Machinery and Appliances.

ENAMELLED BOBBINS.

MESSRS. WILSON BROTHERS, LIMITED, CORNHOLME MILLS, TODMORDEN.

Bobbins in the spinning divisions of our textile industries are like healds and reeds in the weaving sections—very necessary but very costly adjuncts. The ordinary wear and tear of bobbins in always very great, and in spite of the devices of skilful workmen, will probably always remain so. There are, however, certain weaknesses of construction that the ingenuity of inventors and the skill of makers have done much to overcome, if not to entirely obviate. Thus the various methods of strengthening them that have been adopted by makers have proved of great benefit in prolonging the life of a bobbin, but we do not remember to have come across any thoroughly good method of protecting bobbins, when once well seasoned, from afterwards warping, swelling, or becoming unbalanced, owing to the changing humidity of the atmosphere to which they are exposed.

A similar remark may be made regarding the service of bobbins used in the doubling of fine yarns for the Boston and various foreign markets taking the finer two-fold yarns. These bobbins have to be well lubricated to work properly, and the result is that many very speedily become saturated with oil, and so stain the fine and valuable yarn put upon them. When a bobbin of this kind has been made of wood of a loose texture it will become saturated when it has been filled three times, and must be thrown out for the boiler furnaces to avoid a much greater loss. Any method by which this can be effectually prevented we are sure will be welcomed, especially by this section of trade, as it is not only the life of the bobbins that is prolonged, but the total loss arising from stained yarn will be prevented.

After spinning or doubling, in very many branches of the textile trades it is a great advantage to be able to condition the yarn before it passes to the next process. With mule spin yarns this is generally easy, but the amount is very easy, because of being worked up in two carding or yarns, which can not or do not usually permit of the yarn being moisture unjured. We need not detail the form of this injury: our practical readers are sufficiently well acquainted with them.

All users of bobbins will be glad to hear of a method by which their troubles in relation to these articles have been overcome, and will, no doubt, make speedy test of its merits. It is a process of enamelling bobbins both inside and out, which makes them impervious to water-proof against the changing humidity of the atmosphere, and obviates all liability to saturation by oil. It is an American invention, and is just being introduced to the textile trades of this country by Messrs. Wilson Brothers, Limited, Cornholme, Todmorden, the well-known and old-established firm of bobbin makers.

The invention has been applied to bobbins, spoons, and pins of all kinds, used in the spinning of cotton, wool, worsted, silk, and linen yarns, and abundant testimony of its value have been furnished, after considerable experience by some of the largest spinning companies of the United States. The bobbin is entirely coated with a covering of black enamel, with a dead lustre finish for the body, and a bright lustre finish of jet, or any other colour, for the head or tip. The process has not only been extensively applied to new bobbins, but also to hundreds of thousands of bobbins that have been in use a considerable time, and with results equally satisfactory. Bobbins treated with this process, filled with yarn in the course of usage, after being repeatedly exposed to the action of steam, and then stored in a relative dry atmosphere for long periods of time, are found when unwound not to have suffered in the least, as the moisture cannot penetrate below the surface.

The attention of Messrs. Wilson Brothers had been several times called to the value of the invention, the patent having been secured in this country by the inventors. A personal visit to that country last year by Mr. Wilson, with the result that, by agreement, the exclusive use of the invention for Europe was purchased by Messrs. Wilson Brothers, and, at a considerable cost, a complete plant, on a large scale, has been erected, and for several months has been in operation. Already some extensive orders for new ‘enameled’ bobbins have been received, and a considerable number of small trials ordered. About 25,000 old bobbins have already been “enameled,” all of which, without a single exception, have, so far as Messrs. Wilson Brothers can learn, been entirely satisfactory. Some of these have been in constant use about four months. From the great success that has attended the process for over three years in America, Messrs. Wilson Brothers feel justified in claiming for bobbins so prepared the following important advantages:

1. The enameled bobbin being completely covered with enamel, outside and inside, is rendered impervious to water, steam, or oil, and is absolutely secure from all injury therefrom.
2. The enameled bobbin will neither warp nor crack, nor be affected by the spindle or through size, nor be affected by any strain to be put upon it, and will find its place on the spindle.
3. The enameled bobbin never becomes sticky, hence that there is no waste or loss of yarn from this cause, as is often the case with bobbins coated with oil or varnish.
4. The enameled bobbin, being impervious to oil, cannot become saturated with it, hence no damage to yarn can arise from such a cause.
5. The enameled bobbin is finished with a hard-glass-like head, top, perfectly smooth, and which admits of great friction. It will neither splinter nor become roughened by use, hence the frequent breaking of ends from defective heads or tips is entirely avoided.
6. The durability of the enameled bobbin is considerably greater than that of the ordinary bobbin—old or new. The enamel being hard but elastic, will neither crack nor peel, but enables the bobbin to resist with scarcely perceptible injury, repeated blows and knocks received in long ordinary usage.
7. The resistance of the enameled bobbin to tension and pressure, caused by the contraction of yarn during the steaming or damping process, is greatly increased in the ordinary bobbin.
8. The enamel can be applied to bobbins, if in good condition, that have been in regular use for a considerable time, providing such bobbins have not become saturated with oil, thus making old bobbins almost equal to new enameled bobbins.

So far as an inspection of samples will enable us to judge, we can confirm the above statements, and we have no doubt that Messrs. Wilson Brothers will be pleased to afford spinners, doublets, and manufacturers every opportunity of forming their own conclusions upon the merits of the new process, on communication with them, either at their offices, Market-place, Manchester, or at their works at Cornholme, Todmorden.

PATENT BUFFALO WOVEN BELTING.

MESSRS. JOHN GREENWOOD AND COMPANY, LIMITED, TODMORDEN.

The great demand for belting to which the enormous development of our mechanical industries and their continued rapid extension has given rise, has carried the prices of leather belting to such a height that many attempts have been made to find substitutes for this material, which should possess all its good qualities whilst costing less. Generally the substitutes have been one or another kind of woven fabric. Only, however, have all the early adventures of this sort, that of making a sound, durable, all-weather belt. All woven belts, however, have been the subject of the above-named inventors, and the use of the latter has been generally adopted. As a substitute for leather belting has just been brought under our notice in the articles named above, which seem to answer very fully all the requirements for which consumers look. It is composed of several plies of woven fabric laid together and stitched in the direction of its length. One of the plies is a thickness, however, not of a single layer of buffalo hide. The edge of this slightly projects beyond that of the woven material, and so receives all the friction of the force which may enter into it, and thus it protects the edge, and very effectually indeed, as it is difficult to conceive a more durable substance.

It is the best selected Bataan buffalo hide, cut into strips and spaced to form the layers. To give additional strength there are, beyond the usual stitchings with twine to keep the compound fabric, one or more stitchings with copper wire, according to the width, which adds to the strength. The belt thus constructed is hard, firm, inelastic, and very durable, with sound edges. It is made in any required width, length, and thickness, quantities being supplied in several plies of woven fabric, from one side and three on the other of the buffalo ply. It is in addition well protected from the influences of damp, steam, or other enemies of a kindred nature. It is well worth the examination of users, to whom the makers, if addressed as above, will be glad to forward samples.

TRIMMING AND COLLARTE ATTACHMENTS FOR HIS KNITTING MACHINES.

The New Looper Trimming Attachment and the Improved Patent Collarette Attachment both of which we illustrate in the accompanying cuts, have been recently placed upon the American market by Mr. Charles Cooper, of Leominster, U.S.A.

The trimming attachment is covered by recent patents, and besides being adapted to any kind of work, has the advantage of being adjusted to any looper now on the market. It is less liable to get out of order than the ordinary trimming attachment, because of its simple mechanism, and, as shown by repeated tests, it
Bleaching, Dyeing, Printing, etc.

NEW COLOURING MATTERS.

Messrs. Leopold Castella and Co., of Frankfurt-on-Main, have placed three new coal tar black colouring matters on the market—Naphthol Black 5 B, Naphthylamine Black D, and Diamine Black RQ.

NAPHTHOL BLACK 5 B

is another brand of their already well-known naphthol blacks; of rather a bluer shade than the ordinary black and has all the good properties for which the old makes of naphthol blacks are noted—resistance to light, air, acids, etc.

DIAMINE BLACK RQ.

This is another addition to the list of substantive cotton colours, which only came out at the end of 1885, and yet bid fair to surpass the numerous azo-colours for permanence and variety. Messrs. Castella and Co. offer to dyers a full range of these colours, which they have completed by the introduction of the new Diamine Black.

This new colouring matter will be found useful for dyeing dark navy blues and blacks, and even for slates it will find some use. For the production of Black RQ. it cannot be compete either with logwood or aniline; requiring as it does from 6 to 8 per cent. of dyesuff, and about 13 per cent. of cream to give a black. It will also be found useful in combination with other substantive colours for the production of modes, olives, browns, and clares. It is dyed on cotton in a bath of sulphate of soda and soda ash. The shades obtained are very fast to light and air; acids have no action on them, and they resist boiling with soap. It is one of the fastest colouring matters that has been sent out.

LITMUS.

Liturus is a colouring matter prepared from various species of liverworts, by treating them with ammonia and potassium hydroxide in presence of air; whereby a kind of fermentation is established. When the mass has become violet, stale urine, lime, and potash are added, and the fermentation is continued until the same assumes a blue colour; it is then made up into tablets.

So prepared, liturus contains several colouring matters, the chief of which appears to be a weak acid, which forms blue mutes, that existing in the ordinary liturus being the potassium salt.

Aniline Black is the subject of a German patent granted to Mommer and Co., of Barmen. They use albumen, casein and glue, in conjunction with the Barmese and their products are sold under the name of "Black Barmese," and are said to be the best in the market.

GERMAN AND ENGLISH GOODS IN JAPAN.

The competition of Germany continues to make itself clearly felt in the import trade, and in the growing trade in Japanese goods. In 1893, the imports of Germany were valued at £2,000,000. In 1889, the total import of £500,000, and in 1890, the total import of £500,000, and in 1891, the total import of £500,000. This trade grew from £18,000,000 in 1887 to £27,000,000 in 1890. Of this latter sum, England's share was £21,000,000, and Germany's £2,000,000. In 1891, it seemed as if Germany was about to take a place in the business, for her imports then amounted to £21,000,000, and in 1892, the trade was £15,000,000. But in 1893, she fell almost completely out of the running. The imports of blankets last year were valued at £10,000, and the total value of £20,000,000, while Germany's was £10,000,000, and England's £10,000.