

The Voice of Industry

ANCIENT TRADES

Pewterers. The pewter-making trade was flourishing in Wigan in the 15th century, those engaged in the craft being organized in the Company of Pewterers. It is thus one of the oldest specific Wigan industries. They were the chief providers of domestic ware for the people and for inns, since the state of the roads did not permit of the carriage of earthenware pottery over long distances, and only a small quantity of such ware, mostly rather rough, being made in the locality. The Wigan pewter products were supplied to the chapman, who hawked them round the countryside.

Wigan pewter ware gained considerable repute so that the trade prospered and by the 17th century was the most important industry in the borough. A pewterer who died in 1626 possessed brass moulds "belonging to the deceased's trade" to the value of £48 7s. 6d. and "Ould pewter" to the value of £107 7s. 6d. In the middle of the 17th century there were nearly 100 master pewterers at work in the borough. The products were widely sold over the North of England and exported to America via the port of Liverpool.

In 1683 the Wigan Company of Pewterers presumed itself sufficiently important to contemplate petitioning the Crown for a Royal Charter authorising it "to search and try mettle, and punish abuses therein, on the north side of the Trent, as the London Pewterers have all over England." It was complained that workmen were now so numerous in Wigan that many of the baser sort, refusing to submit to any control as to standard, "run out to other towns," where they produce pewter "which is too much alloyed, ill tempered, or not truly wrought" to the damage of the Wigan makers. The London Company had the power by its charter to check these abuses, but were unable to do so since the area was too remote from its control. The petition, which is preserved, is lengthy and details the local consumption of tin and other matters, and is signed by 79 master pewterers.

In 1695 an Act of Parliament was passed to secure an improvement in the coinage, and pursuant thereto a proclamation was issued requiring any persons who possessed a mill or press suitable for striking coins to surrender it to the Royal Mint. The only presses received under this proclamation were two from Wigan

which Gerald Banks, father and son, "had for many years in their possession for the stamping of pewter." They were paid £100 for them.

Braziers. The brass trade presumably antedates the pewter industry since the braziers made the moulds used by the pewterers. The Braziers Company is certainly met with as early as the Pewterers, and the Master and Wardens of the Company were defendants in an action in the Palatine Court in 1573. The chief product was the making of brass pans, hence the Company is often called the Panmakers or Panners Company, and in the 17th century is nearly always referred to as the "Company of Braziers or Panners." The Braziers also made apothecaries' mortars, pewterers' moulds, bells, guns, all objects of gun or bell metal, and when occasion arose, even cast cannon.

Disputes as to the relative province of the pewterers and braziers were not infrequent. For instance, in 1650 the Master and Wardens of the Braziers Company complained that John Platt and six others, mostly pewterers, were exercising the trade of braziers by casting pewterers' moulds, and making mortars and mill steps. In 1658 it was agreed that the record and rules of the Pewterers and Braziers be read in open Court Leet annually to show "the distinction between the different sorts of workers of pewter and brass."

Brass foundries were established in the 18th century, and several of these still survive. The oldest is the Pepper Mill, originally a corn mill which became a brass foundry in the middle of the 18th century. It has passed through many ownerships, but continues to function as the Pepper Mill Brass Foundry. One supposes, too, that the present Roger Bolton & Son brass foundry is the lineal descendant of the foundry begun by another Bolton in the 18th century. In the 19th century other brass foundries were started and continue to flourish.

Bell-founding. This unusual industry naturally develops out of the brass trade. Bell-founding began in Wigan in the 16th century. Robert Orrell, a brazier, is first noticed as a bell-founder in 1587. He recast the great bell of Bodfari Church, Flint, in 1592, and in 1600 he cast a bell

for Holy Trinity, Chester. He was still at work in 1614. About this time another brazier, one John Scott, commenced a bell-founding business. His successor made cannons for the defence of the town in the Civil War, and for one, styled a "brake-gun," he was paid £10. The business continued for several generations, till the death of Alderman William Scott in 1713. A few years earlier Ralph Ashton set up as a bell-founder and was succeeded by his son and grandson in the same business until 1767, when bell-founding in Wigan ceased. Many bells large and small by these makers are still to be found in churches all over Lancashire, Cheshire, and North Wales. In addition, many large mortars and similar vessels are known to survive. For a short period in the middle of the 17th century the bell-founders and brass-founders formed themselves into a separate Company of Founders, but their numbers were insufficient and the Company re-merged with the Braziers.

Pottery. The making of pottery was long a minor industry of Wigan. Though potters are mentioned in local deeds as far back as 1310 when "Adam the potter of Wygan" possessed half-an-acre of land and a house near the Market Place, the first substantial information about them occurs in Bishop Bridgeman's "Wigan Ledger." There are several references to them in the 1620's when they were given permission to dig clay in Scholes and other places. In 1664 the Bishop-rector recorded, "I further award that the Potters of Wigan for the tyme being may dig clay in the waste of the said manor as heretofore potters of Wigan have used to do."

It was soon after this that Wigan had the distinction of initiating the English porcelain industry. It was commenced by John Dwight, who founded the Fulham Pottery and became famous as the patentee (in 1671 and 1684) of a "transparent porcellane and opacous redd and darke-coloured porcellane" and for his porcelain statuettes. Dwight was secretary to successive bishops of Chester who were also rectors of Wigan. He lived in Millgate, Wigan, from 1663-1687 and conducted his experiments with the local clays. Dr. Charles Leigh, in his *Natural History of Lancashire, etc.*, published in 1700, records: "The most noted clays in these parts are potters-clays, tobacco-pipe-clay, and sope stone, as the miners call it. The pottery-clay is usually blue or yellowish, or a dove or couchant-

colour, as the workmen term it; after it is moulded into pots, it is burned in a circular oven, and it is glazed with a slurry. . . . I was informed by Sir Roger Bradshaigh of Haigh that it was upon a whitish yellow earth, in a field near the cannell-pits at Haigh, that Mr. Dwight made his first discovery of his most incomparable metal."

The pottery trade continued throughout the 18th century, and some minor specimens of rather crude ware survive, also several late examples (about 1800) of fine commemorative chinaware which were apparently finished and printed in Liverpool. The last site of the industry in Wigan was near the canal basin in Wallgate (perpetuated by Pottery Road), where were made the old jugs and mugs rudely ornamented and inscribed, which were popular at the beginning of the 19th century. But the local industry could not stand up against the competition of the Staffordshire products which the canals and later the railways brought to the shops in quantity.

Iron Works. In the 1675 edition of John Ogilby's *Britannia* it is stated, among other things, that Wigan is "noted for its coalmines and iron-works," but there were no big foundries or "forges" in Wigan till late in the 18th century. Nevertheless we learn from a book by Adam Walker, the inventor, published in London in 1792, that "Wigan has produced many excellent self-taught mechanics—Dick Melling simplified the steam engine, gave a windmill an equable motion and the means of turning itself to the wind, his bucket engine drained a valuable cannell mine for many years, at a small expense, and many other contrivances of his challenge equal merit in simplicity and effect."

One of the most famous works was the Haigh Foundry (established 1787), where in 1812, under the management of the noted civil engineer, Robert Daglish the elder, the first locomotives used in Lancashire were built for the Orrell Colliery. They were Blenkinsop engines. Robert Daglish went specially to Leeds to study them, and obtained a licence from John Blenkinsop to build them. The locomotive was known locally as "Daglish's Walking Horse." The Haigh Foundry had a number of other notable achievements to its credit, and made many locomotives between 1830 and 1850.

Early in the 19th century several great iron-works, forges, and rolling mills were started, and mostly continue to this day. Walker's Pagefield

Ironworks (1865) specialized in mine ventilating fans, and in 1886 installed the ventilating equipment in the Severn Tunnel, which remained the largest ventilating fan in the world till 1925, when a still larger apparatus was made for the Springs Mine, South Africa, the deepest gold mine in the world. In 1931, against world competition, this firm secured the contract for the ventilating equipment for the Mersey Tunnel, and in 1949 an even larger fan was sent to Valparaiso, Chile, for the Schwager coal mine, which extends seven miles under the sea.

It was at William Wilkinson's Holme House Foundry in Wigan that the first steam tramway locomotives were designed and built. The Lancashire Steel Corporation was formed to take over and amalgamate the iron and steel interests of the Wigan Coal & Iron Company and the Pearson & Knowles Coal & Iron Co., though the original steel works in Wigan were dismantled in the 1930's. The iron and steel trade in Wigan suffered a great setback between the wars, four ancient and extensive mills closing down, but the several concerns which survived this crisis are now very much alive.

Clockmaking. Clockmaking began in Wigan at the Restoration. The first watchmaker was one Roger Derbyshire, who was admitted a freeman to follow his trade in the borough in 1662. He was followed in 1663 by Peter Aspinall, who described himself as a spurrier, who also makes "gunnetworks, stone-bows (a steel cross-bow for shooting stones), clockpartes," etc. He did a great deal of work on the Parish Church clock in the 1660's. There were half-a-dozen others before the end of the century, including Thomas Martine, who was mayor in 1706 and died in 1716. As far as is known only one specimen of the work of these early craftsmen survives—a remarkable one-finger watch of about 1680, made by Thomas Martine. From 1710, however, clockmaking became an important industry, and of those who established themselves in the trade between 1710 and 1720, John Burges, Thomas Bridge, and Henry Hindley have left many long-case clocks which delight collectors today. A notable maker from 1745 to 1786 was William Barker, whose clocks are frequently found in the auction room. One very remarkable long-case clock by Barker was described in the *Connoisseur* for July, 1911. Between 1650 and 1850 nearly 100 watch and clockmakers pursued their craft

in Wigan and specimens of the work of most of them are to be found in the possession of collectors in England and America, and many are highly esteemed both for their clockwork and cabinet work. From the days of Peter Aspinall, already mentioned, most of the clockmakers were also gunsmiths, and in 1792 it was stated that "William Barker was for many years the only maker of steel cross-bows, also of the best fowling pieces in the country."

Cabinet Making. The clockmaking industry gave an incentive to cabinet making in the 18th century. Many long-case clocks made in Wigan were also cased in Wigan, and some fine specimens in the Chippendale and Sheraton styles survive, as well as examples in the plainer but distinctive and pleasing Lancashire fashion. Cabinet-making still flourishes in the town.

Weaving and Textiles. Weaving is a very ancient industry of Wigan, and the Wigan Company of Weavers or Websters is among the earliest. Weaving, of course, was a domestic industry, though not infrequently a group of workers would be under the control of an agent, until the industrial revolution which led to the installation of power looms and the mill. There are still many houses surviving in Wigan where the weaving was carried on in a semi-basement, and a short flight of six or eight stone stairs led up to the front door and the living apartments. These houses are now rapidly disappearing.

In the 14th and 15th centuries weavers are frequently met with in deeds and other documents. The weaving then was of wool cloth and linen, but cotton weaving is found here in the 17th century, the cotton being mostly imported from the Levant. The material made from this cotton was described as fustian, and fustian manufacture was a noteworthy industry in Wigan throughout the 18th century. The importance of the industry in the 17th and 18th centuries is revealed by the frequency the trade designation "weaver" appears in the parish registers. "Great heaps of cloth" is listed as part of the loot the Parliamentary army carried away when they seized the town in 1643. An anonymous book, *England Described*, published in 1788, says that formerly "Wigan was famous for the manufacture of coverlets, rugs, blankets and bed-ticks," and that "very considerable quantities of linen checks, calicoes, fustians, etc." were then being

made in Wigan. "Wigan" gave its name to a stiff open canvas-like fabric used for stiffening, etc., and "Wigan" is also the designation of a kind of twill sheeting. The Cloth Hall, opened in 1784, functioned for a century till it was replaced by the Commercial Hall, which in its turn has been relegated to less exalted uses. The first cotton carding machine was brought to Wigan about 1800 by a Mr. Morris, a resident of the Brock Mill district. The first mill was in Princess Street, and by 1818 there were eight mills, all in the neighbourhood of Wallgate, the area in which are now to be found several of the largest cotton mills in Lancashire.

The present ready-made clothes manufacturing industry in Wigan dates back to the middle of the last century. During the cotton famine of 1861-63 there was much distress in Wigan, as in other Lancashire towns. Owing to the dependence of the Wigan collieries on the cotton mills, the slump in the cotton industry had wide-spread repercussions, and large numbers of colliers and other workers were thrown out of employment. The late Mr. Timothy Coop, who had been manager, and by then was a partner in a clothing business in the Market Place, became an active member of the relief committee. He was greatly concerned for the many girls roaming the streets deprived of their living, and purchasing a number of sewing machines, set them to work making men's clothes. Out of this altruistic activity grew the present firm of Coop & Co., employing more than 2,000 operatives. Several other large firms have long been successfully operating in the same field.

Coal-mining. In the minds of the people outside Lancashire Wigan is pre-eminently associated with coal; this is natural enough, yet though the industry is very ancient it was not till the 19th century that it became the predominant industrial interest of Wigan itself. Wigan is the centre of the great South Lancashire coalfield, and in the outskirts of Wigan coal has been systematically worked from the 13th century, rivalling the North-East region.

The earliest local deed in which coal-mining rights are reserved is dated 1350. On the Haigh estate the Bradshaighs mined coal on an extensive scale from the 14th century. Visiting Wigan in 1538, the antiquary John Leland records that "Mr. Bradshaw hath a place called Hawe (Haigh), a myle from Wigan, he hath found much canel like sea-coole in his ground, very profitable to

him." Later in the same century (1556), there are records in the manor court leet which show that the tenants were allowed a certain amount of coal from the lord's pits, as a "boon" or gift. For instance, "All the said tenants and every of them shall get their cannel or fuel in the said Town Pit of Haghe." The coal obtained from the Haigh pits was the famous cannel coal, a hard lustrous mineral rich in gas and burning readily. On the other hand, it was capable of being fashioned into medallions, bowls, trinkets, and even portrait busts. Cannel squares were used as floor tiles, in conjunction with similar squares of alabaster, in the chancel of Lichfield Cathedral in the 16th century (several are still preserved there); and there was a summer-house built of cannel at Haigh Hall when Sir Walter Scott visited the mansion in the early years of the 19th century. The Haigh collieries eventually developed into the Wigan Coal & Iron Co.

Coal-mining was also extensively developed on the Winstanley estate to the west of Wigan in the 17th and 18th centuries. In Wigan itself in the 17th and 18th centuries coal-mining was a backyard industry. Coal seams cropped out on or near the surface all over the town, and many residents had pits in their gardens. The first record of such a pit is Bishop Bridgeman's "Wigan Ledger": in November, 1619, the Bishop (who was also Rector of Wigan and lord of the manor) gave permission to Peter Platt, a chandler in Millgate, to drain the water from his coal-pit into the street for a short time, and a few months later his widow Ann Platt agreed to pay the rector a royalty of 52/- a year for the 50 loads of coal derived from working the pit. The Wigan Mining and Technical College is built over the site of this first Wigan pit.

In the Wigan Court Leet records there are many references to these domestic coal supplies, and residents were frequently "presented" before the Court for blocking up public passages and roadways with the coal they so freely dug. One in Standishgate, mentioned quite early, was several times before the Court. A typical reference is dated Easter, 1700: "Complaint of Christopher Baldwin, pewterer, that Richard Naylor, malster, had sunk a coalpit within five yards of his back door in Standishgate and was imposing on his neighbours and encroaching on the highway in getting quantities of coal." This small pit had to be opened recently because of a persistent tendency to overflow in wet weather.

In 1706 Richard Hulme was fined £50 "for undermining Standishgate while digging for coal."

With the coming of canal transport, and later the railway, the deeper seams under Wigan were fully exploited from early in the 19th century, in the middle of the century there being no less than eight shafts near the centre of the town. The town's absorption in this great industry (and its relative iron and steel) caused the abandonment of many of the lighter industries, though cotton manufactures continued to prosper. It is

said that improperly working coal underneath the parish church was the main cause of its being found unsafe about 1840.

It has been claimed that more real wealth has been extracted from beneath the town of Wigan than from any similar area in the world. All these seams, however, are now exhausted, and the only coal-pits actually worked in the borough are in the Pemberton area. But Wigan still remains the centre and hub of the South Lancashire coalfield.

COAL MINING

Wigan and coal mining have been associated so long that the two are almost synonymous terms.

At the commencement of the 17th century Englishmen had already begun to count coal a national asset, and it exerted an extensive influence on the industrial, commercial and social development of the country, even before the days of the Industrial Revolution. In this development and in the establishment of Britain's economic supremacy later, the Wigan coalfield played no small part.

The cannel coal of Wigan is said to have been discovered in the 14th century, but it was first seriously worked by Roger Bradshaigh 200 years later, in Haigh Manor. By 1600 the Bradshaighs already had competition from a mine at Aspull, owned by the Gerrards, and cannel was burned by "diverse tradesmen and other handycraft men" in Wigan. It is probable also that coal mines were worked around Winstanley from 1507 onwards. The fame of its cannel coal, at that time described as the choicest coal in England, made Wigan the leading mining district of Lancashire in the 17th century.

Cannel coal was put to other uses besides burning, and served as material for making buttons, spoons, plates and dishes, snuff-boxes, ink-wells, candlesticks and various ornaments, for carving statues and for paving church floors. It served for roof and walls of a summer-house built at Haigh in the 17th century by the lord of the manor.

In 1597 coal was described as the "one principal commodity of this Realm," and coal prospecting and mining were among the chief fields for investment of capital towards the end of the 16th and during the whole of the 17th centuries, and pros-

pectors found in the Wigan coalfield many easily reached outcrops.

Before the middle of the 17th century there were at least a dozen collieries within a five-mile radius of the town of Wigan, all producing ordinary bituminous coal. At this period, the method of working was the pit and adit system. Soughs driven to drain away the subterranean waters and to provide ventilation were often communal undertakings. The Haigh sough, a considerable feat of engineering in its day, still drains mines under Haigh and Aspull Moor, and the water eventually finds its way into the river Douglas. The drainage system for the pits was conducted on communal lines for over 200 years (1573-1792). This co-partnership enabled the cost of construction and maintenance to be shared, but was often a source of disputes.

Competition was keen in those early days and antagonism between rival coal owners was by no means absent. There was trouble when Katherine Sherington of Winstanley began in 1598 to "digg for coals" in Orrell and to undersell William Orrell in the local market.

The fuel was dug by colliers who bore the same names as the men who get coal in the Wigan area today, for, as the late Lord Crawford said, "is it not axiomatic among discerning judges that Haigh, Standish and Aspull Moor still breed the finest hewers in the County Palatine."

At this time, the coal getters received 3d. or 3½d. for every 12 baskets of coal and were expected to send up 30 baskets a day in addition to the baskets due to the workmen as part pay. The daily wage of the winders and similar workmen was sevenpence per day. Ale and tobacco were dispensed

to workmen, especially at Christmas and at the yearly engagement of workers. In times of sickness and misfortune money was also allowed. The yearly bond system was finally abolished in 1872.

Towards the end of the 17th century mining difficulties increased. Water and choke damp added to the peril and expense of the ever-deepening pits and engineers began to turn their attention to these problems. The Wigan coalfield was again to the fore in these enterprises. Edward Holme, of Upholland, whose family worked the Orrell coal, had an engine at work in his pits as early as 1710.

A common device for pumping water from the mines was a water-wheel. The windlass, the cog and rung-gin and the "whim-gin" were successively used for winding purposes.

In 1812, Mr. Robert Dalglish made his Walking Horse, an engine which conveyed coal at Orrell Pit, Wigan, and was able to drag 20 wagons, each containing upwards of a ton.

From 2,000 to 5,000 tons per annum was the output of the collieries in the area in the 17th century, and the average yearly output of one 17th-century hewer was 200 tons.

Wigan men took their share in promoting the cutting of canals and the collieries benefited from the increased trade that resulted. At the Taylor Pit, in the Standish coalfield, the canal barges penetrated far into the hillside for a distance of three to four hundred yards, where the wharf adjoined a low level pit brow.

During this period of canal and railway development, the fortunes of the coal-mining industry in Wigan became linked with iron.

Miners from the Wigan coalfield have played an important part in guiding the destinies of their trades union organisation, from the earliest days of workmen's associations to the present. The Wigan Miners' Association and the Standish District Miners' Association were both formed in 1862 and these two local unions were the first to be formed in the Lancashire coalfield.

The steam age made possible a further forward step in coal mining. The application of steam to the winding engine and to drive the ventilation fan meant that coal could be wound from greater depths, and ventilation ensured at greater depths and longer distances from the shaft. Compressed air was used to sink shafts and to drive tunnels, and was applied to coal face machinery, i.e., coal cutters and conveyors. A further stage was the introduction of electricity, which provided motive

power for winding engines and underground haulage engines, and also an alternative source of power for coal drilling, cutting and conveying machinery.

The development of the coal cutter commenced in 1853, in which year William Peace, of Haigh, acquired patent rights for a chain machine. The first really practical disc coal cutter was introduced by J. S. Walker of Wigan, in 1868. This machine was put to work at Ladies Lane Colliery, Wigan.

The organisation of the industry has passed through certain well-marked phases. The day of the small coal owner, the yeoman who dug his own coal and the prospector who rented land in order to work the minerals, gave way to the larger undertaking.

Amalgamation and rationalisation were successive stages in the life of the Wigan coalfield. The Wigan Coal & Iron Co. Ltd. was formed in 1865 and the Wigan Coal Corporation in 1930.

Another era commenced in the industry when on January 1st, 1947, the coal mines in the Wigan coalfield, along with all others in the country, became vested in the nation.

Since then, reorganisation and development in the Wigan area has taken place, in a greater or lesser degree, at all collieries except two, which had short finite lives. Three new units have been brought into production after proving by bore-holes, and an extensive boring programme has proved additional reserves for some working collieries and has also shown reserves to exist outside the present field of operation.

Sixty-six holes have been completed, five are in progress and others projected. The total footage completed at the end of January, 1955, was 42,477 ft. or just over eight miles.

On the surface some large scale reorganisation and many minor ones have taken place.

Skip winding has been extended, new coal preparation plants have been built, and improvements made to existing plants.

Electricity has replaced steam drives on some winders and ventilating fans, and improvements to boiler plants have been made. New pithead baths have been built and extensions made to existing baths.

Underground, power loading has been developed and new types of roof supports introduced.

There has been an extension of trunk conveying, and steel plate conveyors have also been introduced. Power stowing is being extended. Additional manriding facilities have been provided.

Here are brief descriptions of the new collieries.

STANDISH HALL

First projected in 1947, and was brought into production 1950. This surface drift mine is working an area of Ince mines over the workings in the Pemberton mines at John Pit.

In 1954 John Pit workings were connected by a tunnel to the Standish Hall Drift workings and all coal from both units is now conveyed from the faces via the drift direct into wagons, for treatment at Gidlow central plant.

To cater for the additional men, the existing pithead baths at John Pit have been enlarged and a new sewage system provided.

Mechanised room and pillar work using short-wall cutters with handloading on to conveyors is in use.

ROBIN HILL

Designed to win an area of Pemberton mines north of John Pit and came into production in 1953. This area had been partly worked nearly a hundred years ago and these workings were waterlogged to the surface.

Dewatering in advance of the drift was necessary and was successfully accomplished by means of a submersible pump sunk in a borehole, some 70 million gallons being pumped to reduce the water level below the working horizon.

Coal is conveyed up the drift to a bunker for loading into wagons which are taken to Gidlow

coal preparation plant for treatment. The first application in the area of a steel plate conveyor was made in this drift and has proved highly successful. New pithead baths have been erected. Manriding is being provided in the return drift.

DAIRY

This unit, on which work was begun in 1954, is to work an area of the King Seam in Haigh and the Plodder Seam in the Aspull area. This area was abandoned about 25 years ago and is heavily watered. The existing Dairy shaft has been equipped with submersible pumps and the water level is being lowered.

The shaft has been equipped with one skip for coal winding and a cage for men and supplies. Access has been made in the Plodder Seam and underground development is taking place.

The coal is being transported by road to Alexandra colliery where facilities have been provided to transfer the coal from the lorries to the screens.

Another old shaft—Bridge Pit—is being emptied to be used as an upcast and second exit.

Wigan, as a coal-producing region, has for long held an important place in the economic life of the country and of the nation, and though the Wigan coalfield has been extensively worked, it is still making and will continue to make a valuable contribution to the total industrial effort of Lancashire and Great Britain.

TEXTILES

Cotton

The story of ECKERSLEYS LTD. began in 1814 when James Eckersley made his young brother William a partner in the cotton manufacturing business at Millgate, Wigan. Nine years later the brothers opened a spinning mill in the Wallgate and in due course James's son, Nathaniel, joined his father and uncle. By 1856 Nathaniel was sole proprietor of a flourishing little firm. Two spinning mills and a weaving shed had been added to the mill he inherited in Swan Meadow before he died in 1892.

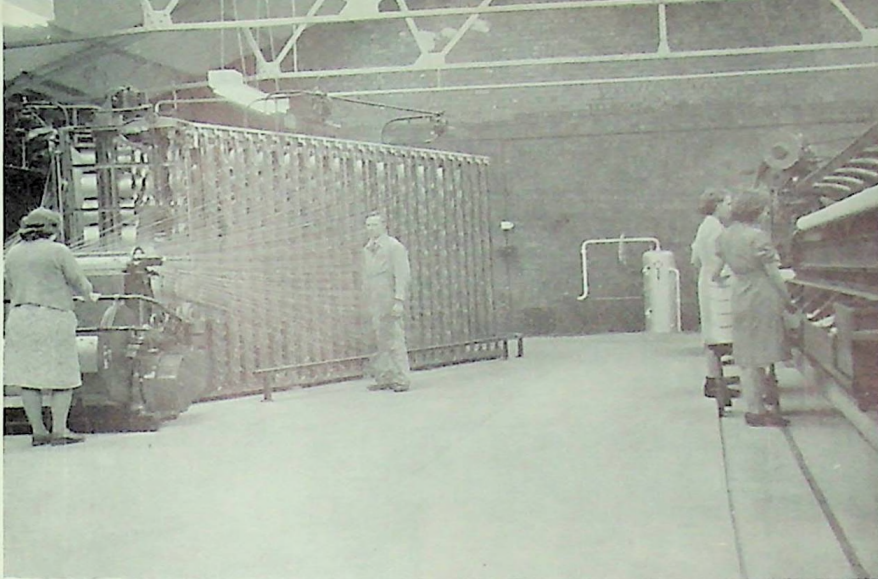
Since 1892 another spinning mill and weaving shed have been added and a doubling plant installed. Eckersleys were at that time shipping millions of yards of grey shirtings to India and

China and hank yarn was exported in huge quantities for the hand looms in the Balkans, West Africa, Asia Minor and the Far East. This trade continued until the early 1920's.

The first world war, followed by competition from overseas nations, had its effect on Eckersleys as well as on other Lancashire firms and gradually the bulk of its business was lost. Eckersleys weathered the storm, however, and today, with a modern and flexible plant, is once more a flourishing business.

Many large firms are engaged in the cotton industry in Wigan, and Eckersleys Ltd. have supplied some facts about the industry.

The raw cotton comes to Wigan from North America, Brazil, Argentina, Russia, Egypt, West



Thos. Taylor & Bro. Ltd.

Operatives working on a high-speed winding and beaming machine

and Central Africa, in tightly compressed bales, pressed nearly as hard as a brick. It contains many impurities, most of which must be removed before it can be made into yarn. It varies considerably in its essential qualities, primarily in length and fineness of the cotton hair. No two handfuls even from the same bale are exactly alike, and between bales of the same sort the differences are considerable.

Cottons are carefully selected and blended at the outset. In the mixing room the bales are placed round the bale breaker and the cotton is taken in layers from each bale in turn and fed to the Hopper bale opener. The machine as it tears up the heavily compressed layers is, in the process, mixing very thoroughly the cotton from different bales. The loosened cotton passes through a series of machines in the mixing and blowing rooms, all designed to restore it to something like the consistency it had before it was baled, and at the same time remove a great deal of the impurities—sand, broken leaf and seed husk. The final machine in the blowing room is the scutcher, which delivers the cotton in a sheet which weighs about 8 lbs. per cubic foot as compared with about 45 lbs. in the bale. This sheet, rolled up into a "lap," is taken to the carding engine—probably the most vital in the long sequence of machines through which the cotton must pass. Here is removed much of the fine impurity still left in the cotton, and by the time the card has dealt with it, from 8-12 per cent of the original bale has been removed as waste.

The principal work of the card, however, is to comb out the individual fibres from the tangled mass in the lap, and carry them forward in a thin

film to be condensed first into a web and then into a soft rope or "sliver." Now the cotton has length and uniformity, and a shape which it will retain through all its refinements into the finished fabric. Its 100 yards per lb. will ultimately be drawn out to anything up to 20 miles, but the essential shape is in the sliver.

Whilst the sliver has uniformity it is still not sufficiently even, and the fibres lie all higgledy-piggledy in the sliver, which goes now from the card to the drawframes. Here the unevenness of the sliver is smoothed out and the fibres laid parallel to each other so that whilst a sliver comes out where a sliver went in, it is a much more elegant product. It is, in fact, as well constructed as possible, and all that remains is to draw it out to the thinness required for yarn.

This drawing out cannot be done too quickly, except at the expense of quality. Some years ago it was standard practice to take the drawframe sliver through the slubber where 100 yards in the lb. were drawn out (or "drafted," to use the trade expression) to 400 or 500 yards. The "slubbing" went to the intermediate frame where 400-500 yards lengthened to 1,000-1,500 yards. The "intermediate" went to the "roving" frame and was drawn out again to 3,000-5,000 yards, and only then was it ready for final spinning at the "mule" or "ring frame." With greater urgency and improved methods of controlling the cotton hairs during drafting, the three steps were cut down to two, and nowadays the two are being further cut down to one.

From the cardroom—and that room covers cards, drawframes, flyers or speed frames (slubbers, intermediate and/or roving frames)—the cotton



A weaving shed
(Thos. Taylor & Bro. Ltd.)

now moves to the spinning frame. The spinning mule, brain child of Samuel Crompton and herald of the industrial era, has been largely supplanted by the ring spinning frame. This frame, with its 350 to 450 separate spindles spinning away at speeds from 7,000 to 10,000 r.p.m., draws out the product of the cardroom to the thinness required by the manufacturer, and inserts twist enough to make it "weavable" or "knittable." This is yarn. Where, in the cardroom, the length of 1 lb. of cotton was measured in yards, in the spinning room it is measured in miles. After the yarn is spun it must be prepared for manufacture, and the method of its preparation depends on its ultimate purpose.

If intended for a knitted fabric the yarn can be wound on to a package known from its shape as a "cone," on which there may be from 20 to 100 miles, depending on the count of the yarn. The "count," by the way, is the number of "hanks" in 1 lb., the hank being 840 yards.

Yarn for weaving may be spun for one or two purposes—to be either the warp or weft of the cloth. If for weft it may be spun directly on to a pirn suitable to go straight to the shuttle; alternatively, the ordinary spinning frame bobbin may be rewound on to a pirn and the yarn cleared of imperfections in the process.

When the yarn is for the warp of a cloth, it is first wound from the ring bobbin on to a double-flanged bobbin or on to a cone similar to that used in the knitting machine, but usually of a different taper. In either case—bobbin or cone—several hundreds of the packages are mounted in the creel of the warping machine. The several hundred separate ends are drawn off and wound on to a suitable container.

The yarn in warp must be prepared for the loom: whereas there will be thousands of ends in the width of a cloth there will only be from 300 to 500 in the warper's beam.

As many beams as are required to give the total number of ends are mounted behind the sizing (slashing or taping) machine, and all the threads are taken forward in a sheet and passed through boiling size. The size is squeezed into the yarn and the surplus squeezed off by heavy rollers, and the yarn after passing round steam-heated cylinders for drying purposes is wound on to another beam.

Before this beam can go into the loom the threads have to be harnessed. The harness consists of drop wires (which serve to stop the loom when an end breaks during weaving), healds and reed.

Every end in the warp is controlled by an eye in a heald. There may be from 2 to 24 healds, depending on the complexity of the pattern of the cloth to be woven, and they lift the end in the correct order to provide the "shed" in which the shuttle works.

The shuttle carrying the weft is picked from one side of the loom to the other, travelling always in a shed created by the separation and opening out of the warp ends. After each transit across the loom the weft is pressed home into the edge of the cloth by the reed and the healds are moved to alter the "shed."

In the simplest cloths all the odd ends move up and down together whilst all the even ends move down or up to give a plain interlacing of the weft.

In factories where automatic looms are installed it means that the loom itself removes the pirn from the shuttle when it has emptied itself of yarn and replaces it with a full pirn. This is done with the loom running at full speed.

With the Lancashire loom the machine stops automatically when the shuttle runs empty and the weaver has to put in a fresh cop or pirn and start the loom running again. With the Lancashire loom system a weaver can attend to four, six or

eight looms, depending on circumstances. With an automatic loom a weaver to twenty or twenty-four looms is common and under favourable circumstances even these figures can be very considerably increased.

Yarn, as delivered by the spinning frame, is often inadequate for its purpose. To obtain better wearing quality in a fabric, two or more yarns are often twisted together in the process known as "doubling" or "twisting." Such yarns offer greater resistance to wear, particularly abrasive wear, but are, of course, much more expensive to produce. After "doubling" they are prepared for manufacture exactly as is a single yarn, i.e., a yarn straight from the spinning frame.

That is the story of cotton from bale to yarn. From there it is woven into cloth, by Eckersleys and by such firms as THOMAS TAYLOR & BRO. LTD.; they too engage in spinning, but also in weaving of grey cloths and converting into finished cloths for various markets at home and abroad. They supply single and doubled American ring yarns, and their finished cloths include dyed and printed imitation linens, dyed and printed cambrics, linings, bleached sheetings, pyjama cloths, shirtings, sheets and pillow cottons.

In 1895 the SANDBROOK SPINNING CO. LTD. came to Orrell to take over a mill with an unusual history, for it had been built by a local mill-owner in 1863 as a wedding present for his nephew. In 1913 the company built the present mill and the original building was demolished during the slump of the 'thirties.

The company specialises in ring-spinning yarns of medium counts made up into beams, bundles and cheeses. There are 28,256 ring spindles and 1,940 doubling spindles, and about 200 people are employed. The mill is fully modern and in process of electrification.

Textile Finishing

Standish Works is situated approximately three miles from the centre of Wigan and stands on the banks of the River Douglas. It is one unit of the combine "The Bradford Dyers' Association, Limited," so well known by the "Red Seal" company mark, and is one of the largest and most important by size and type in Europe. Approximately 800 people are employed and the works function by day and night.

The main output is cotton cloths, although artificial silk corset cloths form a fairly high

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56 MARKET PLACE and MAKINSON ARCADE

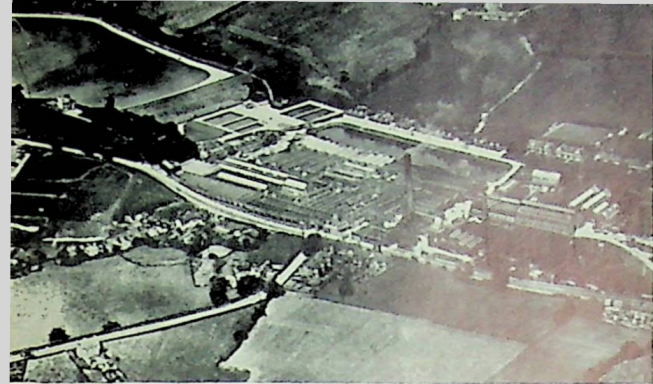
WIGAN

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STOCKIST ALSO OF MODERN STYLISH SPORTSWEAR

SUITS READY TO WEAR OR MADE TO MEASURE



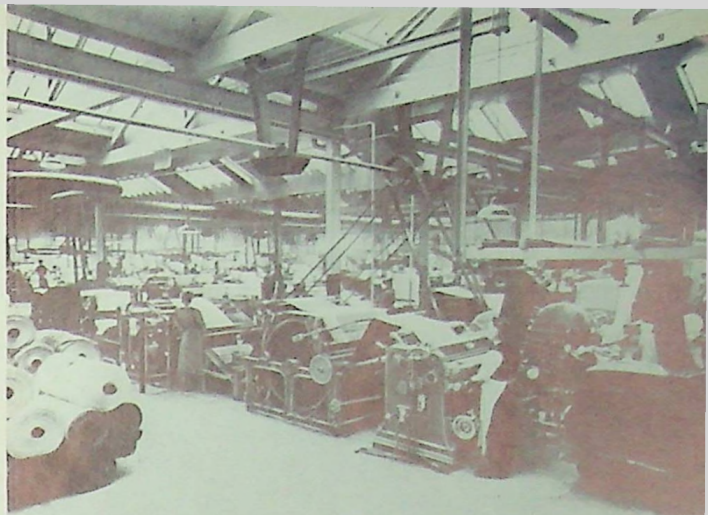
percentage of the total. Among the range of cotton fabrics are: extra fine poplins, voiles, drills, limbrics, satins, sateens, repps and venetians. The main processes carried out are: Singeing and Desizing, Kier Boiling, Bleaching, Dyeing (continuous and otherwise), Mercerising, Finishing and Compressive Shrinking (Rigmel).

The company are solely commission dyers, that is to say the cloth handled does not belong to them but rather they are selling service, that is, improving the cloths by the processes mentioned. The loomstate cloth is delivered from the manufacturer and after processing it is delivered to shipping merchants for despatch to overseas markets or for the home trade.

Special attention is drawn to the RIGMEL process of shrinking which was invented at these works by Mr. Wrigley and Mr. Melville in 1931. This process is one which renders the cloth compressively shrunk so that garments which are ultimately made from this cloth will not shrink when laundered. It is applicable to cotton and linen fabrics and also to yarn dyed fabrics such as denims, etc.

This works is of fairly ancient origin. About 1600 it existed as a Corn Mill, the power being derived from the River Douglas. Around 1800 it was converted into a Paper Mill under the ownership of Bonzor Crompton. In 1900 the works was converted into a bleachworks and was taken over in 1904 by the Bradford Dyers' Association, who developed the trade on the lines of bleaching, finishing and shrinking.

It is only a matter of three-quarters of a mile to the village of Standish from whence Myles Standish departed to embark on the *Mayflower* for the New World. Also, in historical records, details can be found of the activities of the Roundheads and Cavaliers, between the works and Wigan. The old Chorley Road adjacent to the works was an old coaching road leading north to Scotland, and situated thereon and belonging to the works is a hostel which used to be the local Manor House. This dates back to 1600 and is in an excellent state of preservation. Its interior oak raftered ceilings and original jury



Above, left :
An aerial view of Standish Mill

Above :
The Shrinking Department (top)
Old Standish Manor House, dating from 1600, and now used by The Standish Company, Limited, as a hostel

corner have been much admired by Americans.

The Bradford Dyers' Association Ltd. has a comprehensive Apprenticeship Training Scheme, whereby suitable boys at the age of eighteen years are apprenticed with a view to being trained as foremen dyers and also as engineers.

Clothing

Several firms are engaged in the manufacture of

clothing, and perhaps a typical example of the industry's rise in Wigan is that of COOP & Co. LTD. The year 1862 was a bad one for Wigan and the county generally, the cotton and mining industries having been hit by the American Civil War; over 9,000 people in Wigan were dependent upon a relief committee formed by local gentlemen, of which Mr. Timothy Coop, a local retail tailor, was a member. He had an idea that girls might be trained to use sewing machines and to make men's clothing, and found this successful to such an extent that a factory was built and opened in 1872; in 1879 a department for the manufacture of ladies' garments was opened, and in 1888 and 1890 the original factory was extended by the addition of two new wings.

In 1914-18 the factory worked night and day on uniforms for the fighting services; after the war continual progress was made in the industry, with new types and designs of material, greater skill and efficiency in production, and better and more shapely garments. By the 1930's the industry had advanced to such an extent that the high quality firms of which this is a member, were capable of producing garments of the very highest standard, and, at the same time, the average man could purchase for a reasonable sum clothing of a type hitherto only available at a comparatively expensive price. A modern extension to Coop & Co.'s factory was completed in 1938 and shortly after came the second world war with its urgent need for vast numbers of uniforms for Britain and her Allies, and afterwards the clothing of the demobilised service men and women. Since those days the manufacture of clothing has progressed in step with Britain's other industries. Rationalisation of production has enabled the cost of outer clothing for men and women to be kept at a reasonable level, despite disproportionate increases in the cost of raw materials. For ladies in particular, garments of fashion are obtainable very speedily after the inception of new styles by the leading couturiers of Paris and London, and for men fashion and colour are beginning to take their place alongside the traditional craftsmanship and quality of English tailoring.

A general clothier's business was established in 1896 by JAMES MAYER and continued as such until 1937 when the present proprietor, Mr. C. K. Jackson, purchased the business.

Following some twelve months' normal trading, it was decided to specialise in ladies' and gentlemen's rainwear, at the same time retaining the



"Making-up" garments at the Wigan factory of Coop & Co. Ltd.

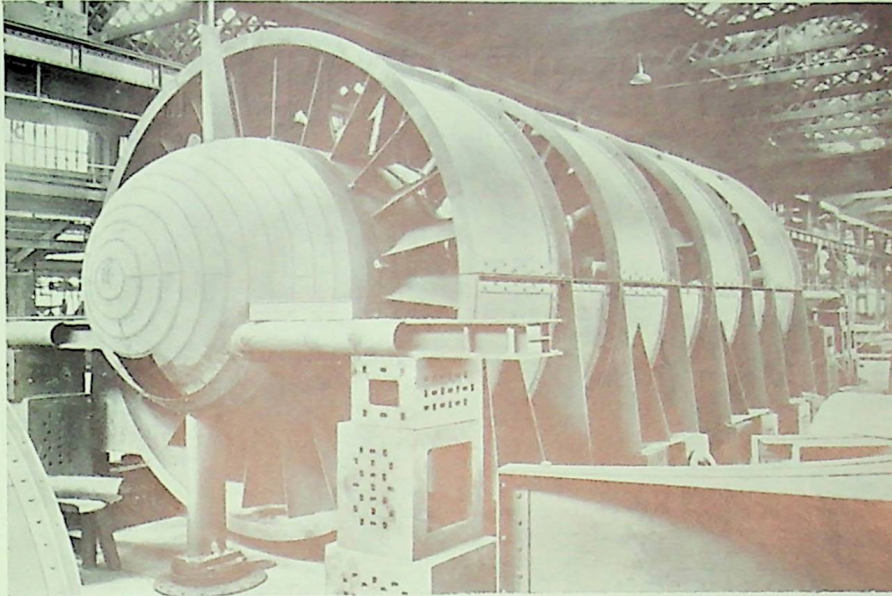
men's and boys' clothing side, for which a business had been established at 8 Makinson Arcade.

After the 1939-45 war period, emphasis began to be made on the fashion side of ladies' rainwear, and with this in mind the premises were extended to 56 Market Place, enabling the present extensive ranges of rainwear to be stocked.

"Celanese" Products

The recent occupation by BRITISH CELANESE LIMITED of a large factory at Goose Green, Wigan, marks a further important stage in their development schemes, which have been formulated to meet the expanding demand for the popular "Celanese" textile products.

The new factory, which was built by the North Western Industrial Trading Estate, is an example of planning to meet the requirements of a particular industry. Machinery of high technical efficiency has been installed which ensures quality production under the finest manufacturing conditions. The operatives work in ideal surroundings, and excellent facilities are available for their welfare. These are only two of the many factors which combine to produce "Celanese" yarns of the quality and uniform standard for which they are already world famous.



A Walker Macard Mine Fan—the most powerful single axial-flow fan in the world (Walker Bros. (Wigan) Ltd.)

ENGINEERING

This industry is well represented in Wigan in all its forms; the largest firm engaged in it is WALKER BROS. (WIGAN) LTD., of Pagefield Iron Works (see page 76), whose products and those of their associates, Messrs. John Wood & Sons Ltd. (page 80), can be found in almost every country from China to Peru. The works has often been described as one of the most interesting in the country because of the variety of its products, which range from mining, paper-making and other heavy machinery to diesel-engined rail cars, mobile winders, diesel, mechanical or electric, diesel locos and underground battery running locos.

Besides innumerable mines at home and abroad, the majority of the major road and railway tunnels in this country, including the Mersey road tunnel, have had their ventilation designed, and most of the ventilating machinery supplied by Walker Brothers. The firm were also pioneers in the design of mechanical refuse-collecting vehicles and were the first in Britain to produce diesel-engined commercial chassis. Diesel rail cars and locomotives are being exported in increasing numbers to such countries as Australia, South America and Ireland, where the originals are approaching

the fine total of a million miles running.

Walker Brothers' mobile cranes are a familiar sight on the main line British Railways and with Docks and Harbour Boards, etc.

On paper-making machinery the firm is closely associated with Messrs. Walmsleys of Bury, one of the best-known names in that trade.

WORSLEY MESNES IRONWORKS LTD. was founded in 1865, and has since then, apart from general engineering, been chiefly engaged in the manufacture and installation of mining machinery for this country and overseas. In the year 1890, experimental work was commenced on appliances for the safety of miners in their transportation from surface to below ground which resulted in the manufacture of brake engines, reversers and over-wind preventers which are known in most mining districts of Great Britain.

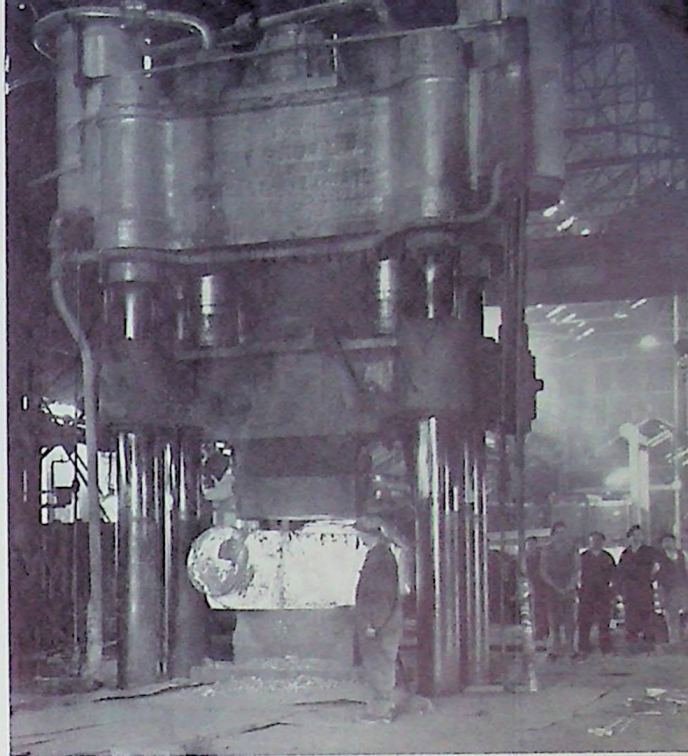
During the last war marine engines were produced for the Admiralty at these works.

The works are situated on the south side of Wigan and include pattern shop, foundry, machine shop, fitting and erecting shops and smithy, with drawing office and general office.

WM. PARK & Co. FORGEMASTERS LTD., although only formed as a limited company in 1938, is the successor to a business which has been in existence for over 160 years; it was founded in 1787 as the Wigan Slitting Mill by the great-great-grandfather of the present chairman and vice-chairman of the company.

Their main activities consist of a heavy forge, with a forging press of 2,000 tons capable of handling steel ingots of 30 tons weight, and many steam hammers of varying sizes. In the forge all types of heavy forgings are made, such as ship shafting, rolling mill forgings, shafts for colliery winding machinery, the callender bowl trade, and a large variety of other trades. The forgings are supplied in a fully heat-treated condition and tested to the requirements of Lloyd's Register of Shipping, Bureau Veritas, the Board of Trade, etc.

The company has extensive machine shops in which the forgings are machined to the requirements of the customer. In these shops other engineering products have from time to time been produced, such as rolling mills for the edge tool trade, boring lathes and other specialised machines. A further activity of the company is the extensive iron and steel warehouse, catering for the steel requirements of a host of industries within a radius of about 60 miles.



A 2,000-ton forging press made by Wm. Park & Co. Forgemasters Ltd.

The company has a subsidiary, ENGLISH TOOLS LTD., also of Clarington Forge, manufacturers

Telephone : WIGAN 3732

ESTABLISHED 1892

BRIDGE & SONS (WIGAN) LTD.

Structural Engineers and General Smiths

STEEL ROOFS, BUILDINGS AND
FIRE ESCAPES, ORNAMENTAL GATES
RAILINGS AND BALUSTRADES

SEVEN STARS FORGE · WIGAN

of edge tools—shovels, spades, forks, contractors' and miners' tools—for the home and export markets.

JOHN WOOD & SONS LTD., another local firm of engineers, specialise in steam and electric driven mining machinery, such as winders and haulages, and undertake general engineering work.

An unusual trade is that of E. CALDERBANK & SONS LTD., the iron, steel and metal merchants of Water Heyes Mill, Orchard Street, Wigan, who are prepared to buy and collect quantities of scrap iron and steel, brass and copper, aluminium, lead, etc., and will dismantle obsolete works and plant. They will arrange the regular clearing of works scrap accumulations.

During the war they despatched thousands of tons of railings to the foundries and furnaces. Since the war they have dealt with at least 15,000 tons of scrap shells and are still buying surplus scrap from the various Ministries.

The firm was founded in 1904 by the late Elias Calderbank and it is still controlled by members of his family.

In 1929 the demolition of Wigan Pier was carried out by this firm.

"Spot Cash" has always been the motto of the firm in all business transactions, and it is by this name they are known for many miles around.

Another local firm of iron, steel and metal merchants is JOSEPH CALDERBANK LTD., founded in 1896 by the late Mr. Joseph Calderbank and now carried on by his family at Farrimond's Row and Pagefield Sidings, Wigan and Union Street, Leigh.

Work undertaken by this firm includes the dismantling and demolition of works, bridges, and collieries, the removal of heavy machinery and works clearance. The firm are buyers of wrought steel and cast scrap iron, copper, brass, lead, etc., engines, boilers and tanks and in addition collect



The Water Heyes Mill yard of E. Calderbank & Sons Ltd., showing heaps of iron and steel scrap, the sorting of which demands expert knowledge

small amounts of scrap iron from householders. Another important side of this company's work is its Mobile Cranes for Hire Service.

Electrical Equipment

The firm of HEYES & CO. LTD. first started business as manufacturing electrical engineers in 1896. The works was then situated in Millgate, but the gradual increase in business made necessary a move to bigger premises and in 1908 the works was moved to its present site.

The chief products at that time were bells, relays and lighting fittings for mines, and a considerable amount of original development was carried out on gas-tight and flameproof fittings.

The intervention of the 1914-1918 war slowed down development, but in the early 1920's the Prismatic and Lacent lighting fittings were put on the market. These were the original prismatic bulkhead fittings from which all others have developed and which have brought light to dark

The handling of scrap metals calls for all kinds of special plant, from mobile cranes to cutting equipment. The pictures below were taken in the yard of Joseph Calderbank Ltd.



places all over the world. It was during this period that the products of the firm settled into the channels along which successful development and production has since then taken place.

The firm's products may for convenience be classified under three headings, but inevitably there are items of equipment which have applications under all three headings.

MINING

Flameproof Prismatic bulkhead fittings and flameproof wellglass fittings manufactured by this firm are extensively used for underground lighting whilst their non-flameproof counterparts are used in surface lighting installations. The Lacent lighting fittings are used for outdoor lighting and for such applications as passages and pithead baths.

A wide range of intrinsically safe telephones, bells and relays form the basis of many mining communication systems, whilst the firm also develops and manufactures special signalling systems for locomotive haulage control and other similar applications.

SHIPPING

Since its inception the Prismatic lighting fitting manufactured by this firm has found favour with shipping companies, particularly where a strong unit is required, such as deck lights or hold lights.

The P. & O. Steam Navigation Co. Ltd. have given permission to reproduce the photograph of Prismatic fittings in use on the *Iberia*. Lacent fittings are used for the lighting of alleyways and cabins, whilst flameproof fittings are extensively used on oil tankers.

INDUSTRIAL

Almost all standard products manufactured by Heyes & Co. Ltd. may be placed under this heading, for their flameproof equipment is extensively used wherever the explosion hazard arises. Most of their signalling equipment is certified for use in certain explosive atmospheres and is, therefore, used in such places as petrol refineries.

The Prismatic and Lacent range of lighting fittings are extensively used for industrial and domestic purposes both



Lacent lighting fittings made by Heyes & Co. Ltd. installed on the "Iberia"

Reproduced by courtesy of the P. & O. Steam Navigation Co. Ltd.

indoor and outside. In addition to the standard ranges of these fittings, many have been produced for special applications, such as the Lacent unit, illustrated here by permission of the Imperial Chemical Industries Ltd., designed for the illumination of a tunnel.

The fittings are supplied with compressed air to prevent the ingress of any explosive gas which may be present in the tunnel.

Another local firm of electrical engineers is H. H. Timberlake Ltd., who are also automobile and mechanical engineers.

An industrial tunnel under the River Tees, lit by Lacent lighting equipment made by Heyes & Co. Ltd.

Reproduced by courtesy of Imperial Chemical Industries Ltd.





The assembly department for intercommunicating telephones at the Pioneer Works of A. T. & E. (Wigan) Ltd.

Telephones

A. T. & E. (WIGAN) LTD. was founded in November 1934 as Pioneer Telephone Manufacturing Co. Ltd., in newly constructed premises of 5,000 sq. ft. on the then sparsely populated and newly created Manchester Corporation estate of Wythenshawe.

One of the founder members was Mr. A. G. Grime (the present Managing Director) and the main manufacturing outlet consisted of intercommunicating telephones for sale by Pioneer Private Telephone Co. Ltd., an associated company engaged in the installation and rental aspect of the intercommunicating telephone industry.

With the outbreak of war in 1939 the company was compelled to curtail its operations in telephones and was engaged upon numerous Ministry contracts for suspension gear for aircraft undercarriages, drift sights for the Navy, etc. The change from war- to peace-time production saw a return to the manufacture of intercommunicating telephones. In 1945 Automatic Telephone & Electric Co. Ltd. purchased the whole of Pioneer Private Telephone Co. Ltd., and a majority share of the capital of Pioneer Telephone Manufacturing Co. Ltd. This move resulted in an increase of the types of intercommunicating telephones which the company would manufacture and introduced several new ranges, particularly loudspeaking telephones and key callers, with an ever-increasing demand for further types with greater facilities. Completely new products, e.g., Test Sets and Staff Locator equipment, were introduced.

Late 1950 saw the introduction of large Admiralty orders for defence purposes and aggravated the already vexed question of factory space. In 1951, matters came to a head with the acceptance of orders from A. T. & E. Co. Ltd., for mine signalling equipment and a factory of 16,000 sq. ft. located in Wigan was purchased in that year.

Throughout the winter of 1951 and the spring of 1952 efforts were being made to recruit local labour in Wigan, and to maintain production in Wythenshawe, personnel travelling between the two points to receive or give training. The factory at Wigan had to be altered in major respects (structural changes to existing walls, lighting and heating installation, new extension, etc.). Gradually the machinery, materials and a nucleus of skilled personnel were moved to Wigan, and the operation took up practically the whole of 1952. In that year the factory was extended by one bay, and personnel were trained to use new plant and settle to assembly methods. By 1953 all Manchester personnel (except a handful of works staff) had left the company and the factory was then employing 100 per cent local labour, all trained by company instructors.

In June, 1954, a second new bay was added to the production space of the factory, total factory and office accommodation reaching 24,000 sq. ft.; and the output for the year created a new record for the company in 1954.

Plans have been prepared for the erection of a new office block of 5,000 sq. ft. (temporary premises only now being in existence), the construction of which is already well advanced.

Industrial Valves

THE TRIANGLE VALVE CO. LTD., of Lamberhead Green, Wigan, have brought the town into the focus of gigantic organisations throughout the world. Concentrating solely on steel (industrial) valves of many sizes and types, their products are an indication of the source from which they come—modern, well-equipped factory, sound commercial and technical administration and a production technique resulting in a first rate product.

While, of course, there is an application for any Triangle Valve almost anywhere, where hot or cold liquids and gases require to be controlled—by far the bulk of their production is despatched to the petroleum industry—oil refineries, petrochemical plants and to a small degree the oil "fields." To mention only a few of the oil companies which have in use large numbers of Triangle Valves—Shell Petroleum Co. Ltd., British Petroleum Co., Esso Petroleum Co. Ltd., Mobil Oil Co.—is sufficient indication of Triangle Valve Company's home and export activities. As an example, 14,000 Triangle Valves were shipped to the new B.P. Refinery at Kwinana in Western Australia.

Perhaps their success can be attributed to three factors; that the product is sound in every component; marketing it at low cost in a fiercely competitive market; and their reluctance to assume that nothing further can be done to improve design or production methods. Every component of the finished valve is carefully inspected before assembly and a strict check on unseen internal defects is made with that product of the Atomic Age—the Gamma Ray photograph. In fact every possible precaution is taken to uphold the reputation this Wigan firm carries.

The standard products of the Standard Valve Company are "Gate," "Globe" and "Check" valves in forged and cast steel, ranging from $\frac{1}{2}$ in. size, weighing 1½ lbs., to a 12 in. size exceeding 1 ton. There are, however, occasions when a special type is required, but in any event all valves, and particularly the constituent materials, are supplied in accordance with the appropriate British, American and International Petroleum requirements.

Wigan is a landmark in the nation's drive to a wholly supporting economy, and not the least of the efforts associated with the town is the Triangle Co. Ltd.

Welding and General Engineering

THE DOUGAL ENGINEERING CO. LTD. was founded in 1947 by Mr. D. H. MacArtney, who acquired the Atlas Engineering Works, Boundary Street, after searching for suitable premises for some considerable time. He was joined almost immediately by an engineer friend of long standing, and then by his brother, making a partnership of three. In 1950, after making steady progress, another qualified engineer, an expert on diesel, petrol and steam installations, joined the firm and in March, 1955, the existing partnership was formed into a limited company.

The company have designed and manufactured all kinds of special machines for many varied industries, principally asbestos, paper, soap, printing, calico printing, rubber, mining and cardboard manufacturers; in addition machine parts are supplied for these and other trades.

The company erects and instals plant and machinery in all parts of the country, and also undertakes contracts for the dismantling and removal of plant and machinery. The overhauling and reconditioning of all types of machines and machine tools are numbered among the company's many and varied activities; general maintenance work is also undertaken, and breakdown work has always been a speciality. The latter especially demands wide experience and quick action, and it is a tribute to its management that the Dougal Engineering Co. Ltd. has acquired a reputation for its efficiency in this direction.

The Welding Department keeps fully occupied. Plant for both the oxy-acetylene and electric processes is available, and the range of work carried out includes fabrication and constructional steelwork, steel platforms and bogie trucks as well as more general welding work.

Cast iron and steel solid and tubular rollers for many trades have been in great demand, as also have centrifugal pumps designed and made by the company.

Among recent new developments has been the design and production of nylon rotary brush equipment for brushing all types of conveyor belts, and these are in use by the National Coal Board and numerous gas boards.

New plant and machinery of the very latest design is constantly being installed in the works, enabling the company to increase production, to give a more accurate finished job engineered to precision limits, and to develop a fine finished standard.

BUILDING AND ALLIED TRADES

There are in Wigan several firms of builders and constructional engineers capable of carrying out all kinds of building work, both traditional and otherwise. There is, for instance, **BRIDGE & SONS (WIGAN) LTD.**, structural engineers, sheeting contractors and blacksmiths. Their work includes the design, fabrication and erection of steel framed and sheeted buildings and roofs, and the fabrication of structural units and smithed ironwork for the building trades—such as fire escapes, ornamented gates, railings and balustrades.

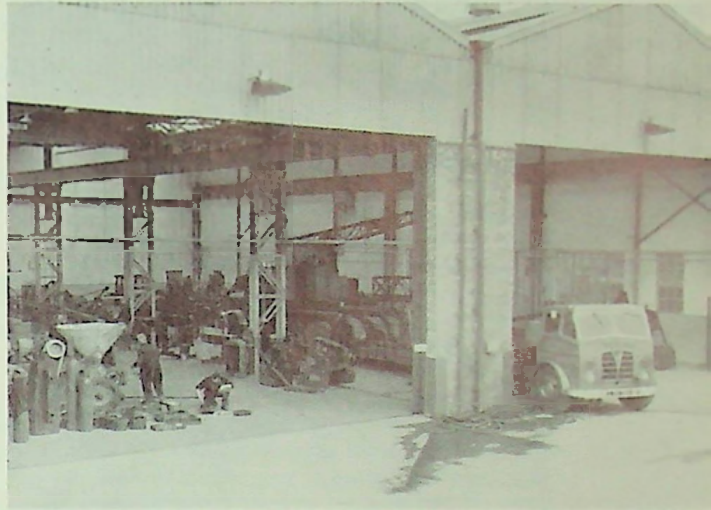
Another well-known local firm, employing traditional as well as “modern” methods, is **CLOUGH & GASKELL LTD.** Contracts undertaken by them include the erection of permanent houses for local authorities, etc., private houses and bungalows, flats, office buildings, canteens, storage buildings, warehouses, garages and factory buildings for all classes of industry, and also building maintenance, alteration and repair work of all kinds. Joinery work and woodwork contracts are carried out for Government departments and private clients in the firm’s own joinery manufacturing shop, which is equipped with every kind of modern machine. There is a polishing department, complete with spraying plant, and the firm execute their own plastering and domestic plumbing.

During the war Clough & Gaskell constructed extensive building in connection with the manufacture of arms and ammunition, and the manufacturing shops produced woodwork and cases for military purposes. They are at present engaged on a number of contracts and in addition are developing their own private estates for the erection of detached and semi-detached villas.

The firm of **LEONARD FAIRCLOUGH LTD.**, building and civil engineering contractors, was established in 1883 by the father of the present Governing Director—both named Leonard Fairclough. The firm was established at Chapel Street, Adlington, Lancs., where the Head Office is situated, with large builders’ and contractors’ yard adjacent to the Adlington British Railways Stations on the Canal Bank off the main Manchester-Wigan Road and close to the Plant Depot behind the White Bear Hotel.

Branch offices and depots are established in London and Wigan and a branch office at Manchester.

The firm from its inception has undertaken all



Shown above is the Plant Depot of Leonard Fairclough Ltd. at Adlington.

Below, pre-cast bridge units are being delivered to British Railways



types of building and civil engineering work, including banks, co-operative shops, churches, chapels, schools, colleges, factories, warehouses, swimming baths, police headquarters, bridges, weirs, lodges for cotton mills, railway sidings, subways, power stations, locks, docks and other civil engineering projects—many of which are in and around Wigan Borough and the County of Lancashire.

Since World Wars I and II, the firm has extended its activities throughout many counties in England and Wales. Today its current contracts for the British Railways, British Transport Commission, British Electricity Authority, County Councils and other local authorities, such as Dock and Harbour Boards, Gas Boards, Manchester Ship Canal Company, Ministry of Transport, National Coal Board, and numerous private clients, supply evidence of the national character of the firm.

A large engineering plant workshop has been erected behind the White Bear Hotel to handle urgent repairs and overhauls; while on the siding at Adlington White Bear Station plant and machinery is installed for the fabrication of pre-cast units of bridges for British Railways contracts.

To cope with the varied type and magnitude of the contracts, the firm has a fleet of lorries for the speedy despatch of materials, coaches for taking men to sites, and low-loaders for the transport of plant.

More recently a scientific laboratory has been established under the supervision of Mr. H. E. Jones, B.Sc., for testing samples of materials delivered on site.

This family concern, started a little over seventy years ago in the village of Adlington, has become a well established firm of national repute in the building and civil engineering world.

Roofing Materials

Vulcanite roofing manufactured in Wigan by VULCANITE LTD. forms an economical and permanent waterproof surface, and its full advantages are obtained on flat, pitched or curved roofs of concrete, wood or other forms of construction.

For more than fifty years it has been the object to produce a sound, waterproof surface, and during this time many important buildings have been satisfactorily treated with Vulcanite roofing, which today provides the building industry with a durable form of waterproof construction to meet the requirements of modern building.

Vulcanite roofing is a built-up roofing composed of up to three layers of Vulcanite bitumen felt

combined with Vulcanite bitumen compounds, applied hot, and as it is in the main a composition of high grade bitumens which are known to last indefinitely, the permanent quality of the waterproofing is apparent.

Vulcanite roofing is tough, but pliable, retaining sufficient elasticity to respond to any slight movement of the building without cracking. It is suitable for all types of building, particularly public buildings, schools, hospitals, factories, cinemas, garages, etc., and when finished with tiles, concrete or bitumen macadam the roofs may be used to advantage as open-air refreshment places, terrace gardens, playgrounds, etc.

Economies can be shown in the prime cost of structural work, and in exceptionally low maintenance charges, as compared with other types of roof construction, such as slates, tiles, etc. To summarise, Vulcanite roofing provides a permanent and economical waterproofing material, with high fire-resisting qualities, sound ventilation and insulation properties together with minimum maintenance costs. Vulcanite roofing is fixed exclusively by the manufacturers' own contract departments, and is composed of the best possible materials, thereby ensuring that work entrusted to them will be carried out to entire satisfaction.

Vulcanite roofing, as described, has been carried out on very many buildings throughout the British Isles, including industrial buildings, railway and dock buildings and stations, aerodromes, blocks of flats, churches, hospitals and schools.

Wigan can be proud of its new and modern schools and buildings, many of which have been roofed with Vulcanite roofing. These include the Thomas Linacre School, John McCurdy Hall, St. John Fisher R.C. Secondary School, Market Hall extensions, new Works Department, Scot Lane Occupational Centre and Pemberton County Infants' School.

It is important that a roof harmonises both with the architectural design and the local surroundings, and the Thomas Linacre School effectively illustrates the pleasing effects obtained by roofs at different levels having various Vulcanite roofing finishes to meet these requirements.

VULCANITE ROLL ROOFINGS

For more than fifty years roofings for the building, agricultural and allied industries have been manufactured by the Vulcanite company.

It can be claimed that their bituminous roofings are giving satisfaction, as during this time the

demand has consistently increased, and they are used extensively in Great Britain and in many parts of the world.

Vulcanite bitumen roofings are manufactured and supplied in rolls of a convenient length and, when fixed, form an economical and lasting covering. The base or foundation of Vulcanite roofings is raw roofing felt, manufactured in their own mill from selected animal and vegetable fibres to give maximum tensile strength and great absorbent qualities. This felt base is then treated with the maximum amount of saturating bitumen of the best quality, applied hot, thus ensuring that the foundation is an absolutely waterproof felt.

The bitumen saturated felt is then coated on both sides with a high-class weather-resisting bitumen compound which gives Vulcanite roofings their durable qualities. They are also made with a texturing of graded mineral grits which form an additional weathering surface as well as attractive mineral shades.

Stonemasons

The firm of WEBSTER & WINSTANLEY, stonemasons and merchants in builders' materials, was founded by the late Mr. William Webster and by Mr. Thomas Winstanley, in partnership, in 1903.

Many examples of stonework done by this firm during the 52 years of its existence are to be seen in south-west Lancashire, notably:—St. Paul's Church, Goose Green, Wigan; St. Stephen's Church, Whelley, Wigan; the Chancel and East and West Ends of St. Luke's Church, Orrell, near Wigan; the Tower of St. John the Baptist Church, Earlestown; the tower of Holy Trinity Church, Downall Green, North Ashton; the chancel of the church at Wargrave; the lychgate of Standish Parish Church; the lychgate of the Unitarian Chapel, Bryn; the restoration of the tower, and the preservation of the fabric of the Parish Church of All Saints, Wigan, the foundation of which dates back to 1420.

These and many others are landmarks which will carry the name of Webster & Winstanley along the years and, in the creating of a name which stands for craftsmanship at its highest, coupled with reliability and service, the firm has been well served by its workmen. Canon F. L. M. Bennett, when Rector of Wigan, wrote of one of the foremen:

"I must here record the excellent and loving work which over a long period he has done upon the fabric of Wigan Parish Church. Here

was a craftsman of the very best type; he handled stone with a skill and artistry that came of the true understanding of the nature of work well done."

On the death of Mr. Webster in 1929, the company was formed into a limited company with Mr. Winstanley as Governing Director, and Mr. D. N. Webster (son of the late Mr. Wm. Webster) as Director/Secretary. Now Mr. Winstanley alone survives and the company has once again had to be reformed, but the same personnel and the same spirit exist—and only the best is good enough.

In addition to work on the restoration and extension of churches, the firm is also employed by a number of brewery companies in the area. Cills, heads, steps and wallstones are supplied, and in their making goes the same degree of care and skill as are expended on tracery windows and memorial stones.

On the merchanting side, shale, broken stone and ballast, slag, granite chippings and tarred and bituminous macadam can usually be supplied at one day's notice, and the firm's greatest wish is that in all its branches its name will, in the future as in the past, be still regarded as the symbol of integrity, craftsmanship and service.

Timber

Since the end of the second world war, WM. C. GORE & CO. (who during that time were engaged on various government contracts) have now returned to their original business of supplying the building trades and other industries with windows, doors, stairs, cupboards and all classes of good quality manufactured joinery, and shop fitting.

They are also stockists of hardboards, wallboards, plywood, formica and laconite; they carry large stocks of softwood, including P.T. & G. Boards, match boards, mouldings, skirtings, framing and shelvings.

The machine shop is fitted with all the latest types of woodworking machinery and is capable of preparing any class of joinery required.

About a hundred years ago the firm of M. A. PETERS & CO. LTD., wholesale and retail timber merchants, was founded in Standishgate by Mr. George Peters. Thirty years later new premises were taken in Wallgate and in 1899 the firm was incorporated under its present name.

The company deals in all kinds of imported softwood and hardwood but the stock carried is largely softwood for the building trade. Wood mouldings, particularly rainwater gutters, tongued

and grooved boards, and many other items are manufactured for all building and industrial uses.

The firm of J. H. LAYCOCK, timber importers and merchants, are well known throughout Lancashire and Cheshire as specialists in the preparation

and supply of timber to education authorities.

They have also specialised in the supply of building boards for the last thirty years and carry a comprehensive stock of the numerous boards now available.

OTHER INDUSTRIES

Asbestos Textiles

A feature of Hindley Green in post-war years has been the industrial development sponsored by TURNER BROTHERS ASBESTOS CO. LTD., at their Leigh Road site. In late 1949 this company, a member of the world-wide Turner and Newall organisation, completed the construction of a North Block, in which conveyor and transmission belting and "V" belts are made for home and overseas markets.

The site is very large and is being prepared for further developments, the first of which—a South Block to accommodate the manufacture of asbestos textiles and reinforced plastic materials—is now well under way. When these extensions are completed the factory will be one of the largest in the area and the numbers at present employed will be almost doubled.

The company has secured a reputation for quality products and maintains a large research organisation in order to remain in the forefront of British industry.

Working conditions at the factory are excellent and the company pursues a progressive personnel policy, providing generous holidays with pay, education and training, schemes for pay whilst absent through sickness and for retirement pensions. First-class canteen facilities are available and there is an active recreation club.

By the introduction of new industry within the Hindley Urban District, Turner Brothers Asbestos Co. Ltd. has greatly added to local prosperity.

Brewers

The firm of J. B. ALMOND, Brewers of Standish, was founded about 70 years ago by James Birkett Almond. At that time he brewed his beer in an out-house behind the Wheatsheaf Hotel, the hotel next to the present brewery.

The business was gradually built up and although not a large firm there has been and still is a great demand

for their products, which are noted for quality.

The firm is at present a partnership comprising Mr. William Almond, Mr. Leonard Richardson Almond and Mr. Maskell Harold Almond; the Managing Director is Mr. William Almond.

The hotels owned by J. B. Almond are located in and around the Wigan district and are therefore able to supply the workers in the heavy industries in that part of Lancashire.

Footwear

The footwear industry is represented by LORD & SHARMAN LTD., who established the business at Pemberton in 1920. Over 400 people are now employed in a modern flow-production factory, producing the well-known "Superveldt" children's footwear and "Loraness" ladies' shoes and slippers—brands highly popular with the trade and public. Although mainly concerned with the increasing demands of the home market, the company ships substantial quantities of its products to overseas destinations.

Fuel Supplies

THE PEMBERTON COAL AND CANNEL CO. of Wigan was established over seventy years ago and is foremost in efficiency and service in the supply of all types of fuel, both industrial and domestic.

Furniture

With the closing of mines, particularly in the Pemberton area, in recent years other industries have assumed a greater importance; one such is the furniture industry, which has established itself by

The machining department in the works of Taylor Brothers Ltd.



adherence to the production of dependable furniture by such firms as TAYLOR BROS. This has been achieved by the installation of precision modern labour-saving machinery, and has contributed to increased output of articles for which there is a steady demand. R. FOSTER & SON LTD. specialise in chairs, branching out from the centre of that industry in High Wycombe. With their new factory and up-to-date machines, they have increased output and now supply the north of England and H.M. Government with chairs of all types.

Food Products

The latest phase in the development of H. J. HEINZ COMPANY LIMITED—makers of the well-known 57 Varieties—is the purchase of a 130-acre site at Kitt Green, Lancashire, for a new food factory. Negotiations for the purchase were first referred to in the Chairman's Statement published in September, 1954, and the costs which will be incurred during the next few years in developing and equipping the site and buildings are now estimated at over £5,000,000. The Kitt Green factory will ultimately take the place of the present Standish factory situated about four miles distant, but will be additional to the main factory at Harlesden in North West London.

Following 1946, increasing demand for the company's products emphasised the urgent need for increased manufacturing facilities, and looking ahead the company foresaw the necessity of maintaining up-to-date production facilities at Standish and of incorporating the latest technological improvements and building layouts. This would inevitably involve additional investment at Standish.

It was clear that such investment could not be seriously considered on a site which had no security of tenure, as is the case with the existing Standish factory. It therefore becomes essential to transfer the Standish production facilities to a site where such security can be ensured. The existing production of the Standish factory can be transferred by stages and the present staff absorbed, as it is imperative that the continuity of their jobs should be assured.

The new site is adjacent to the area from which the company obtains its present agricultural produce, and use will continue to be made of the fertile land in the Ormskirk district of Lancashire.

It is intended in due course to manufacture at Kitt Green the full range of the 57 Varieties. The proximity of the Wigan-Southport railway line will facilitate provision of sidings and the factory will

be within easy reach of Liverpool's great docks—of special significance and importance in view of the company's big export trade and its plans for expansion of this trade.

In the foreseeable future the output of the new factory will equal that of the company's main factory at Harlesden, London, and as staff to carry out this operation will be recruited locally, it would seem to augur well for future local prosperity.

The company has come a long way since 1886 when the first consignment of the 57 Varieties was sold in this country. The first English sales branch was established in 1896, and in 1925 the company moved to the site at Harlesden, London, where they now employ over 3,000 people.

The construction of the new Kitt Green factory is another step along the road of endeavour and progress upon which Henry J. Heinz, the founder, set a sure foot in 1869. His aims and principles will play a big part in the operation of the new plant, where the excellent welfare amenities for which Heinz is so well known will add enjoyment to the leisure hours of their many employees.

The architect for the new factory is Mr. E. D. Jefferiss Mathews, O.B.E., F.R.I.B.A., Principal of J. Douglass Mathews & Partners, of Ebury Street, London. Mr. Jefferiss Mathews has had considerable experience of modern industrial building design. The main contractor is A. Monk & Co. Ltd., the well-known civil engineering and building contractors, of Warrington.

Preserves and Marmalade

There are several firms engaged in this industry in Wigan, one of the best known—especially as regards marmalade—being JOHN MAWDSLEY LTD., who have been operating in Princess Street since 1882, and quickly extended in 1897 and 1907. The business has continued to expand (a testimony to the excellence of its products), and now also specialise in the manufacture of Christmas puddings, for which further extensions were made in 1947.

Pickles

During the last half-century the housewife's task has been lightened in many ways—houses are smaller and more compact, and various efficiency devices have considerably reduced the amount of time required for cleaning. This, however, is only one side of the question. In the culinary department conditions are infinitely easier. Whereas at one time bread, cakes, preserves, sauces and so on had to be made at home, these are now all purchased already prepared. This does not take

note of the fact that sugar had to be crushed, pepper, spices and coffee ground and such fruit as raisins and sultanas washed and stoned. All this is a thing of the past. The housewife today can buy literally everything ready for the table. The amount of time saved is tremendous, and looking back it seems almost impossible to believe that time was once found to prepare all these essentials at home. Take for example the tedious task of preserving vegetables by pickling. At one time this was a regular occupation for the winter evenings. How many people pickle their own onions, walnuts or cabbage today? Very few; notwithstanding the fact that various profits have to be found, it is possible to buy first quality pickles at a fraction over the cost of home production. The minute saving is not worth the trouble involved, and pickles are, therefore, almost invariably purchased from the grocer. The low prices have been made possible by the introduction of factory methods into their preparation, and by the keen buying and brining of vegetables at the right time.

There are many manufacturers in various parts of the country engaged in producing pickles. One

of the largest of these in the North of England is T. E. GALLAGHER & SONS, of T.E.G. Works, Earl Street, Ince, Wigan, whose trade mark, T.E.G., is a household word everywhere.

This progressive firm are perfectly equipped for the preservation of vegetables, having forty tiled tanks with a capacity of 280 tons. During the season when vegetables are cheapest they are placed in the vats, covered with brine and left until required for bottling.

The firm also manufactures soft drinks and squashes that are delivered to retailers by a fleet of lorries and it is their proud boast that T.E.G. has a "load on every road."

They also own and control factories at Preston, Messrs. Seeds (Mineral Waters), and Birkenhead, Messrs. T. E. Gallagher & Sons (Birkenhead). They are also proprietors of "Crispies," Ltd., Potato Crisp Manufacturers.

Paint and Varnish

THE KEYSTONE PAINT & VARNISH CO. LTD. are well known throughout the paint trade as manufacturers of "Keystona"—the original flat oil paint. In addition to "Keystona" flat oil paint,

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Established 1879

the company manufactures Keyolin Enamel Paint, Syntona Emulsion Paint and a wide variety of enamels, gloss paints, varnishes, water paints, etc., and their factory at Hindley is probably one of the most modern paint factories in the United Kingdom.

The quality of Keystone paints is demonstrated by the fact that they are used in the London County Hall and the Bank of England, as well as such well-known liners as the *Queen Mary*, *Queen Elizabeth*, and the *Mauretania*.

In the industrial sphere the products of this company are used extensively and there are few parts of the world where Keystone paints are not known.

F. W. HEATON (PAINTS) LTD. of Standish Paint Works is another local firm of paint manufacturers.

Oils, Greases, etc.

The old established company of RICHARD BURLAND & SONS started business in Wigan during the era which produced the flying shuttle, spinning jenny, and frame, and Crompton's spinning mule, and has shared in the growth of Lancashire's industrial age.

With their associated companies they have an up-to-date lubrication service, with oils and greases for every purpose. Special lubricants are often designed to meet customers' particular requirements.



A line of refining mills in the Keystone Paint and Varnish Works

Products supplied or manufactured at their Wigan works include:—Valvoline-Sterling motor oil for petrol and diesel engines (approved by famous makers); Burlands tractor oils; industrial lubricants for collieries, quarries, factories, mills, etc.; putty, paint, disinfectant fluid, tar, creosote, coal bags and brattice cloths, etc.

Burlands have shared in the growth of Wigan since 1742, and are always at the service of local industry.

F. W. HEATON (PAINTS) LTD.

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