



THE STROUD METAL CO., LIMITED.

DUDBRIDGE, NEAR STROUD.

Brass Founders and Manufacturers of Umbrella Fittings.

IN July, 1899, the Stroud Metal Company Limited, was formed for the purpose of acquiring the business of brass founders and manufacturers of umbrella fittings which had formerly been carried on in the district for many years. At that date the business was not in a prosperous condition, and the principal purpose of the Company was to prevent the works being closed and the industry being moved from the district.

Fortunately, the decision to purchase the business and retain it in the district has proved as advantageous to the Community as to the Company, for a large number of metal workers find regular employment at these works. When the Company was formed new buildings were erected at Dudbridge which are now fitted with the most modern and approved machinery obtainable, and the entire equipment is as complete and efficient as any to be found in

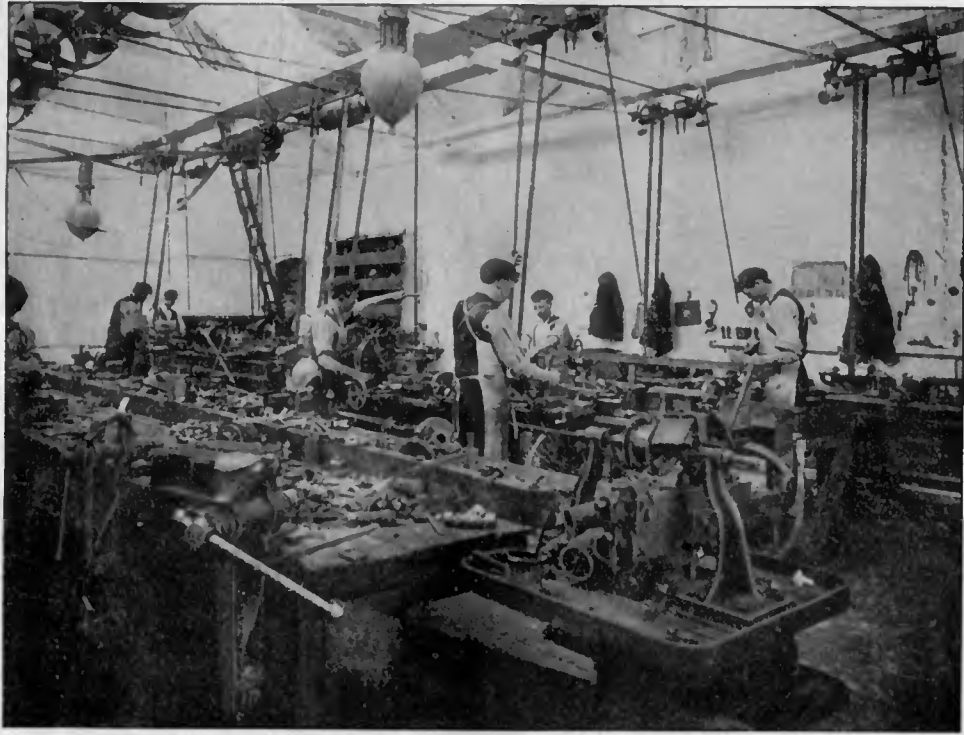
the country. Unless he were privileged to inspect the metal works one could scarcely realise the elaborate equipment and the number of processes through which some of the articles have to pass.

In the principal machine room, which is 140 feet in length by 78 feet in width, are scores of complicated machines, each of which performs a single operation. A striking feature of many of these machines is the extraordinary rapidity with which they work, the eye being scarcely able to follow the operations.

The turnover of the Company's works have shown a quite remarkable increase, and it has been found necessary to make several very



AN INTERIOR VIEW, STROUD METAL COMPANY'S WORKS.



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At the time of our visit we noticed a great variety of articles being manufactured in this busy hive of workers, such as various fittings for umbrellas, steam and water valves and gauges, specialities in brass for electric and motor engineers, besides many other articles which we are unable to mention. A special branch has been established for all kinds of castings, which are being supplied to engineers in different parts of the country.

important additions to the buildings, as well as to the mechanical equipment. A very large stock of their standard manufactures is always kept on hand in their warerooms.

The entire premises are lighted by electricity, which also furnishes the motive power.

The ventilation of the rooms is on the most improved principles. The sanitary arrangements are complete, and every provision has been made for the comfort and consequent efficiency of the operatives. Accompanying this article are two engravings which were kindly loaned us by the Stroud Metal Company, and which give some idea of the extent and excellent arrangement of the premises.

While these engravings afford a glimpse of the interior of the largest department, the other departments, which do not, unfortunately, so readily lend themselves to photography, are equally noticeable by reason of their up-to-date arrangement.

The Directors of the Company are:—Messrs. Alfred Apperly, J.P., C.C., Charles A. Apperly, and A. R. Stone.

GLOUCESTER PIN MANUFACTURING COMPANY, GLOUCESTER.

Manufacturers of Hair-Pins and Hooks and Eyes.

IN a review of Gloucestershire's industrial achievements it is a special pleasure to refer to the part taken by the Gloucester Pin Manufacturing Company, one of the most vigorous and progressive concerns in the county. This Company deserve credit for not only carrying on a very successful business giving employment to upwards of one hundred operatives, but for having revived an industry which it was generally supposed would be permanently confined to other localities. At one time no fewer than nine pin factories flourished in Gloucester. Through the burdens imposed upon them and upon other industries by the Corporation and through other causes, these factories were one by one suspended or removed to other localities, the last one being closed something over half a century ago.

It was in 1892 that the Gloucester Pin Manufacturing Company were established, beginning operations in a part of the premises which had previously been occupied by the old Gas Works, near the Docks. One has but to

reflect on the enormous difficulties attending the establishment of any new industry in these days of keen competition, to realise the task the new Company had to face—the difficulties being greatly increased by the fact that the Company were obliged to compete with old-established and fully-equipped concerns in other parts of the Kingdom.

The business was of necessity begun on a small scale, and with very limited capital; but it is gratifying to know that each succeeding year, almost each succeeding month, has witnessed an unbroken increase, the past year having been the best in the history of the Company. From time to time the force of hands was increased and new machinery added, the old premises being several times altered and enlarged to meet the requirements of growing trade.

After carrying on the industry for over four years the old premises were found to be wholly inadequate, and the present model factory in Horton-road was erected. This factory is a splendidly-constructed three-floor L shaped building having a frontage of 108 feet and a depth of 157 feet. It has the advantage of a peculiarly favourable location, standing by itself in an open field, the windows commanding an unobstructed view in all directions. The

interior arrangements, which were carefully planned by the Company with the sole object of securing the best attainable conditions, are equally commendable. The rigid iron and steel supports and girders, the many large windows affording perfect lighting and ventilation, the lifts, the iron doors isolating the various departments in case of fire, and the sanitary arrangements, all reflect excellent judgment. It should be added that the male and female operatives perform their work in entirely separate departments, an arrangement which not only conduces to more efficient service, but also to the comfort and well being of the workers. Indeed, in both the construction of their building and the manner in which their industry is carried on the Company have given a good illustration of the favourable environment which is, fortunately, characteristic of the larger part of Gloucestershire industries.

It may be safely said that no similar factory anywhere can boast of a better mechanical equipment. In one room, 29 x 71 feet in dimensions, nearly one hundred machines are in almost constant operation day and night. All of the machines which are now, or which have been, used by the Company were designed and made by them, the distinctive features being closely guarded as a trade secret. These



machines, which reflect a very high order of inventive ingenuity and mechanical skill, are remarkably interesting in their tireless operation, automatically converting miles of polished wire into millions of hair-pins and hooks and eyes with a rapidity and precision which are little less than marvellous. The equipment also includes ample enamelling and electro-plating apparatus and ovens.

The Gloucester Pin Manufacturing Company confine themselves to making hair pins and hooks and eyes, being one of but about ten firms in Great Britain making these exclusive specialities. But although the output is limited to these articles the variety is none the less very great, as many as twelve distinct shapes and sizes of hair-pins, and several kinds of hooks and eyes having been manufactured. The present capacity of the factory is approximately one and half tons daily, while the actual numbers turned out are almost beyond computation. This output is distributed to all parts of the world through the great London, Manchester, Birmingham and other factors, the goods having found singular favour in the trade generally.

In the foregoing brief reference to a very interesting industry there has been no attempt to be in the least technical. Even if it were possible to minutely describe the ingenious machines and processes, it would be an ill acknowledgment of the courtesy of the Company to do so, as they have largely gained their success through their peculiar ability in perfecting and guarding their mechanical equipment.

It but remains to be said that the individual members of the Company have consistently displayed a rare push and energy, and there is every indication that their industry has by no means reached its limit.



WATKINS & OKEY, PAINSWICK.

One of the oldest Hair-Pin Manufacturing Companies in England.

THE business carried on under the firm name of Watkins and Okey, King's Mill, Painswick, has had a peculiarly interesting history. It was established upwards of half a century ago by the late Mr. Peter Watkins, who was one of the pioneers among the hair pin manufacturers in England. Previously to engaging in business on his own account, Mr. Watkins had for some years been connected with the leading pin manufacturers in the Stroud valley, and later in Birmingham, acquiring a knowledge of the industry which but few possessed.

The rapid and economical manufacture of hair pins by machinery was probably due as much to Mr. Peter Watkins as to any one man in England, and for many years his manufactory was one of the most famous in the trade. Being of a decidedly inventive turn, he designed and made special machinery which not only conferred a great advantage upon himself, but which did a great deal to give the trade its present importance.

It should be stated, in passing, that Mr. Peter Watkins added to his technical skill those business traits which gained for the old-school British manufacturer a high repute throughout the world. Throughout his long business career his methods were singularly free from criticism. In addition to building up and long maintaining an important industry, he also found time to advance the higher interests of the community, taking a prominent part in the religious and social life of the community of which he was an honoured member.

In 1853 Mr. Peter Watkins formed a partnership with the late Mr. C. Okey, of Stroud, the firm establishing themselves at Cap Mill, Painswick. In 1860 the business had increased to such an extent that larger premises became

necessary, and the King's Mill, which is still used by the firm, was taken over. About the same time the partnership was dissolved, Mr. Peter Watkins carrying on the business alone until his death, in 1901, when his son, Mr. George Price Watkins, who had long been actively identified with the industry, became the sole proprietor. Mr. G. P. Watkins is assisted by his brother, Mr. Chas. J. Watkins.

As had been stated, the present proprietor was for many years actively identified with the business before becoming proprietor. He possesses a full share of his father's inventiveness, and nearly all the machinery in his factory was invented and made by him. He also inherits in a marked degree his father's kindly traits, and has gained the entire esteem both of his work-people and the community at large.

The premises comprising the King's Mill form one of the most valuable manufacturing properties to be found in Gloucestershire. The main building, which is constructed of stone quarried from the Cotswolds, was formerly



VIEW OF WATKINS & OKEY'S PIN FACTORY,
PAINSWICK.

a celebrated cloth mill, where for many years was manufactured the scarlet cloth for the Government. Adjacent to this building is a still older stone structure, which, tradition says, originally formed part of a grist mill. A portion of the main factory is set aside for a residence, now occupied by Mr. C. J. Watkins. This arrangement gives an unusually picturesque appearance to the factory, and suggests the days when the master actually lived with his work. The property also includes another residence, standing apart from the works.

All of the power required is furnished by two streams, which unite near the factory. These streams are spring-fed, and are unfailing. The factory is so situated that the bottom of the reservoir is on the same level as the top of the water wheel, thus furnishing the greatest power obtainable.

The grounds surrounding the factory buildings, comprising two acres, are kept in the best order, and lend to the entire premises an unlooked for picturesqueness and charm. The well-kept lawns, gravelled walks, the clear stream flowing through, and the wooded hillside remind one more of a private park than of factory premises. Indeed, there are but few places in England in which industrial environment can approach it. As might be inferred from the bright and cleanly surroundings, the interior of the factory is equally well cared for, and one could not often see better conditions of labour or more contented operatives.

Messrs. Watkins and Okey manufacture all kinds of hair pins, including a number of exclusive brands. Mr. G. P. Watkins himself designs all the special machinery required, and is constantly adding some improvement to secure a better quality or to lessen the cost. It is gratifying to know that the factory is kept busy, and no period of enforced idleness has ever occurred. The Company still retain most of the connection established many years ago—a proof that both their methods and their product are of a high order.

W. H. COLE AND COMPANY, PAINSWICK.

Manufacturers of Exclusively High Grade Hair Pins and Hooks and Eyes.

THE business carried on by Messrs. W. H. Cole and Company, manufacturers of highest quality hair pins and hooks and eyes, is one of the oldest, if not the very oldest, of its kind in the district. For over half a century the works have been operated continuously, and almost each succeeding year throughout that period has witnessed an appreciable increase in the Company's trade.

As is the case with many of the industries in and about the Stroud valley, Messrs. Cole and Company's premises were formerly used for other purposes, at one time having been well-known silk mills. This adapting of the old silk mills to another and comparatively modern industry is a gratifying proof, of which Gloucestershire furnishes so many, that the resourcefulness of British manufacturers is still able to meet with changing conditions.

What was the main silk mill is still the main building used by the present Company. It is constructed of stone taken from the hills near by, and, judging by the massive foundations and thick walls, was designed to outlive many generations. Adjoining this main building are several additions which have been made from time to time. In fact, alterations or additions are being projected almost constantly, and a large plot of ground is held in reserve for possible further extensions.

The mechanical equipment is kept up-to-date by the frequent installation of new machines, all of which are designed and constructed in a special workshop on the premises. The power is furnished by a water wheel, supplemented by a steam engine. All of the departments are lighted with incandescent gas, and are heated with steam, and every possible provision has been made for the comfort of the operatives.

Messrs. W. H. Cole and Company employ in their Painswick factory upwards of 80 hands, besides almost as large a number in their London warehouse and distributing depot. When it is remembered that the efficiency of the operatives is multiplied by the ingenious



VIEW OF W. H. COLE & COMPANY'S PIN FACTORY,
PAINSWICK.

and rapid automatic machines in use, one may have a faint conception of the tremendous quantity of hair pins and hooks and eyes that are turned out each day. In the main building there are upwards of 100 automatic machines in constant operation, each machine turning out hair pins at the rate of 70 or more a minute, aggregating millions daily. How so vast a quantity of an article used by but half of the population, and an article which is not easily destroyed, can be disposed of is one of the mysteries of trade. The same may be said with regard to the enormous number of hooks and eyes manufactured by this firm, many of these useful little articles being turned out at the rate of 120 per minute.