Machinery and Appliances.

ROSSKOTHEM'S PATENT QUICK TRAVERSE SINGLE-THREAD WINDER.

MAKER: MR. JOSEPH STUBBS, MILL- STREET WORKS, MANCHESTER.

Mr. Joseph Stubbs, the well-known maker of winding machinery, is just introducing to the English trade a novelty in this class of machines, known as Rosskothem's Patent Quick Traverse Single-Thread Winder. It is the invention of a foreign mechanic, and has met with a very favourable reception on the Continent. As yet it is scarcely known in this country, and yet it has therefore all the more pleasure in drawing the attention of our readers to its merits.

Its general appearance is well shown in the accompanying illustration. It belongs to the type of winding machines that have their spindles arranged horizontally instead of vertically. The novelty in this case, however, is that the spindles are very long ones, extending across the frame, have their wharf in the middle, and drive four bobbins, two on each side of the machine. By this arrangement all the length of the spindle is effectively utilised, instead of, as in the ordinary winding machine, only the upper half. A great saving of space is also effected, as the width of the machine over all when fitted with these spindles, each to wind four 3 inch bobbins, is only 3 feet 4 inches. They are driven from a tin cylinder, extending the length of the frame. Each has four friction rollers, one for each bobbin. The bobbins being driven by frictional contact, take up the yarn at a uniform speed, thus differing from the ordinary winding machine with vertical spindles in which the rate of winding begins at the minimum on the barrel of the bobbin, and is being constantly accelerated until the bobbin is filled.

The traverse arrangement is quite novel in principle. Each bobbin is supplied with a very light steel thread guide, a little over five inches in length, and pivoted about 1½ inch from its bottom end. The guide thus really forms a double lever, the short end of which, being attached to, and actuated by, a cam arrangement, has a movement of about an inch, which of course causes the long end to make a movement of about five inches, corresponding to its proportion to the small end of the lever which it is required to renew the connection with the end of the thread upon the bobbin, the latter is lifted out and placed in the bracket, when the end having been found and pieced it is replaced. The bobbins, as will be seen, being placed closely together enables one girl to tend a considerable number.

In its construction the machine is both novel and simple; the parts are few and interchangeable, and it is not liable to get out of order. Its various portions are machined and finished by special tools, the material and workmanship being of the highest class, such, indeed, as the maker has long had the reputation for putting into all his work.

The advantages of the machine will be obvious to our practical readers, and hardly need enumerating. Wood bobbins and the heavy cost of renewals involved in their frequent breakage are dispensed with. Yarn bobbins made upon this machine are firm, well compacted, and not liable to get entangled; they have good firm edges, and may, therefore, be taken and used in any warping or beaming machine. To the spinner making ring frame yarns, its usefulness and value will be at once apparent, as by it he can supply manufacturers who prefer to make their own warps, with his yarn in such a form as to need one process less than when it is delivered in the cop or hank. It also saves the cost of transmission of bobbins forward and backward, and the loss which usually results from this practice. In fact, the yarn can be packed and exported the same as mule cops now are. It thus evokes almost the only difficulty there is of ring yarn competing freely and upon equal terms with mule yarn. In the form of these bobbins the yarn can, if required, be
THE MIXED INDIGO AND INDO-
PHENOL VAT.

M. Galland, the chemist at the great dyeworks at Loege, has contributed to the Mulhouse Industrie a process for the manufacture of a mixed indigo-iodophenol vat, which we take from le Moniteur de la Teinture: this note deals with the mixed indigo and iodophenol vat, introduced by Messrs. Durand and Huguenin, of Basle. The dyeing agent has been adapted for use with the mixture of indigo and sodium iodate, which is used in the dyeing of wool. The process was discovered by M. Schenkenburger, and applied by him and M. de Lalande to the reduction of indigo. The vat is made up as follows—into a cask of 1,000 litres capacity are placed 10 kilos of indigo (ground), 50 kilos of sodium iodate, and 300 litres of water. These are allowed to remain in contact for 12 hours, and then ground together for six hours. To this mixture 15 litres of water containing 48 litres balsam of tartar at 40° Bé is added, and then slowly, so as to avoid too great a rise in temperature, 9 kilos of sodium nitrate, suspended in 10 litres of water.

The whole is well stirred for half-an-hour, and 30 litres of caustic soda at 35° Bé are added. This is made up to water to 500 litres and allowed to stand for two or three days. The dyeing vat has a capacity of 5,000 litres. To make it up the content of two cans of the above is poured into 4,000 litres of water, to which sufficient hypophosphite has previously been added to absorb the dissolved oxygen. The caustic soda used by our vats is 2 kilos of sodium nitrate and 12 kilos of balsam of tariff at 40° Bé, 25 litres of water, and 8 litres of caustic soda at 35° Bé.

A vat thus made up imparts the dark shade (corresponding to 600—900 grams of indigo by the old process to 300 kilos of indigo by the new) to three times, at such a rate that the fabric remains in the vat for 10 minutes. The vat is filled with 12 litres of water and 8 litres of sodium nitrate.

It is necessary to add 12 litres of water to 200 litres of indigo and 48 litres of balsam of tartar at 40° Bé, and then slowly, so as to avoid too great a rise in temperature, 9 kilos of sodium nitrate, suspended in 10 litres of water.

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