

Machinery and Appliances.

NEW PATENT STOP MOTION DOUBLING WINDING FRAME FOR BOBBINS OR COPS.

MESSRS. G. H. HOLDEN AND CO., CARE STREET
BLACKFRIARS STREET, MANCHESTER.

The accompanying illustration represents the improved patent stop motion doubling winding machine which we described in our issue of the 8th February as being introduced by Messrs. G. H. Holden and Co., of the above address. As then stated, it is constructed on Messrs. Holden and Ashworth's patent. Its leading features are the substitution of a heart-motion for the usual mangle wheel, which is arranged to give a better

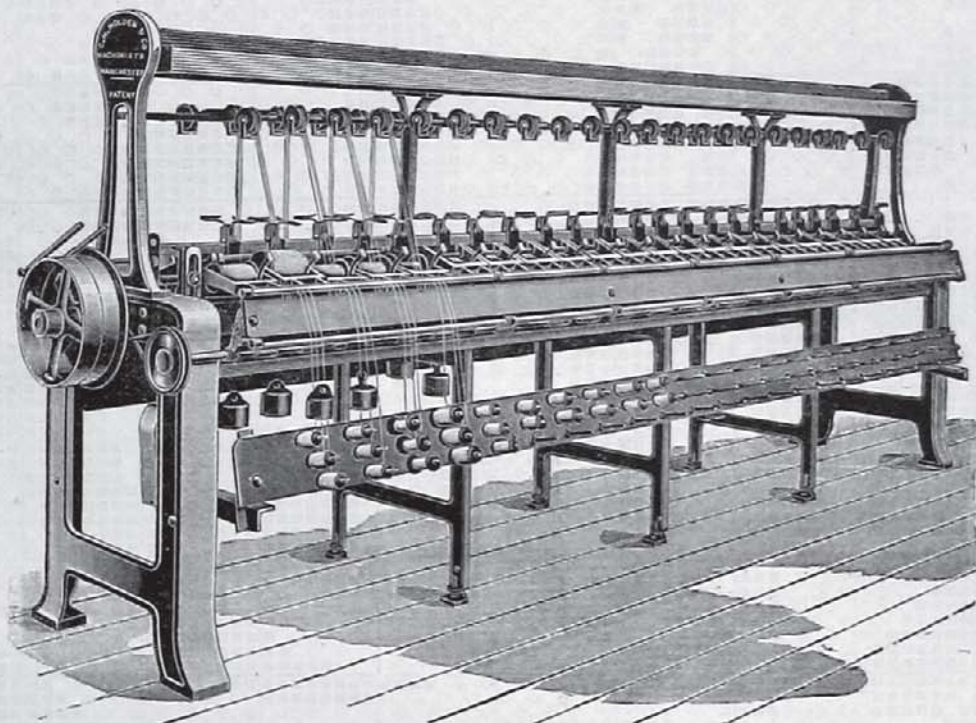
thus preventing waste. An appreciably better weight in yield will therefore be obtained for any given amount, as the waste usually thrown off will be prevented, whilst the fibres of the yarn will be better laid than before. This guide is the subject of a special patent. Should, however, users desire it, the ordinary drop wires can be supplied. Another point which calls for brief notice is the fact that in winding very fine yarn on ordinary machines the drop wires require to be so light that they will not stand the blow of the rocking shaft. In the case under notice, however, the wires may be of any degree of strength or thickness even for the lightest yarn, as they have a counter-poise.

The most important feature of the machine, however, as observed in our previous notice, is the special stop motion, which is a new and improved form, and is exceedingly quick in action, as the movement of the bobbin is arrested while

IMPROVED PATENT CONCAVE SPIRAL CUTTER.

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Everybody conversant with the textile industries knows the supreme importance of the finishing processes for bringing up the beauty of a numerous class of fabrics. Unless a very high degree of skill, controlling the most perfect mechanical appliances that have been devised, is brought to bear upon them, the best combined labours of the spinner, weaver, and dyer, all working with the highest class of material, will yield a very unsatisfactory result, and consequently will be to a large extent wasted. These remarks apply most strongly to the large and numerous classes of fabrics that require cropping or shearing, which include many articles in every textile fibre. All pile goods fall into this



STOP MOTION DOUBLING WINDING FRAME FOR BOBBINS OR COPS.—MESSRS. G. H. HOLDEN AND CO., MANCHESTER.

spreading traverse, which secures easier winding of the bobbin in subsequent processes. Owing to improvements in details a nice easy and soft start is secured to the bobbin in commencing work, which obviates jerking or breaking of the yarn which is the usual result when sufficient attention is not given to this point. When last noticing this machine we stated that on account of the simplification of the details, an increased speed of fully 25 per cent. had been attained, it having wound the yarn off at the rate of 4,500 inches per minute in our presence.

We are informed that in subsequent tests to which it has been subjected, a speed of over 6,000 inches per minute has been attained with cops in the creel. This shows an enormous increase in its productive power. The improved thread guide with which it has been fitted is acting perfectly. It consists of a short tube which curves outward at both ends and is cut away underneath to admit of the reception of the thread. This outward curvature relieves the passing thread from friction against any sharp edge, and thus prevents the stripping off of the outstanding fibre upon the yarn that usually occurs with any yarn of which these outstanding fibres are a feature

running at the speed already mentioned, before the end of the broken thread has passed forward more than six inches. Its mechanism is remarkably simple, the usual swivel wire box being dispensed with entirely, a greatly simplified and more substantial piece of mechanism taking its place. The pressure of the bobbin upon the drum is obtained by means of a chain and weight passing over carrier pulleys, and a remarkable peculiarity of the arrangement is that the weight from which the pressure of the bobbin upon the drum is obtained also lifts the bobbin clear away from it when a stop takes place. The general contour and appearance of the machine will readily be gathered from the accompanying illustration. It is intended to construct it of suitable dimensions, sizes, and strength of parts for winding all classes of yarns, from silk down to the coarsest materials, and each section of the trade may be recommended to give it careful examination, as it possesses merits that will recommend it to all. The makers will be pleased to shew it at work either on their own premises or in the establishments of persons who have purchased it.

Any communication regarding it may be addressed to the makers as above.

category, and many others which without having a pile are dressed in this manner. The shearing, of course, is performed by the various well-known machines, the essence of each of which is the spiral cutter contained in them. These it is not necessary to describe at length, as they are, generally speaking, well known.

We have pleasure in bringing before the notice of our readers an important improvement effected in the construction of this essential part of the machine, the spiral cutter, by Mr. Smith, of Sheffield, and which is now being introduced to the notice of users by "The Smith Patents Engineering Co., Ltd.," whose address is given above. By the aid of the accompanying illustrations all our readers, whether familiar with the machine or not, will be able to follow our description with ease. In Fig. 1 is shewn a cross section of the cutting cylinder in common use, exhibiting the cutting edges of its spirals. It will be seen to consist of a shaft or cylinder, upon which are fitted a number of cutting blades, arranged in such a manner as to wind spirally around it. Their extremities are secured in collars fixed upon the ends of the shaft, by which they are retained in proper position. As shewn in the illustration, they have a double

flange at the bottom of the blade, which is in contact with the shaft. It will be observed that the blades in this illustration are straight, as will be seen perhaps more clearly in the small illustration, Fig. 2, which is a section of the periphery of the cylinder shewing two cutting edges. It will be seen that the cutting edges of the blade are right angled, and hence do not automatically maintain their sharpness, but require to be taken out to be ground. The straight blade thus shewn has always possessed one or two serious defects, namely, first, a want of rigidity, as it might be bent in either direction, provided the presence of sufficient force; and secondly, the liability of its edges to dull rapidly by use, and the con-

cutter to that of the common one shewn in Fig. 2 is given in Fig. 4, which exhibits an important difference. From this it will be seen that the cutting edge is formed by an acute angle instead of a right angle as in the former instance. The wearing down from use thus tends constantly to renew the cutting edge most effectually. Experience of their use has amply demonstrated the correctness of the theory, as the improved spirals are found not to require sharpening as usual, by which the stoppage of the machine and the cost of grinding are both avoided.

The inventor has also improved upon the method generally in use of tempering these blades. The plan he has adopted, after much

shearing machines find a place, and whose original orders, frequently repeated, were submitted to our inspection. Those who desire further information may obtain it by communicating with the company which is placing it on the market, as above.

THE HOSIERY TRADE IN BRAZIL.—Very little English hosiery is sold in Brazil, small quantities of the best kinds being almost all that are received from this country. Most of the imports come from France and Germany, and very elaborate designs are in favour. The complaints against our goods relate to pattern and style rather than value. There are also some three Brazilian factories which do some of the trade, though not a very important



FIG. 5.

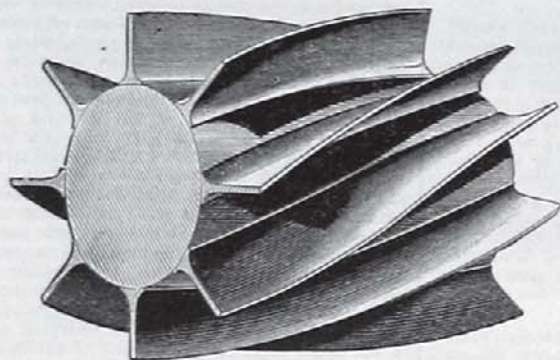


FIG. 1.

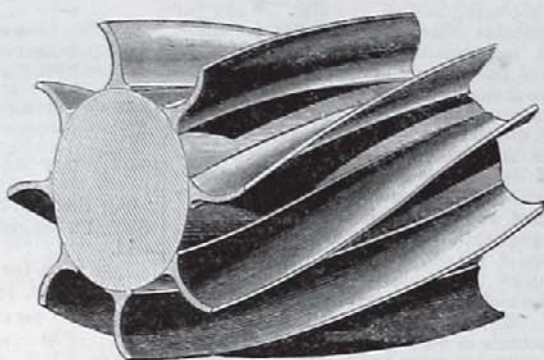


FIG. 3.



FIG. 2.



FIG. 6.

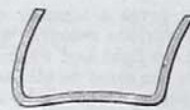


FIG. 4.



FIG. 7.

sequent necessity of taking out the rollers to re-sharpen them. Both of these are defects of a very practical character, which are liable to exert their disadvantageous influence at any moment.

Mr. Hy. Smith, who has had a long experience in the manufacture of spiral cutters and all other classes of machine knives, has necessarily been cognisant of these defects, and some time ago determined, if possible, to obviate them.

In order to secure greater rigidity in the blades, and at the same time to obtain a much more durable cutting edge, he has made the blades of a concavo-convex form as shewn in Fig. 3. This is really to construct the blade on one side in the same manner as a razor blade, which is, however, when not plain always a double concave. A similar section of the patent

investigation, and which, we are informed, is kept a strict secret, enables him to make the spiral as hard as glass, so as to resist a file, and yet preserve a flexibility that will allow it to be taken out of shape, without fracturing. Fig. 5 shews the cutter in its usual shape, ready for mounting upon the cylinder. In our presence one of these was taken from a heap, and bent by Mr. Smith into the form delineated in Fig. 6, and afterwards restored again. In Fig. 7 we give an illustration of a cylinder fitted with the patent concave spirals.

The value of the improvement which has thus been effected will be sufficiently obvious to our practical readers, without our enlarging upon it. It is also demonstrated by the fact that the improved spiral is being rapidly adopted by the leading manufacturers, amongst whose plant

part of it at present. They are, however, supplied with the best machinery, and are likely to produce larger quantities as time goes on. The yarn is mostly imported from Lancashire, but at one of the factories arrangements are being made to add a spinning department. Wages are high, so far as adults are concerned, ranging from six to seven shillings a day. For the same period children are only paid sevenpence.

The popular belief in the sanitary efficacy of red underwear is a clinging superstition, nothing more. Red was in ancient times considered a potent charm against the evil eye. At one time in the 16th century, when the evil eye was esteemed to be especially triumphant in England, there was a boom in red tape which it has never since experienced. Many people to this day believe that a red string worn about the neck is a sure preventive of asthma, measles, and mumps. The relics of this old faith are to-day best preserved in the great confidence which obtains in the medical virtues of red flannel, and a not so wide-spread belief that the milk of a red cow is better than any other cow's.