



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



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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 hill-side 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



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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.

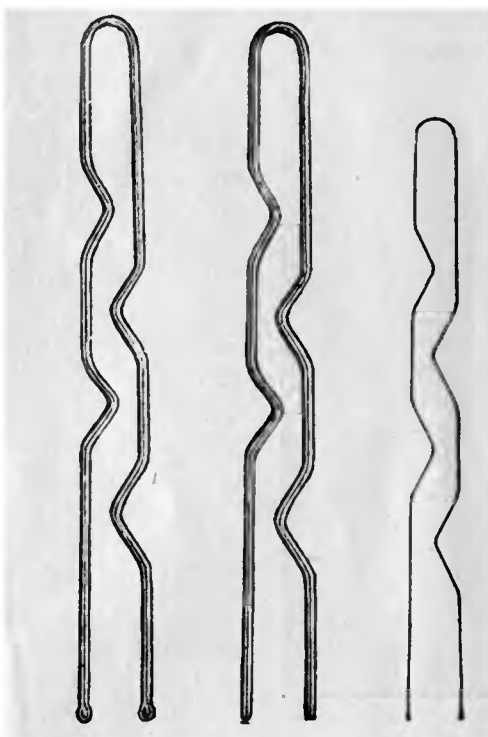


The intelligent visitor to Messrs. W. H. Cole and Company's factory must be impressed with the wholesomeness and cleanliness of the operatives' environment, both without and within the buildings. This phase of the industry has frequently been commented on by London and other buyers, who have from time to time visited the factory, and who had expected, apparently, to find conditions such as prevail among the factory toilers in large cities. A greater contrast, indeed, could scarcely be imagined. The appearance and deportment of the average operative in the Painswick factory is a strong argument in favour of the establishment of industries in the less crowded districts.

The Company endeavour in many ways to conserve the *morale* of the employees. All of the female operatives are dismissed both at noon and at night a few minutes before the men, and during working hours they are assigned to separate quarters.

Messrs. W. H. Cole and Company manufacture all varieties of hair pins, including the so-called "invisible" pin in all shapes. They also manufacture hooks and eyes in large quantities, and safety pins, being the only Company in the district that does so.

Although it would seem to the uninitiated that hair pins and hooks and eyes do not offer much scope for difference in quality, this is far from being the case. This Company have for many years confined themselves to the highest grade, and the excellent finish of their enamelled and electro-plated goods has given them an enviable distinction in the trade. They make a number of exclusive brands of hair pins, including the celebrated "Colbata," "Eloc," "Arrow," "Queen of Hearts," and "Retento" brands.



THE "RETENTO" HAIR PINS.  
Manufactured by W. H. Cole & Co., Painswick.

The patented "Retento" brand is quite an innovation in hair pins, combining all the requirements of a perfect pin. As the word "Retento" implies, the shape of the pin is such that it remains fixed in its position. How this merit is obtained may be readily seen from the accompanying engravings. The pin is beautifully finished, and within a few months after its introduction became widely popular.



## SAVORY AND SONS, LTD., PAINSWICK.

**Extensive Manufacturers of Hair-Pins.**

It may not be generally known, and it would scarcely be suspected, that in the village of Painswick, six miles from Gloucester and three miles from Stroud, are manufactured more hair pins than in any other

one place in the world. Three large factories, employing almost as many hundred hands, and equipped with hundreds of automatic machines turning out the product with marvellous rapidity, are in constant operation, daily transforming miles of wire into tons of finely finished pins.

Among these factories is that of Savory and Sons, Ltd., a concern which for the past quarter of a century has held a high place in trade circles. Since the establishment of the business several changes in the personnel of the Company have taken place, the present limited Company being organized nearly a year ago. It is a creditable fact that the entire history of the business has been one of continuous advance.



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as shown by the frequent additions to the buildings, the mechanical equipment, and the staff of operatives. Mr. M. O. Phipps, the present Managing Director of the Company, has been identified with the business for the past twenty-four years, during which period he has gained an accurate knowledge of all the varied processes. It is but just to say that under his direction the business has more than maintained its former prestige.

Like the other Painswick factories, Messrs. Savory and Sons', Ltd. factory is an old cloth mill, adapted to its present purpose. The main building, a solid stone structure, 135 ft. by 72 ft. in dimensions, faces a small valley, watered by a little stream, the Frome. The waters of this stream, which are largely fed by unfailing springs rising in the hills but a few miles away, are gathered into an ample reservoir in front of the factory, and supply a large part of the required power. The accompanying engraving gives a faint idea of the exceedingly picturesque surroundings of the factory. Indeed, the entire environment, which would be a surprise to those accustomed to the smoke and grime usually inseparable from the metal-working industries, could scarcely be improved if they were designed by a Ruskin. The wooded hills and green fields to be seen from every window in the premises, and the unpolluted air, are advantages which but few factory toilers have, particularly in the larger industrial centres. It should be added that in the actual mechanical processes in the factory but very little of the work is of a disagreeable nature, nearly all of the machines, of which there are scores, being automatic, and requiring but little attention, and the female labour is restricted entirely to sorting the finished hair-pins, counting, weighing, wrapping and labelling, and similar cleanly work. The buildings are heated with steam, lighted with gas, and are provided with lifts.

In all respects the factory operated by Messrs. Savory and Sons, Ltd., is thoroughly modern, while it possesses several peculiar features which deserve special mention. The Company make it a point not only to manufacture the hair-pins, but to do on the premises all the work in any way connected with the industry. Among other departments is one for wire-drawing, this being one of the few factories in

England, and the only hair pin factory in Gloucestershire, having a department for this work. By maintaining the department the Company can, on the shortest notice, meet any order for any thicknesses or weight, or can fulfill an order which deviates from the standard gauges.

Another feature which illustrates the unusual completeness of the factory is a complete printing plant. Modern presses, complete founts of type, and an electrotyping apparatus, are in daily use, printing the millions of labels used for the large and small packets of hair pins. The paper ware-room is filled with a stock which would do credit to a city printing house. The Company also make their own japan and cardboard boxes and packing cases.

The making of a single hair pin is by no means the simple process one might infer from its exceedingly small cost. The wire is first drawn, when drawing is necessary; it is then placed in an automatic machine, which cuts off exactly the proper length and shapes the pin at the rate of 60 to 80 a minute. It is then japanned, and from the japanning-room it passes to the ware-room, where tons are stored at a time, and thence to the packing room, where the pins are counted, wrapped and labelled. In the meantime the printer, the case maker, the mechanic who is constantly repairing old machines and inventing and constructing new ones, the japan maker, the office staff, and the draymen, are all indirectly contributing to the making of the pin. It is doubtful if any other manufactured article selling at the same price requires so elaborate a mechanical equipment, the co-operation of so many hands, or the exercise of greater vigilance and care on the part of the head of the industry.

Messrs. Savory and Sons, Ltd., manufacture every desirable shape and size of hair pins. Their work has gained the reputation of being of the highest quality. Special attention is given to japanning, to ensure the smooth and even finish so much prized by the user. It should be added that the unpleasant features of work in the japanning room have been eliminated as nearly as possible, the room being ventilated by fans.

The Company have a London depot, and have agents in nearly all the large centres in the kingdom. They manufacture for the wholesale trade only, their product eventually finding its way into almost every quarter of the globe.



## Pin Making.

Extent and Condition of the Industry in  
Gloucestershire.

The manufacture of pins, hair pins, and hooks and eyes furnishes a sort of epitome of the changes that have taken place in all the metal-working industries during the past half-century. At one time there were in Gloucester alone not fewer than nine factories devoted to this branch of manufacture, though, owing to their comparatively crude mechanical equipment, their combined output probably did not exceed that of a single factory to-day. In the re-adjustment of industry brought by improved machinery and methods the trade once controlled by these factories was diverted to other localities, and it is only recently that local enterprise has revived this industry in Gloucester.

At other places in the County are now six large and excellently equipped factories, turning out dozens of tons of pins, hair pins, safety-pins, and hooks and eyes each week. The product eventually finds its way to the remotest parts of the world.