



## CHALFORD STICK CO., LTD., CHALFORD, NEAR STROUD.

**Manufacturers of Umbrella, Sunshade and Walking Sticks, and Celluloid, Horn and Ivory Handles.**

IN September of last year the Chalford Stick Company, Limited, one of the most progressive concerns in the Stroud Valley, succeeded to a well-known stick manufacturing business that had been carried on in this district for a number of years. Immediately upon the incorporation of the Company a large factory was newly equipped throughout, and provision was made to greatly extend the scope and volume of the business, making what is really a new industry.

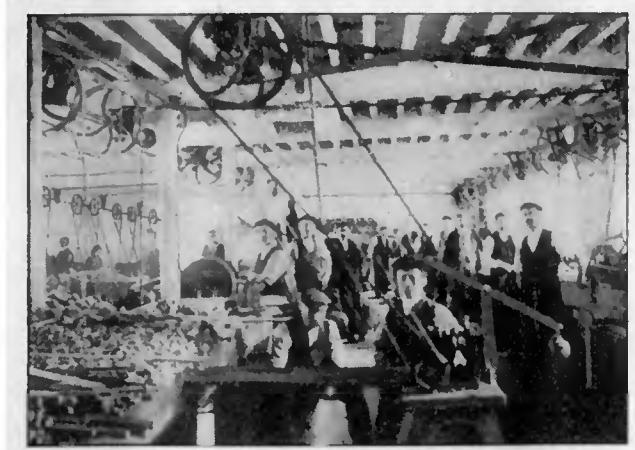
The premises secured by the Company are conveniently situated adjoining the Great Western Railway, with hourly motor service from the works to Stroud and Stonehouse. As may be seen from one of the accompanying



View of Chalford Stick Co's Works, West Position.

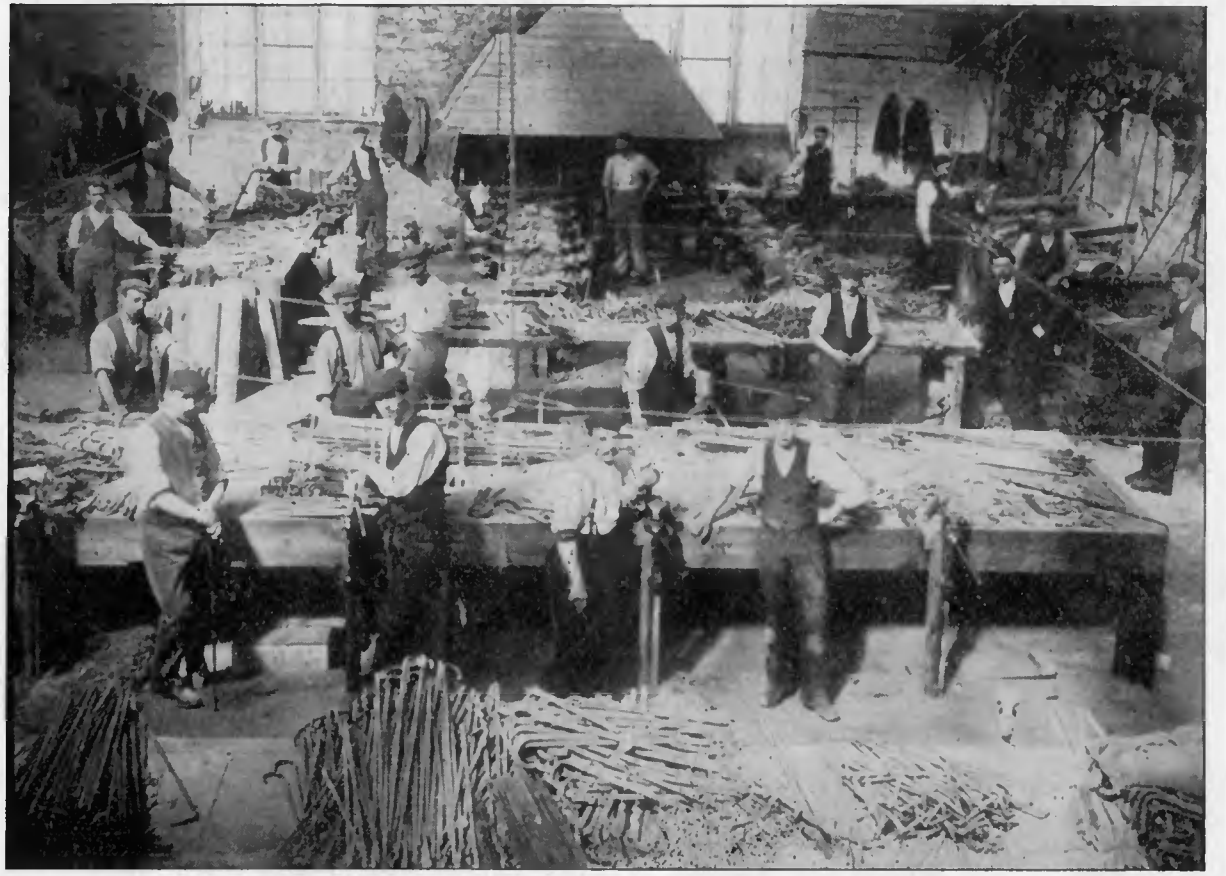
engravings, which were kindly loaned us by the Company for this publication, the premises include four large stone structures, besides separate offices and other buildings. Two of the largest buildings are of five storeys, the factory as a whole having the largest floor space of any similar works in Great Britain.

A particularly noticeable feature of the factory is its compactness, all of the departments being so placed in regard to each other as to economise space, and greatly facilitate the passage of work from one stage to another. Another very commendable feature is the admirable lighting and ventilation and the general provision for the comfort of operatives. The various rooms have lofty ceilings and opposite windows, looking out over the most picturesque scenery in Gloucestershire.



Turning Shop, Chalford Stick Co., Ltd.

When the premises—which until last year had been standing idle for a long period—were taken by the Company they were entirely re-modelled. At the same time a modern mechanical equipment was installed, including a number of special machines which mark a distinct advance over those in use in other factories, and by which the most rapid and economical production is attained. At the present time about one hundred hands are



Part of Bending and Cane Shop, Chalford Stick Co., Ltd.

given employment, and the business is rapidly increasing. To keep pace with this steady growth improvements and additions to the equipment are constantly under way.

The second engraving shown herewith is an interior view of the large turning shop, taken from a recent photograph. The engraving gives some idea of the size and excellent arrangement of this department, which is ideally adapted to its purpose. The other departments—including the saw-mill, the bending and cane shop (of which our third engraving is a view), the turning and making shop, the varnishing shops, the staining shop, and the stock room—are not less interesting. We regret that limited space will not permit of a detailed description of the many interesting mechanical and hand processes through which every stick passes in the course of its transformation from a rough and unsightly piece of timber to a highly-finished article.



Corner of Stores Shed, Chalford Stick Co., Ltd.

The Chalford Stick Company manufacture every kind of umbrella, sunshade and walking-sticks. They buy and stock quantities of beech, gorse, American birch and maple, scented cherry, Congo wood, orange, olive, myrtle and other woods, in many instances purchasing direct from the grower. They have special facilities for storing and seasoning their woods, having exceptionally capacious and well-arranged buildings for this purpose. They make a special feature of the better-grade goods, their gold and silver-mounted sticks and fancy mounted celluloid and ivory handles having gained the highest reputation in trade circles.

In addition to the warehouses at the works, branch warehouses are maintained in London,

Manchester and Glasgow, and agencies in Paris and Berlin. Through these centres the finished goods are consigned to every quarter of the globe, a very large proportion being made for export.

The managers of the Chalford Stick Company are Messrs. H. C. Dann, H. Isaac, and G. B. Chell, the latter of whom is in charge of the Manchester warehouse. Messrs. Dann and Isaac devote their entire time to the supervision of the manufacturing processes. They have both been identified with the stick trade for over twenty years, and their progressive spirit is reflected in the very thriving industry to which we have inadequately referred.



## A. C. HARRISON & CO., LTD., BLISS MILLS, CHALFORD.

**One of the Largest Manufacturers of Umbrella and Walking Sticks in Great Britain.**

ONE of the most interesting, as well as one of the largest, industries in the Stroud Valley is that successfully carried on by Messrs. A. C. Harrison and Company, Limited, at the Bliss Mills, Chalford. The business is also one of the oldest of its kind in the county, having been established in 1840 by the late Mr. Wm. Dangerfield, by whom it was carried on continuously until his death, in 1894. After several subsequent changes in the *personnel* of the firm, the business was taken over in June of last year by the present company, of which Mr. A. C. Harrison is the head. Mr. Harrison has had a long experience in the stick trade, having been connected with several concerns in this district, and both his father and his grandfather had also been engaged in the industry, the latter being one of the pioneers in this branch of manufacture.

The present premises occupied by Messrs. A. C. Harrison and Company, Limited, cover an area of six and one-half acres of ground, adjoining the Thames and Severn Canal, and near the Great Western Railway. After a destructive fire fourteen years ago it became necessary to reconstruct a large part of the buildings, which are now thoroughly modern in respect to both construction and arrangement. Under the management of the present Company further enlargements and improvements have been made, including the installation of a new gas



plant last year. Besides several large structures devoted to the actual manufacturing processes are a number of separate buildings, including the offices, the enormous storage sheds, the stables, etc. The various buildings are connected with each other by a tram system which extends to all parts of the premises.

The mechanical equipment has kept pace with the progress of recent years, and in every department the latest and most approved machinery is in use. The motive power is supplied by two large compound horizontal

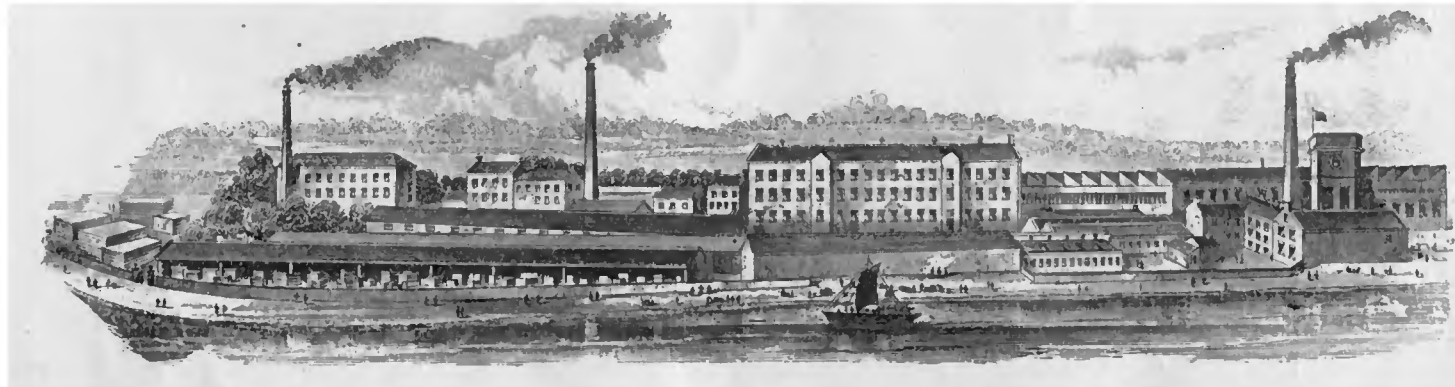
Indeed, nothing seems to be left undone which could facilitate or safeguard production. It should be added, in passing, that the male and female operatives are confined to separate departments, and that every stage of the work is carried on under the most wholesome conditions attainable, the sanitary arrangements and the general comfort of the workpeople having been carefully considered.

While it would be impossible to give in limited space anything like a detailed description of the various processes of manufacture,

portion of whom are machine hands, performing the various operations of shaping, smoothing, and carving the sticks. The saw-mill, where the rough timber is reduced to proper dimensions preparatory to seasoning, the stick-bending rooms, the varnishing and staining room, the packing room, and the stock room are also noticeable by reason of their size and completeness. Connected with the works are well-equipped carpentering and fitting shops, where repairs are executed, and where much of the special machinery in use is constructed.

Messrs. Harrison and Company's manufactures include umbrella sticks and handles in wood and celluloid, with mountings and fittings to order; and walking sticks in Congo, myrtle, furze, bamboo, cherry, hazel, orange, and other native and foreign woods. In their large stock room may be seen at one time as many as 14,000 samples, representing every conceivable design. In addition to their large stock always at the manufactory the Company also maintain offices and stocks in London, Manchester, Glasgow, and Paris, their

manufactures being distributed from these centres to almost every part of the world. It is but just to add that under Mr. Harrison's direction the works have fully maintained their long-established and world-wide reputation as one of the leading concerns of the kind in the kingdom.



"BLISS MILLS," A. C. Harrison & Co., Chalford, Near Stroud.

steam engines of 46 h.-p. each (designed and constructed by a Gloucestershire engineer), and by a water-wheel, which can be coupled with the engines. The premises are lighted by electricity generated on the premises, are provided with the Witter automatic sprinkler system throughout, and are steam-heated.

it may be proper to refer in a word to one or two of the more interesting departments. The general turning and making department is an admirably lighted room, 110 by 80 feet in dimensions, and is undoubtedly one of the finest workrooms in the county. Here are employed about one hundred operatives, a large pro-



## HATHERLEY WORKS, GLOUCESTER.

**The largest Step Works in existence.**

**I**N 1885 Mr. Charles Allan Jones, the founder and present sole proprietor of the Hatherley Step Works, began the manufacture of his patent step ladders, which have since become so widely known throughout Great Britain and the Colonies under the coined word "Lattisteps." The industry was begun on a very small scale, with a nominal capital, and without mechanical equipment, in a building forty feet by twenty-five feet.

To-day the works, which are noticeable by reason of their excellent arrangement and construction, as well as their size, cover 2½ acres of ground, while the wood-working machinery is of the most complete character. One department alone, the mill, is 170 ft. long by 90 ft. wide, and others are scarcely inferior. As the business grew, other originalities were added, including various kinds of folding tables, cycle stands, trestles, poultry houses, etc., although the "Lattisteps" remain the leading feature of the works, and 15,000 of them are always kept in stock, a figure which gives some idea of the enormous number manufactured and sold.

It should be added that Mr. Jones is now not only the largest manufacturer of step ladders in the world, but that he was the first, at least in Great Britain, to make the manufacture of this one article—registered trade mark "Alhathlat"—the basis of a separate industry.

In several respects the Hatherley Step Works may be fairly taken as a type of our best industries. This is particularly true as to the attention given to promoting the comfort and efficiency of the work-people. All of the departments are light, clean and roomy, and are steam heated, the operatives working under the best conditions attainable. It is a pleasure to state that in the history of the industry there has never been a labour dispute, and what is even more remarkable, no operative has ever been suspended for want of work. In all of the departments labour is highly specialized, each man confining himself to that operation for which training or natural aptitude has best fitted him.

The Works are conveniently placed, having entrances in three streets. They are provided throughout with a most unique and original tram system, by which the product is carried on trucks through every department from the timber yards to all floors of the warehouse without lifts. All the trucks, points, crossings, turntables, etc., are specially designed and manufactured on the premises, the rule being that all materials in the process of manufacture shall remain on wheels until finally deposited in the warehouse.

All departments are lighted by electricity generated on the premises. The Grinnell sprinkler system is installed, and in the smallest detail, even in the office methods, the industry has been developed along the most progressive lines, nothing being left undone which could promote economy or despatch. Mr. Jones personally supervises the works, while Mr. R. D. Wyatt, General manager, attends to the commercial interests.

In addition to the large ware rooms at the works, store depots are maintained in London, Liverpool, Leeds, and Glasgow, and an agency has been established at Durban, Natal, with Mr. W. Percy Williams as representative.



## JAMES CONSTANCE & SONS, LONGHOPE, NEAR GLOUCESTER.

**General Wood Turners and Manufacturers  
of Prong Stems, Hay Rakes, etc.**

**M**ESSRS. JAMES CONSTANCE AND SONS' manufactory at Longhope, near Gloucester, has been in successful and continuous operation for considerably over a century, having been established in 1788, on the site of the present premises. The industry was established by a grandfather of the present senior member of the Company, and during its entire history has remained in the hands of the members of the same family. Gloucestershire furnishes but few instances in which an industry has been carried on for a longer period, or with more success, by one family.

Owing to the fact that the larger part of their manufactures go to many parts of England, comparatively little being used in the county, but few even of our own people have any idea of the extent and importance of Messrs. Constance and Sons' industry. It is perfectly accurate to say that they are, without exception, the largest manufacturers of their exclusive lines in the county or the district. Their premises cover a large area, one-fourth of which is under roof. Nearly all of the buildings are modern, and comprise a number of separate store and ware rooms, as well as the large departments in which the actual manufacturing processes are carried on. The mechanical equipment is thoroughly up-to-date, including circular and band saws, drills, and a great number of turning lathes of all sizes, the largest being capable of turning handles to twelve feet in length. At the present time about forty operatives are given employment. It is interesting to know that a number of the operatives have remained with the Company for many years—in some cases for thirty or forty years—a fact which sufficiently illustrates the kindly relations existing between employers and employed.

Messrs. Constance and Sons manufacture a great variety of turned wood, including brush, broom, mop, hoe, rake, oval, hammer, sledge, spade and shovel, collier's peck, and other handles, scythe sneads, washing dollies and peggies, wood shives, cider bungs, spreaders, ladder rounds, and many other articles. Among their specialities should be mentioned their hoe, prong, and hay rake handles, of which they make thousands each season; scythe sneads, which go principally to Sheffield, where the blades are made; complete hay rakes, considerable quantities of which are sold in a large number of counties; all classes of turned brush work, much of which is used in the Worcester, Bristol, Gloucester, Birmingham, and Midland brush factories; and washing dollies. Large stocks of all these articles are kept in reserve at all times, so that any order can be filled at short notice.

The process of manufacture of the various articles is very interesting, and the visitor is surprised to find that almost every article