Machinery
and Appliances.

USEFUL SPECIALITIES FOR SPINNERS.


With the development of the cotton trade it is astonishing how many subordinate industries have sprung up, called into existence by the wants of the great trade that has done so much to place this country in the forefront of the commerce and industry of the world. The numbers of these are really too great to enumerate, and their names would puzzle those who are strangers to the trades to which they are attached. Still, for the sake of justifying our statements, and, perhaps, opening out the ramifications of the cotton industry into the bypaths of industrial life we may be permitted to name a few. In the early days of the business spinnings and manufacturers made their own machinery, but that is long ago. We have now the great machine making industry for both branches of the trade; this employs many thousands of people. The machinist equips a mill with the principal machinery, but after that there is still much to do in the way of clothing it and making it ready for work. All the machinery must be furnished with driving belts, and their working parts must be lubricated, and these requirements bring in the belting manufacturers and the oil merchant. The driving gear must be lubricated, and the wheel-greasers manufacturer provides the requisite. The cards must be dressed, and for this the carding-clothing manufacturer is always ready with his aid. The machinery must be provided with bobbins, on which the material in several processes must be wound. Bobbin manufacturers ready to supply these are to be found in plenty. The spindles of spinning machines are driven mostly by cotton bands, and the binding man or her will do the needful.

In spinning, considerations of economy have led, in many places, to spinning the yarn upon tubes instead of the waste, and the cotton manufacturer comes to the front. But filling thousands of spindles by hand with loop tubes is a slow process and causes the waste to be used up in a short time, and to obviate this the maker of mechanical tubes comes to the front, a comparatively recent specialty, which is the cause of these remarks being penned. We may as well stop here at the end of the spinning division of the trade, as a similar list could be gone through in the manufacturing section, yet without exhausting the list in either division.

In one of the early issues of The Textile Mercury we gave a description of Messrs. E. Jaggard & Co.'s loop tubing apparatus, a rather novel type of it, and promised to describe the others subsequently. It is convenient to redeem this promise at the present time, and we have much pleasure in doing so.

The type of tuber we then described and illustrated was the rotary one. The one we now notice is the segmental one. Spindle tubes are of various lengths, according to special requirements—short, medium, or long. The segmental pattern of tuber is designed more particularly for placing long tubes upon the spindles that will reach all through the top, but it is also applicable for placing all lengths of shorter tubes with the same tuber. The illustration (Fig. 1) represents the tuber as it is placed upon a table or bench, and in position for filling. The tubes are dropped into the holes in the carrier J, and are thus held in an upright position. Before putting the tubes into the holes, care should be taken to push the carrier as far back as it will go, and lock the slide G with the clasp for that purpose. To prevent the carrier moving and the tubes falling through the shoot by accident before they are required, the clasp is shown in position. The carrier is fixed to the tuberculosis by a pin, and the carrying handle is placed in position as shown in the figure.

In Fig. 3 we represent the tuber as when in use. It is carried by the handles C C, the two guides E E are placed on two corresponding spindles, the shoots B B being thus held exactly over the intervening spindles; after throwing back the clasp, the carrier is tipped over, and the spindles are lifted up, and the tubes are then placed on the tuber. To prevent the tubes from coming out of the spindles, the tuber is placed in position as shown in the figure. The tubes are then carried forward the length of itself, the rear guide being placed on the spindles on which is the last or end tube of the previous delivery, and the slide G moved in the opposite direction, and so on until the end of the machine is reached. Whilst in this manner the tuber is being moved, the spring attached to the compensating lever L, and to the hook H, holds it in position, preventing it from moving backward, the whole operation being performed with the greatest ease, and the tubes placed on to the spindles with perfect accuracy.

The use of these tubes in their various types is continually extending, and it only needs a short experience of their advantages to obviate all opposition and convince persons of the economy attending their use. They are made with their shoots of grasps to suit those of the spindles of the machines—whether male, twisters, or rings—in connection with which they are intended to be used.

As showing how businesses have an irresistible tendency to grow when properly managed we may here incidentally notice the fact that Messrs. Jaggard and Co. have just commenced the manufacture of tubes, having laid down new plant all constructed on their own premises, and having several improvements, one of which especially causes the tubes being turned out with perfectly clean bottoms, and not as is often the case with such an excess of paste upon them to impede their descent down the blade of the spindle. The processes to be gone through...
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in making the tubes are few and simple, consisting chiefly of cutting the paper into strips necessary for the respective sizes and shapes the tubes are intended to be made.

These are taken to the machine girls, who, with dexterity and rapidity, transform them into tubes on the machines, the latter delivering them to the attendant to place upon a tray, or otherwise upon wires for placing in racks.

These filled are taken to the stove and dried. Each tray or rack holds a given number, which greatly facilitates the counting. They are next packed and shipped to their destination, at home or abroad, as the case may be.

Fig. 4.

In spinning medium and low counts of yarn it is not often that tubes are used, especially if the yarn is destined for consumption in the home trade and has not to be much knotted about before it reaches its destination. In this case the top bottoms are starched, or pasted as the process is called.

The utility of this process is so well known to spinners that it is needless here to go into its merits. There are, however, some disadvantages which render its careless use objectionable, and in most cases the objections will be found to arise from the style of paste box and brush used. The flowing of paste over the spindles, and mixing up of the bolster steps (that is, giving to the top of carriage a dirty unsightly appearance in the case, and binding fast of the spindles in the other), are looked upon as inconsistent with and inseparable from the process of pasting.

A large spinning establishment for combed wool is to be fitted up next spring at Gron-ochan, in Russia, by the exertions of some French gentlemen, M.M. Motte, Meillous, and Verneuil, in which the looms will cover 100,000 yards, each covered with a surface of 1,000 square toises, and the cost of construction will amount for 1500 to 300,000 rubles.

The prospects for the coming year in the machinery trade are very encouraging. Extensive additions are being made by various firms to meet the demands of the forthcoming seasons, amongst the number being Messrs. Hitchinson, Hollsworth and Co., Limited, well known for their loom makers, of Dobra, Yorkshire. During the past year they have been, we are told, engaged on the building of the Hollsworth and Knowlom looms, upwards of 1,700 of these looms having been erected during the past twelve months. Some important additions to their foundry are almost completed, which, when finished, will cover a ground area of over 2,000 square yards. The railway space of over 5,000 square yards. The railway space of over 5,000 square yards. The railway space of over 5,000 square yards. The railway space of over 5,000 square yards.

A special feature consists of the introduction of a new and peculiar thread guide. This guide is a short tube which curves outward at both ends and is cut away underneath to admit of the reception on the thread. This outward curved tube, as it proceeds, causes the passing thread to have a tendency to bend against a sharp edge, and thus prevents the stripping of the outermost fibres upon the yarn that usually occurs with any warp yarns which are outermost fibres are a feature, and thus prevents waste. An appreciably better weight in yield will therefore be

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

MESSRS. G. H. HOLDEN AND CO., CARR ST., BLACKFRIARS, MANCHESTER.

We have often stated that yarn winding is the simplest amongst the manufacturing processes, as it consists merely in securing a parallel arrangement of threads, and winding them on bobbins or spools of spinning machines. When, however, we consider that in some descriptions of manufacturers, it is necessary to wind together, for the purpose of subsequent twisting, two, three, or more move threads, the element of complexity is introduced which removes the process a considerable distance from the simple form of single-thread winding. In winding more threads than one together it is highly essential that the breakages of one thread should be instantly detected, and immediately cause a stoppage of the winding of the remaining. Otherwise, a certain portion goes forth, which will be deleterious to any work that would otherwise occur by sliding on the spindles and being solded, thereby removing the possibility of sliding coming off, as in almost all others is the case. The material is of extra strong sheet-press, with steel wire across back, to strengthen and prevent the wear; and beyond that periodically defects result. With these problems confronting machine makers, he need not particularly wonder at the fact that devices for overcoming them have been very numerous, all being more or less effective; but, for our present purpose, we need feel no surprise either that to the improvement of the winding machine there seems literally to be no end. Patents are being continually taken out securing ingenious improvements in details which constantly demand the notice of manufacturers.

We have pleasure in drawing the attention of our readers in a preliminary description to some important improvements just introduced by Messrs. G. H. Holden and Co., in the winding frame. The improved machine firm is introducing into the market is constructed on Messrs. Holden and Asworth's patent. In it the inventors have discarded the usual moving wheel, and are driven by a heart motion which is arranged to give a spreading traverse, the advantage of which is that it secures easier winding of the bobbin in subsequent processes. The machine frame is lower than formerly, which is convenient for tiered. The machine can readily be attended by young girls. In a boat to wind, all that is necessary is to give a slight push to the starting lever, which brings the bobbins in contact with the drum, and soft starts, preventing any jerking or breaking of the yarn that so often occurs when this point is not sufficiently considered. The speed attained in winding, on account of the simplicity of the mechanism of the machine, has been increased, being carried fully 25 per cent. higher than ordinary, or say from 3,000 to 4,000 inches per minute.

We saw the machine running off 4,500 inches per minute, not being attached to the spinning frame. This outward curved tube, as it proceeds, causes the passing thread to have a tendency to bend against a sharp edge, and thus prevents the stripping of the outermost fibres upon the yarn that usually occurs with any warp yarns where the outermost fibres are a feature, and thus prevents waste. An appreciably better weight in yield will therefore be