if not possessed of wealth, they did so with an unblemished character, which, in our humble opinion, is better far than great riches.

POWER LOOMS.

About the middle of the 17th century a person residing at Dantzig, in Poland, is said to have invented a power loom which would work night and day, and weave four or five webs at a time. In the year 1678 a Frenchman, of the name of Gonnes, constructed a power loom which in a many particulars resembled the modern loom. About the year 1760 an Englishman named Vanconson, brought out a power loom which was tried at Manchester, by a Mr. Gartside, but it did not succeed. To the Rev. Edward Cartwright, a clergyman of the Church of England, must be conceded the distinguished merit of originating the present power loom. We subjoin his own account of the discovery. "Happening to be at Matlock in the summer of 1784, I fell in company with some gentlemen of Manchester when the conversation turned on Arkright's spinning machine. One of the company observed that as soon as Arkright's patent expired so many mills would be erected, and so much cotton spun that hands could never be found to weave it. To this observation I replied, 'That Arkright must then set his wits to work to invent a weaving mill.' This brought on a conversation on the subject, in which the Manchester gentlemen unanimously agreed that the thing was impracticable, and in defence of their opinion they adduced arguments which I certainly was incompetent to answer or even comprehend, being totally ignorant of the subject, having never at that time seen a person weave. I controverted, however, the impracticability of the thing by remarking that there had lately been exhibited in London an automaton figure which played at chess.

'Now you will not assert, gentlemen,' said I, 'that it is more difficult to construct a machine that shall weave, than one which shall make all the variety of moves which are required in that complicated game.' Some little time afterwards a particular circumstance recalled this conversation to my mind; it struck me that, as in plain weaving, according to the conception I then had of the business, there could only be three movements which were to follow each other in succession, and there would be little difficulty in producing and repeating them. Full of these ideas I immediately employed a carpenter and smith to carry them into effect. As soon as the machine was finished I got a weaver to put in a warp, which was of such materials as sail cloth is usually made, and to my great delight a piece of cloth (such as it was) was the produce. As I had never before turned my thoughts to anything mechanical, either in theory or practice, nor had I ever seen a loom work, or knew anything of its construction, you may readily suppose that my first loom was a most rude piece of machinery. The warp was placed perpendicularly, the reed fell with the weights, (of at least $\frac{1}{2}$cwt.) and the springs which threw the shuttle were strong enough to have thrown a congreve rocket. In short, it required the strength of two powerful men to work the machine at a slow rate, and only for a short time. Conceiving in my simplicity that I had accomplished all that was required, I then secured what I thought a most valuable property by a patent dated 4th day of April, 1785. This being done I then condescended to see how other people wove, and you may guess my astonishment when I compared their easy modes of operation with mine. Availing myself, however, of what I then saw, I made a loom in its general principles nearly as they are now made; but it was not till the year 1787 that I completed

my invention, when I took out my last weaving patent, August 1st of that year." Several improvements were made in Cartwright's loom by two brothers of the name of Grimshaw, at Manchester, who obtained a license from the inventor to work his looms. Two gentlemen in Scotland also made several improvements in the power loom; a Mr. Miller, of Dunbartonshire, substituted for the spring in throwing the shuttle, the direct action of the motive power, the principle on which all power looms have since been made; but this improvement has been carried further in England by Mr. Horrox, of Stockport, who dispensed with springs altogether in the construction of his loom; and improvements in power looms have been discovered and brought into play almost every year up to the present time. Power looms were not introduced into Keighley till about the year 1834, when William Lund and Butterfield Brothers obtained their first power looms from Mr. Shaw of Halifax. Power looms had been used in Lancashire nearly 20 years earlier for weaving cotton goods; but great was the prejudice of the hand loom weavers in that county to their introduction; ignorantly supposing that they would be deprived of employment, their hatred became so strong and their passions so excited that acts of incipient rebellion broke out in the year 1826, when vast crowds of these misguided people commenced a crusade against this very useful machine. In the course of a few weeks several thousand power looms were broken to pieces by the infuriated mob. In several places where the rioters assembled for their work of destruction, the military were called out to aid the mill owners in the protection of their property, and in consequence of the rioters not dispersing when the riot act was read, numbers of them lost their lives. We recollect about that time a considerable number of these

rioters from Lancashire came to the Low Mill, at Addingham, where power looms were in use for weaving cotton pieces. The occupiers of the mill hearing of their approach, took the precaution to have a number of soldiers placed inside the mill ready armed, before the arrival of the rioters, by which means the machinery was saved from destruction. We have heard tell of a bravado leaving his home in Keighley early on the morning when the riotors were making their way towards Addingham, with the ostensible purpose of making fearful havock on the Addingham power looms, but when this party got near the mill he espied the red coats, and began to beat a retreat, but he had not got many yards away when he received several small shots from one of the military, which penetrated his posteriors, which made him return home a wiser if not a better man. In quelling these riots the soldiers did not always use small shot as at Addingham, but balls or leaden bullets, for numbers of the riotors who received gun-shot wounds, although not killed outright, were rendered cripples for life. We recollect meeting, about a year after the riots, with a party near New Church, in Rosendale, who was shot in one of these power loom riots, the ball going right through his body and through his right arm, and although able to do a little work when we saw him, still he was in very indifferent health, and we heard of his death about two years after. Conversing with him one day we said, "George (for that was his name) how did you feel the moment you were shot, what were your sensations?" he replied, "It only felt like the prick of a pin; I did not know that I was shot till looking down I saw blood in my shoes, when I fell sick and became unconsious for the next 24 hours." We do not recollect that there was any serious opposition on the part of the workpeople in this immediate

neighbourhood to the introduction of machine power, either in spinning or weaving, yet, strange to say, some of the stuff merchants in Bradford market were dead set against buying pieces woven by power looms. Power looms were first made in Keighley in the year 1835. Mr. George Hattersley supplied a number of power looms to Mr. Hargreaves, of Shipley, on the 16th of October. In the above year Messrs. Fox & Bland began to make this class of machines and about the same time; but, as their books are lost or mislaid, we cannot be certain which firm were the first to begin making power looms.

FOX & BLAND.

Messrs. Charles Fox & George Bland commenced the manufacture of power looms about the year 1835. Their first place of business was in the low room of what was then called Williamson's Mill, or Beck's Mill, near the Damside. At this small place for two or three years they did a considerable amount of business; their machinery gave very great satisfaction to their customers, and in consequence of the rapid extension of their orders, they were under the necessity of obtaining larger premises. About the year 1838 they removed their works to a building of two storeys, behind the Acres Mill, and at this new place they erected a foundry, having previously obtained their castings from other founders in the town. At these new premises they carried on a considerable business for several years, supplying power looms to most of the leading manufacturers in the Bradford trade. In the year 1844, when the firm had been at the

but about seven years after the old business was given up, and henceforth the works have been entirely occupied in the manufacture of power looms, and machinery connected with weaving. In the development of the various improvements in the power loom, they were greatly assisted by their foreman, the late Mr. John H. Wilkinson, who was with the firm for the long period of 35 years. The designing and arrangements were done and carried out mostly by him and the present senior member of the firm. Amongst the various improvements which they have brought out in the construction of their looms during the last few years we may notice the following:—

1.—The Revolving Box Loom for weaving with six, seven and up to 12 shuttles in one loom.

2.— The six shuttle Revolving Skip Box Loom which skip to any shuttle, and will weave any tartan check of six colours; also rising and falling shuttle boxes which will do the same as the Revolving Shuttle Box, but is a superior appliance for weaving certain classes of goods.

3.—The two and six shuttle Pick and Pick Loom for weaving odd seven picks of various colours.

4.—The Lasting and Verge de Renie Loom for weaving strong cloth for ladies' boot tops.

5.—The Heald Machine or Dobby, said to be the best in the trade for weaving a great variety of small figured cloths, and capable of running at a great speed, having run 300 picks per minute at the Paris Exhibition of 1878. 40 or 50 years ago these Dobby machines were made of wood, in the form of a small drum, with certain wooden pegs stuck into the barrel of the drum, which pegs or elevations raised certain of the healds, and thus made the figure. We recollect that about half a century ago the parties who made or

adjusted these wooden dobbies in order to change the figure, were called mounters.

6.—The Cloth Loom, plain pick and pick &c., for plain and fancy coating both for ladies and gentlemen; these looms are constructed for weaving both plain and figured cloths.

7.—The Brussels Carpet Loom; we have seen one of these which cost the firm in its construction upwards of £1,000. One of the principals of the firm has two rooms in his residence in Skipton Road, covered with this splendid carpet woven in the above loom.

8.—The Scotch Carpet Loom. We recollect the firm employing a designer for several years in improving these carpet looms.

9.—The Patent Warp Dressing Machine to brush by power. The firm sent six power looms to the Paris Exhibition in 1878, for which they obtained the Gold Medal Prize. The principal of the firm took us to look at those six looms a few days before they left the works, and we confess that we are at a loss to find words to describe the excellence of their construction, and the exquisite beauty of the finish and getting up. We have great pleasure in quoting a few passages from a special correspondent at the Paris Exhibition. He says, "Amongst the numerous exhibits of looms in the British Section of the Paris Exhibition, those of Messrs. George Hattersley & Sons, of Bradford and Keighley, are conspicuous for their many improvements and practical adaptation to the extended requirements of power loom weaving. The growing desire on the part of manufacturers being to bring the loom to the highest possible state of development, both as a mechanical contrivance, capable of turning out plenty of good work, and as a means of obtain-

ing results in fancy weaving, hitherto almost solely confined to hand looms, it follows that the capacity of the loom to meet these requirements should be the primary aim of machine makers in order to keep pace with the times. The ever increasing demand for new cloths, coupled with a rate of progression in technical education and the mechanical industries yet unparalled in the world's history, makes it incumbent upon the loom maker to take care that his machinery shall be able to fulfil the highest requirements of modern science. Judged upon their simple merits of how much? in what manner? and of what kind? are their productions, it is clear that the looms enumerated below are worthy of study by all people interested in the important question of future supremacy in the manufacture of woven fabrics." The special correspondent then goes on to describe the construction and capabilities of each loom with such minuteness of details, and at such length that our very limited space precludes our giving it entire. We may, however, notice the leading features of each loom.—"No. 1 Loom.—This is a Rising Box Loom with a two holed box at each end, and 84 inches in reed space, it is of strong construction, intended for heavy worsted coating and backing cloth. No. 2 Loom.—This loom has a Circular Skip Box of six shuttles at one end. It is intended to weave tartans or complicated checks. No. 3 Loom.—This is an ordinary circular box loom intended to weave checks up to six colours. No. 4 Loom.—This loom is intended for weaving French merinos; the gearing is so constructed as to secure a tolerable lofty twill, and the loom is every way adapted for weaving those beautiful cloths. No. 5 Loom.—This is a fancy cotton shirting loom with four shuttle boxes at each end, on the rising box and skipping principle. No. 6 Loom.—This is a loose reed loom of 36in.

reed space; it can be run on plain work as high as 400 picks per minute, and is neatly constructed with a view both to strength and lightness."

The Keighley works of this firm are situated at North Brook, where the Hattersleys have been engaged in machine making for the long period of about 80 years. The firm employ at the Keighley works between 300 and 400 workpeople, and they have also over 100 employed at their machine works at Birklands, Bradford, and we understand that during the stagnation of trade, which has now continued for several years, they have never run their works short time. We believe the members of the firm are held in great estimation by their numerous employès, not only for their great abilities as tradesmen, but also for their uniform kindness and consideration.

JOHN MIDGLEY.

Mr. John Midgley is one of the oldest machine makers in the neighbourhood; he served an apprenticeship with the late Titus Longbottom, and was in his service as early as 1815. About the year 1823 he went to the Grove Mill, where he was employed as mechanic for Messrs. Robert & John Clough, having remained in their service for nine years; and in 1832 he removed to Wood Mill; his father-in-law, the late Thomas Waterhouse, having commenced spinning worsted yarn at the above mill, Mr. Midgley was engaged as mechanic and general manager. In the year 1835 Mr. Waterhouse removed to the Wire Mill, where Mr.

Midgley continued to be employed by his father-in-law as mechanic and manager of the spinning department. In 1837 Mr. Waterhouse took room and power at the West Greengate Mill, to which place he removed his spinning machinery; while Mr. Midgley continued at the Wire Mill, where he commenced business on his own account, being principally engaged in the manufacture of power looms. We recollect seeing some of his looms soon after he commenced business, they were a very strong and substantial machine, very well adapted for weaving 6qr. merinos. About 30 years since Mr. Midgley went to reside at Newsholme, occupying the Higher Mill where he has been engaged for many years in the manufacture of cotton band. About 20 years ago the mill became his own by purchase; also a small farm with house and farm buildings, which he bought from their late owner, F. Greenwood, Esq., of Norton Conyers near Ripon.

ABEL HEY, PRINTER AND STATIONER, 12, HIGH STREET, KEIGHLEY.

West Riddleston Hall 214
Mohair 5-4.
Halifax 16