



**NEWMAN, HENDER & CO.,**  
LTD.

**WOODCHESTER, NEAR STROUD.**

**Brass and Iron Founders.**

**Manufacturers of High-Class Engine Fittings and Boiler Mountings, Gun Metal and Iron Cocks and Valves of Every Description for Engineers, Boiler Makers, Shipbuilders, etc., etc.**

*ON ADMIRALTY, WAR OFFICE AND OTHER LISTS.*

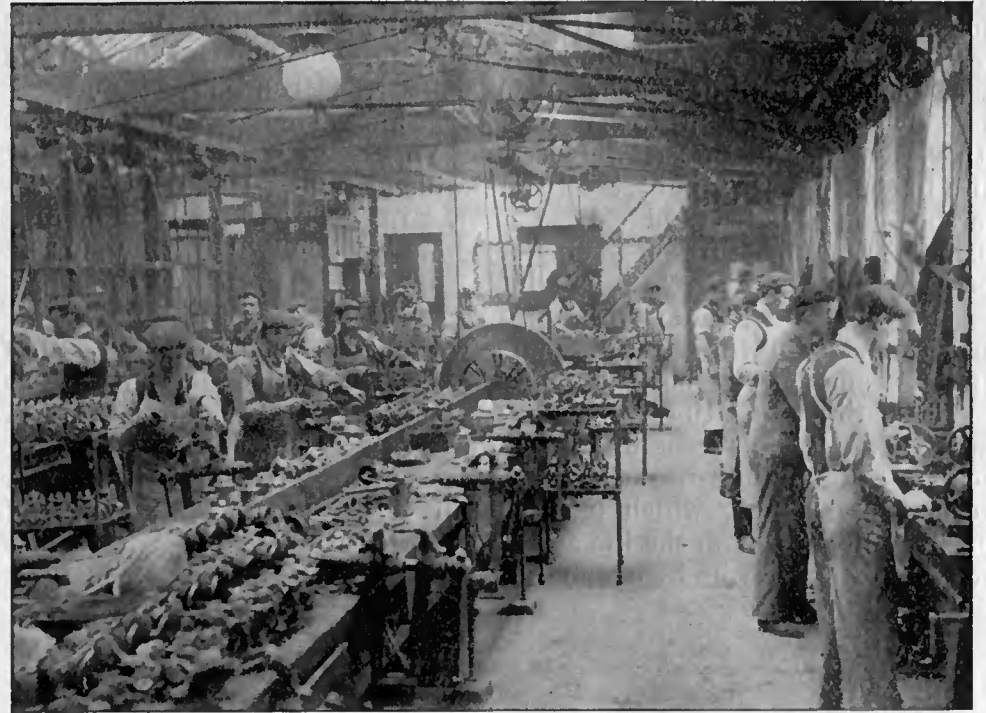
**I**N any history of the varied industries of Gloucestershire the admirably appointed works operated by Messrs. Newman, Hender and Co., Ltd., are deserving of more than passing mention. Both by reason of the remarkable progress this Company has made, and the very up-to-date methods they employ, they have now a high reputation in Engineering and Manufacturing circles.

Situated upon the little river which wends its course through the entire valley of Woodchester, the principal buildings consist of offices, foundry and machine shops, power house, pattern making department, and store, as well as extensive stock and show rooms for the storage of raw material, partly finished and completely manufactured products of the Company, the whole being conveniently situated relative to each other, lighted throughout by electricity and connected by a complete telephone installation which places the office in

an article, and at the same time keeping up the very high-class standard of excellence for which this firm's manufactures have always been noted. With this object ever in view large sums of money are yearly expended in equipping the works with the very latest machinery, and it is surprising to note how much of their work which a few years ago was performed by skilled mechanics at high cost and comparatively low production, is now turned out in vast quantities with far greater accuracy than was possible under the old regime, on automatic and semi-automatic machines with unskilled labour. It is also interesting to note that electricity is extensively used throughout the works, it being generated by a considerable water power derived from the little river already mentioned, and a separate power house, equipped with gas engines and a gas producing plant, which supplies the necessary

bronze, and white metal alloys, etc., etc.

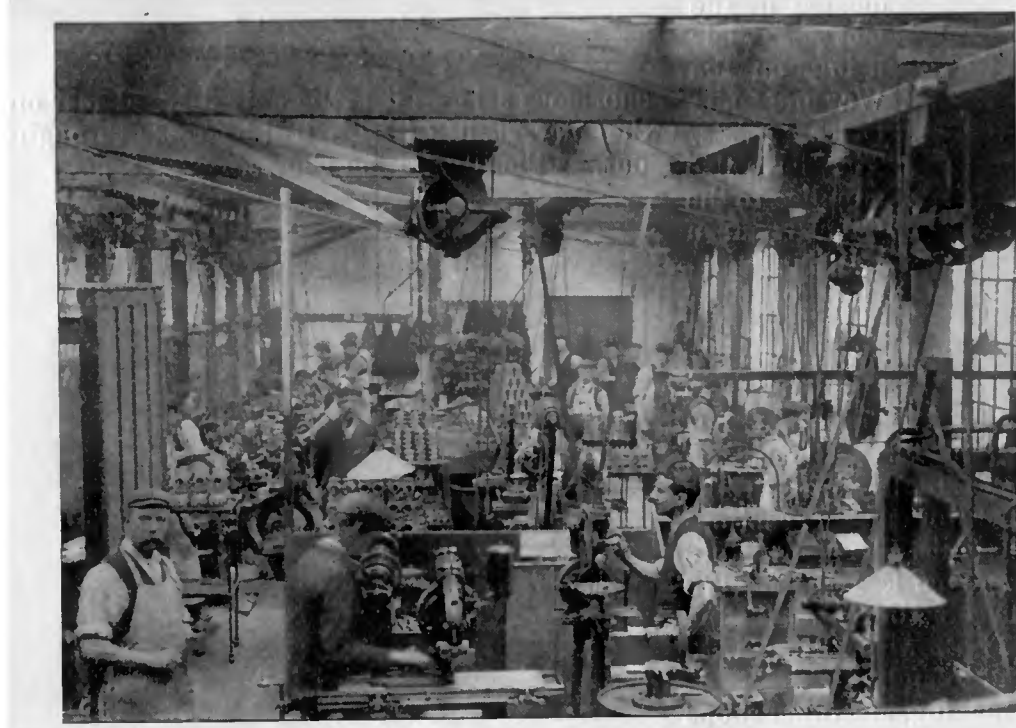
A visit to the extensive stock and show-rooms of the Company impresses the visitor with the enormous variety and large stocks kept of the various manufactures of the Firm; every description of gun metal, brass, iron, and other fittings used by engine builders, boiler makers, shipbuilders, mining, railway, water works, and heating, etc., engineers and contractors, in-



**VIEW IN ONE OF THE MACHINE SHOPS.**

Newman, Hender & Company, Limited.

(Finishing and Assembling Shop.)



**VIEW IN ONE OF THE MACHINE SHOPS.**

(Tool Room and Capstan Lathe Department.)

Newman, Hender & Company, Limited.

direct communication with the foremen in the various departments. A private railway siding also extends alongside the works.

The business was established in 1879 by Mr. S. J. Newman, Senr., the present Chairman of the Company, an amalgamation being effected in 1896 with Messrs. Hender and Co., and a private Limited Liability Company being formed. The present officers of the Company are Messrs. S. J. Newman, Senr. (Chairman), C. P. Newman and Frank Hender (Joint Managing Directors), Joseph Hender and S. J. Newman, Junr. (Directors), while the latter also fills the post of Secretary.

From the very date of its establishment the business has been distinguished by an almost uninterrupted growth, and is curiously illustrative of our modern industrial progress. From the outset Messrs. Newman, Hender and Co., Ltd., have recognised that to successfully conduct a business in the face of ever-increasing competition it is essential that all goods manufactured must as far as possible become highly standardised, and a visit to their works will reveal how carefully every detail has been thought out and put into practical working order, tending to the economical production of

Office, or other inspector whose duty it is to inspect and test the work in hand for the particular contract in which he is interested.

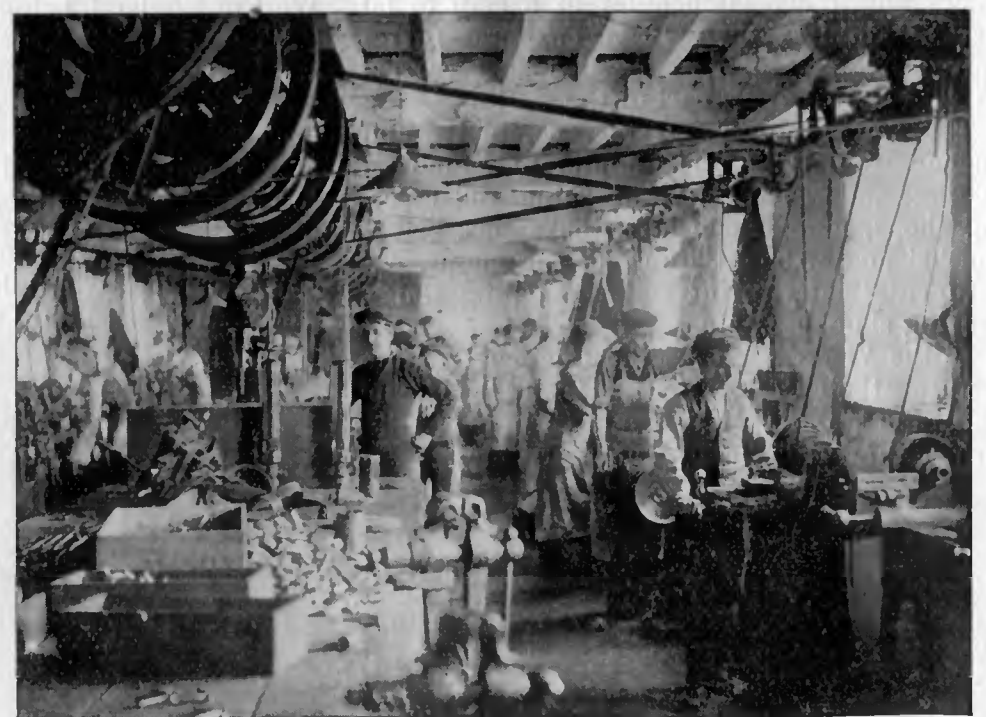
The Company also have a large and well-equipped foundry in which are contained the most modern furnaces, moulding machines, cranes and other appliances representing the very latest practice in this interesting department, the Firm doing a large business in castings of every size in gun metal, yellow metal, naval brass, aluminium, phosphor-

gas to the engines at a very economical cost compared with the ordinary town supply.

Another very important feature is the arrangement whereby every fitting manufactured by the Firm is before being sent out carefully inspected and subjected to a severe steam and hydraulic test, and for this purpose a very complete plant has been installed, including a water tube boiler for generating the necessary steam. Everything is arranged for the convenience of the Admiralty, War

cluding cocks and valves of every description, steam and water gauges, sight-feed lubricators, and oiling devices too numerous to mention, injectors and ejectors, etc. Asbestos-packed fittings of every type made on the Firm's improved method also represent a large proportion of the stock on hand, the demand for this class of fitting having enormously increased in these days of high pressure steam.

The visitor to the works will be especially interested in the method employed whereby in all departments the operatives' time is accurately kept by automatic time-recording machines, and to show how even in the minutest detail every effort has been made not only to effect economy in manufacture, but to keep a careful and permanent record of productive cost, a carefully thought out system has been instituted in connection with these same recorders. For this purpose special cost cards are in vogue, having spaces for the date, employee's and order numbers, and the quantity and description of the work to be executed. By this means the name of the workman, the date and exact time he commenced and completed his work (giving the number of hours and minutes he was



**VIEW IN ONE OF THE MACHINE SHOPS.**

Newman, Hender & Company, Limited.



engaged on it) together with his individual rate of pay is automatically and accurately kept and gives a labour cost which, when taken in conjunction with the material and other charges, enables the Firm to ascertain the total cost of any article produced to the fraction of a penny.

A word must here be said as to the excellent relations existing between the Company and its employees, everything being done that is possible to further the interests and enhance the well-being and health of all concerned. For this purpose first-rate sanitary, heating, and other arrangements exist, while surrounding the works and the property of one of the Directors of the Company are substantial dwellings, each with its plot of garden, let on very reasonable terms, in which many of the employees live.

In conclusion we would mention that the high-class character of the work produced by Messrs. Newman, Hender and Co., Ltd., is attested by the very extensive nature of their business, for besides being constantly employed in executing important Government contracts their manufactures find a ready market in nearly all parts of the world.

The London office of the Company is situated at 98, Cannon Street, E.C., while they are represented in Glasgow by Messrs. Forbes and McBarnet, 29, Waterloo Street.



## W. S. BARRON & SON, GLOUCESTER.

**A well-known Firm of Milling Engineers.**

**G**LOUCESTER has long been known not only as a great milling centre, but also as the locale of engineering firms that make a speciality of flour-milling machinery and appliances. There are in the city several concerns that have achieved a national reputation in this respect, particularly the well-known firm of Messrs. W. S. Barron and Son, Sweetbriar Street, Kingsholm.

Messrs. Barron and Son occupy commodious premises, favourably situated near the Great Western and Midland Railways. Adjoining the buildings ample ground is reserved permitting an extension of the plant should it be required, an event which the steady growth of the Firm's business renders more than likely.

Mr. W. S. Barron, the founder of the business and the present senior member of the Firm, has had a particularly extensive acquaintance with milling engineering, to which he has devoted over 30 years of his life. After having served a thorough apprenticeship in Yorkshire, he spent some years in travel, erecting and selling milling machinery in various places in England and abroad. During his travels he not only gained a wide and accurate knowledge of milling, both theoretically and practically, but he became personally known in milling circles throughout the entire country. When he decided to engage in business for himself, establishing his works in Gloucester, this wide acquaintance formed the basis of his present very gratifying connection.

The range of Messrs. W. S. Barron and Son's operations would be best described by saying that they include every mechanical operation directly or indirectly connected with milling. They are equally competent to make or repair a particular machine or part of a machine, and to design, manufacture and install a complete system for mills of any character or capacity. It would probably be accurate to say that they devote particular attention to the designing and installation of complete plants, and the Firm can refer inquirers to scores of both steam and water mills throughout the Kingdom designed by Mr. W. S. Barron. It should be stated in this connection that Mr. W. S. Barron has had a sufficiently long experience to witness the complete revolution effected in milling processes in the past three decades, and that he

has himself done not a little to aid the transition from the old-fashioned stone "burrs" to the present steel rollers. In addition to equipping new mills, the Firm also give a great deal of attention to the work of bringing old mills up-to-date by gradually, or at once, removing old machinery and installing new. Readers of "Milling" and "The Miller," two of the leading technical journals devoted to the trade, frequently see the firm mentioned in connection with the erection, enlargement, or remodelling of plants.

Messrs. W. S. Barron and Son excel in the manufacture as well as in the installation of milling machinery. They make special features of the manufacture of grain-cleaning and elevator apparatus, millstones and rolls, hoists, lifts, separators, dust collectors, motors, engines, and water wheels, gearing, shafting, etc. They also make a great deal of special machinery for the manufacture of cocoa, spices, drugs, pepper, ginger, powder sifting and blending, colour grinding, sugar grinding and dressing, etc. Repairs are promptly executed under personal supervision, and only experienced men are sent out to do erecting.

The Firm also act as valuers and arbitrators, their long experience and wide connection having given them peculiar qualifications for this work. Their technical knowledge is enhanced by an integrity which has never been questioned.

The present members of the Firm are Mr. W. S. Barron, the founder and present head, and Mr. G. S. Barron, his son. The latter, who was but recently admitted to the Firm, was for some years in the works of his uncle, Mr. J. Barron, of Leeds, where he acquired the experience which is now being put to good account. The Firm have gained the confidence of trade circles generally and are deservedly esteemed for their personal, as well as business, traits.



## W. SISSON & COMPANY, GLOUCESTER.

**Manufacturers of Patent High Speed Engines for Dynamos, and High Class Marine Machinery.**

**T**HIS Firm has been in existence since 1889, when the business formerly carried on by the late Mr. J. J. Seekings, was taken over. At that date 30 to 40 hands were employed, while to day the number has been increased to about 70, being as many as the premises can well accommodate, and the mechanical equipment of the works has been commensurately improved.

While Messrs. W. Sisson and Company are marine and general engineers, they have for some years devoted special attention to the manufacture of their own patent high speed dynamo engines. Their marine engines, of all types, are working in all parts of the world. They have constructed the engines and boilers for all the fastest launches on Windermere Lake. One of these launches, for which they supplied both the hull and the machinery, is 65 feet long, and attained a trial speed of 24½ miles an hour; another, 45 feet long, attained a trial speed of 18½ miles an hour. They have also supplied a great many engines for Thames launches, particularly for the well-known Salter Line of passenger boats.

They have recently developed the Sisson Patent High Speed Engine for dynamo driving. It is particularly designed for electrical power and traction plants, and protracted and thorough experiments, carried on under the strict supervision of purchasers, have shown it to produce excellent results. For steam and oil economy, large overload capacity, prompt and close governing, and favourable steam consumption in continuous work with constantly and largely varying loads, the Sisson Patent

High Speed Engine has proved itself superior to the best throttle governed high speed engines.

The largest Sisson engine yet made is one of 900 h.p., destined for Johannesburg; another 750 h.p., of four-crank triple expansion marine type, is fitted in a large yacht; and two others of 600 h.p. each, were made for Cape Town, these four being, we believe, the most powerful engines ever constructed in Gloucester. Three of 400 h.p. have been at work for some years in the Bankside station of the City of London Electric Lighting Company (the largest in the country).

Reference has already been made to the high quality of the Company's productions. It may be said with perfect accuracy that their aim and constant effort is to embody in their productions, whether important or comparatively unimportant, the most conscientious work as well as good practical and theoretical knowledge.

Messrs. Sisson and Company intend shortly to erect new works in a more favourable situation, where they can economically produce their manufactures under the best conditions.



## LEONARD THOMAS & CO. COALEY MILLS, Nr. DURSLEY.

**Manufacturers of Spades, Shovels, Draining and Garden Tools, &c.**

**I**N two respects the works operated by Messrs. Leonard Thomas and Company, Coaley Mills, near Dursley, are unique among Gloucestershire manufactories: they are the oldest existing ironworks in the County, and the only one devoted exclusively to the manufacture of spades, shovels, and similar implements and tools.

The business was established in 1744, since which date it has never been suspended. Over 30 years ago Mr. Leonard Thomas, the head of the present Company, first became identified with the business. Under his direction the industry has fully maintained the prestige it has enjoyed for a century and a half.

The freehold premises owned and occupied by Messrs. Leonard Thomas and Company comprise 7 acres of ground, with valuable water power and ample reserve ground for further extensions. Among the buildings still in use are the original large stone structures, a separate building of comparatively recent erection, and various additions that have been made from time to time. The motive power is furnished by a water-wheel, two turbines, and an oil engine. Each department, including the forges, finishing, grinding and wood-working shops, stores, and the warehouse, occupies a separate portion of the buildings. The mechanical equipment is thoroughly complete, including a number of furnaces, heavy power hammers, stamping, pressing, and punching machines, wood-working machinery, &c., and every tool and appliance necessary for economical production.

As has been stated, Messrs. Leonard Thomas and Company manufacture all kinds of shovels, spades, hoes, forks, general gardening and draining tools, road scrapers, ladles, axes, etc. They publish an attractive illustrated catalogue, showing a variety of implements of their own manufacture. They are contractors to His Majesty's Government, and have executed important orders for the leading English and Indian railways and contractors. Considerable quantities of their special implements are also exported, principally through the London and other factors.

Of the high character of the Firm's manufactures it is unnecessary to speak, as their long history of over 150 years is a sufficient guarantee of quality. It is but just to add, however, that now, as heretofore, every effort is made to see that nothing but the best workmanship and materials are represented in every article that leaves the premises.