



must go through a number of hands, and frequently a number of machines, before it is complete. Throughout the works labour is carefully specialised, each workman confining himself to one particular operation or kind of work, thus gaining a rapidity and accuracy which he could not otherwise acquire. Much of the work requires an accurate judgment on the part of the workman, as well as considerable skill. Thus in splitting the log from which a prong stem, rake, hoe, or other handle is to be made, advantage must be taken of the shape and grain of the log to avoid waste and to secure the best result, and in bending or straightening, shaping, and turning the greatest care must at all times be exercised.

Messrs. Constance and Sons obtain their supply of timber—which includes ash, alder, beech, birch, and other woods—principally from the Forest of Dean, Herefordshire, Monmouthshire, and Shropshire. All of the rough timber is stacked in the yards and thoroughly seasoned before being used; and in many cases, after being split and sawed into lengths, it is again seasoned for months. This care is characteristic of their methods throughout every stage of the work, from first to last. Their entire reputation has been established on quality. American or other competitors may make a cheaper article, but it is not too much to say that no firm has consistently maintained a higher standard.

The present members of the Company are Messrs. Stephen W. Constance (the senior member), and his sons, W. J. and John Constance, all of whom devote their whole time to the business. Although their industry is more than a century old, it is still thriving and progressive, and it has been a pleasure to refer to the thorough and conscientious methods which characterise its management.



## IRELAND AND COMPANY, GLOUCESTER.

Wholesale and Export Brush  
Manufacturers.

**M**ESSRS. IRELAND AND COMPANY'S brush manufactory, New Inn Lane, Gloucester, has been in continuous and successful operation for considerably over a century, having been established in 1767. The original premises were in Westgate Street, and after several removals to more convenient quarters, made necessary by increasing trade, the present commodious premises were secured in 1869.

As is the case with several of Gloucestershire's industries, the appearance of the Company's factory is but little known, even to our own people, as it is so surrounded by other business premises as to be almost obscured from the view of the casual observer. The buildings, however, are quite extensive, with a frontage of 38 feet, and large workshops of modern construction in the rear. In recent years several important additions have been made, including a roomy and substantial two-storey building erected last year. Immediately opposite the factory is a separate building, 70 feet in depth, used exclusively as a warehouse.

Brush making in Messrs. Ireland and Company's factory is highly specialised, the factory being divided into a number of separate departments, in each of which only a portion of the work is done. Among the departments are the "pan room," where sweeping brooms, bass brooms, hearth brushes, bannister brushes, etc., are made; the drawing room, for

scrubbing brushes, stove, shoe, dandy brushes, etc.; the finishing room; the varnishing room; and several large stock rooms. The factory gives employment to between 25 and 30 hands, whose productive power is increased by the use of special machinery and appliances. All of the operatives work under agreeable conditions, the various departments being well lighted and ventilated and thoroughly comfortable.

Almost as interesting as the various hand and machine processes which enter into the making of every brush are the large stock rooms in which the component parts are stored. In one large room are thousands of backs and handles—enough, one would imagine, to supply the trade for years. In other rooms are kept large quantities of assorted fibre and bristles, varying in fineness from those used for paint brushes to the heaviest and coarsest pavement and street brushes. Many of the bristles are imported from the most distant countries, Russia, Siberia, China and India contributing largely to the stock, the price for some varieties ranging as high as 12s. per pound. All of the fibre is also imported, principally from South America, Mexico and Africa. Thousands of pounds of fibre and bristles are always kept in stock, to enable the Company to promptly meet any order.

Messrs. Ireland and Company manufacture almost every variety of brush known, though they have for many years paid special attention to the manufacture of the best quality brooms and brushes for household purposes. They also keep men specially engaged for all classes of mill work. Their trade extends throughout the Midlands, the West of England and South Wales, where their reputation has long been firmly established. It is worth noting that they have never advertised, their wide connection having been secured and maintained wholly through the invariably high quality of their manufactures.

The present members of the firm are Messrs. G. H. Harris, R. J. Templeman (manager), J. G. J. Lane, and A. S. Lane, all of whom devote their entire time to the management of the business. Of these Mr. Harris has been identified with the business continuously for thirty-four years, and Mr. Templeman for thirty-two years. It should be added that during its long history of nearly 140 years the business has never been suspended for lack of work, and that under the present management its high standing is being fully maintained.



## S. J. MORELAND AND SONS, GLOUCESTER.

Manufacturers of the Celebrated  
"England's Glory" Matches.

**M**ESSRS. S. J. MORELAND AND SONS' match works (one of the largest and most interesting industries in Gloucestershire) were established over fifty years ago by Mr. S. J. Moreland, the present senior partner of the Firm. The business was begun on a small scale, on a site near that now occupied in Bristol Road, and the original premises would be lost in those required to-day.

From the date of its establishment until the present time the distinguishing feature of the industry has been its unbroken growth. Fifty years ago match-making was undeveloped, and both the methods of manufacture and the product were of the crudest description as compared with those of to-day. But, like nearly all industries, the manufacture of matches has been completely revolutionised by modern science and invention, and the highly

specialised machinery now in use has enormously increased the output, and at the same time minimised the cost. In this development Messrs. Moreland and Sons have taken a very important part, and many of their machines and special appliances are of their own invention.

Co-incident with the constantly increasing demand for the Firm's matches the buildings and mechanical equipment were frequently enlarged, the premises, including the large timber yards on the canal side, now comprising an area of six acres. The buildings are of the most substantial construction, and are provided with every convenience which long experience or forethought could secure. They are lighted by electricity, and are equipped with the automatic sprinkler system throughout. The works are entirely self-contained, comprising, in addition to the actual manufacturing departments, carpentering and fitting shops and a complete printing plant.

It is but just to add a word here as to the conditions under which the operatives (of whom there are upwards of 1,000) perform their work. The buildings are admirably lighted and ventilated, and are heated with hot air, thorough ventilation being secured by means of fans. Every effort has been made to ensure the comfort and health of the workpeople, and that this object has been attained is evident to anyone who is privileged to inspect the works.

It would be wholly out of keeping with this brief article, as it would be beyond our powers, to attempt anything like a technical description of the various processes in use in Messrs. Moreland and Sons' works. It is interesting to know, however, that such is the rapidity and precision of their special machines that in less than an hour a rough piece of timber is converted into the finished article. One of these machines, into which is placed sheets of wood of the proper thickness, turns out the completed splints at the almost inconceivable rate of 12,000,000 per hour, and another machine has a capacity for turning out over 700 boxes per minute. Other processes are not less rapid, and in the course of a single day tons of wood are converted into finished matches, packed in boxes and ready for shipment.

Messrs. Moreland and Sons manufacture all kinds of Safety, Paraffin, and Vesuvian Matches, and Wax Vestas. Their safety matches, which were introduced a few years ago, are appropriately named the "John Bull" brand, and, like the other products of "England's Glory" match works, have gained a world-wide popularity.

It is perfectly accurate to say that the products of no other manufactory in Gloucestershire or the West of England are known in so many homes in various parts of the world. The "England's Glory" and "John Bull" matches are not only familiar words in every British household, but they are in daily use in all our Colonies and dependencies, and in other countries. Wherever they go they are a favourable advertisement for Gloucestershire manufactures.

There is another very commendable feature of Messrs. S. J. Moreland and Sons' great industry to which we should refer in conclusion. The Firm have declined to become a part of any combine or syndicate, but, on the contrary, have held their own, and have consistently combated monopoly. The present members of the Firm are Messrs. S. J. Moreland (the founder of the industry) and his two sons, Messrs. Harry and Philip, all of whom devote their entire time to the business.

