

## Machinery and Appliances.

*KLAUDERS' PATENT SKEIN-YARN,  
DYEING AND SCOURING MACHINE.*

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To persons familiar with our leading textile industries it is a matter of surprise to see how backward have been the dyeing and bleaching branches in the application of mechanical appliances to perform, or ease the burden of labour in them. Of late years, however, a perception of this fact has been brought home to the convictions of those most interested, and attempts, attended with considerable success, have been made by inventors to bring these industries more nearly into line with the principal divisions than has hitherto been the case. We are pleased to note that these efforts are not

Two discs properly mounted constitute a reel or skeleton cylinder, which is arranged horizontally in the frame, and is completed by the sticks carrying the yarn which, when in position, form the periphery. As will be seen from fig. 2, showing the driving gear, the cylinder axis projects to the outside of the casing, where it carries a worm wheel, gearing into a worm, and is driven through suitable connections from the pulley as exhibited. If required the machine may be driven from a pair of cones by which a variable speed may be had if desired. In fig. 3 the machine is shown as charged with the yarn, the hanks being sustained in position by one end being carried upon the stick as seen, and the other upon a second stick, which finds its position near the axis.

The yarn is placed upon the sticks just in the manner it would be if turned by hand, and is turned by an automatic trip which rings a bell if from any cause a skein or skeins should fail to turn. In the event of any such interruption occurring it requires but a moment to find the cause

diffuses the added liquor throughout the vat immediately making it all of uniform strength. When the machine has been charged, and sufficient dyestuff has been added to match the shade required, no further attention is needed until the dyeing is finished and the yarn is ready to be removed. Here, too, a gain of time results from the power of adding the dyestuff without stopping the machine.

Having loaded the machines, the attendant can perform other work, and his boy assistant can attend to from two to four machines, having nothing to do after helping to load and unload until it is time to "take a matching off" for the dyer to compare with his pattern. This is done as quickly as by the open vat process. It is part of the boy's duty also to attend to the alarm bell, but this may not be heard more than once in a week. The boy in attending to these machines does the work of many men on the old systems, and the gain from the saving of labour alone in one year will more than recompense the outlay upon the machine. Even in

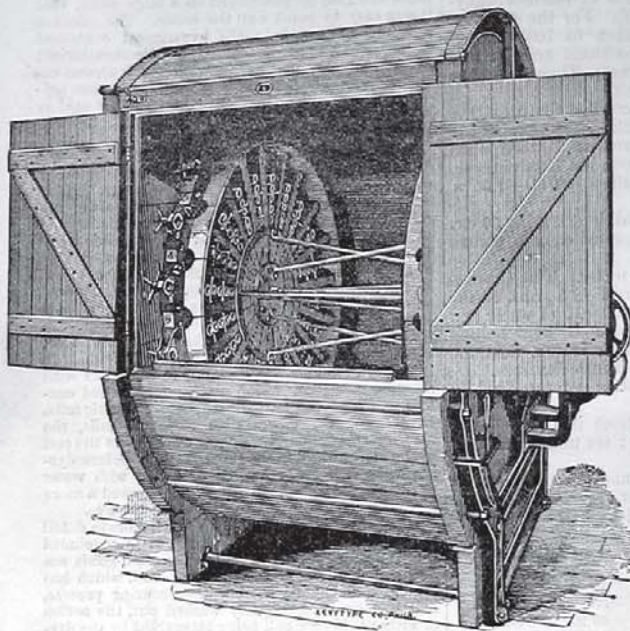


FIG. 1.—SHOWING INTERIOR CONSTRUCTION.

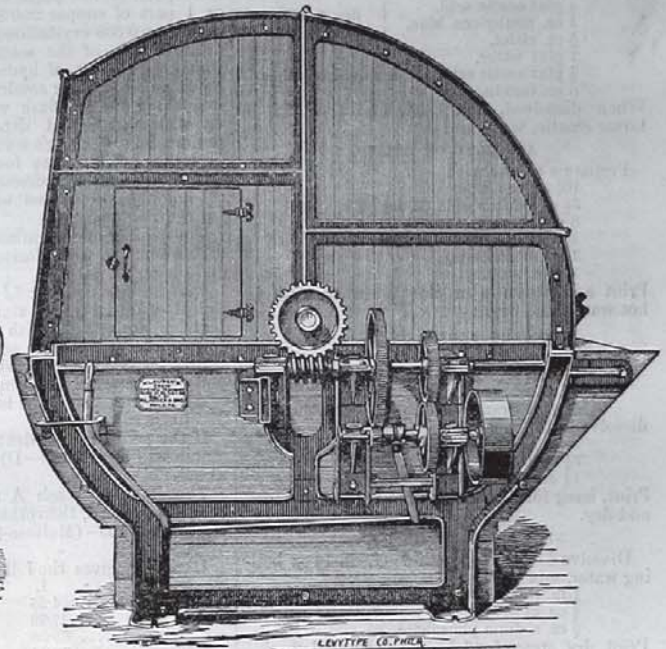


FIG. 2.—SHOWING DRIVING GEAR.

likely to terminate until the end has been at least approximately attained. Evidence of this is visible in the invention we have now the pleasure of bringing before the notice of our readers, and which we have had the pleasure of inspecting at work.

The machine to which we refer is a skein-yarn and slubbing dyeing machine, which is also equally available for scouring purposes for the same classes of material. It is of American origin, and is the invention of Mr. Charles L. Klauder, of Philadelphia, a practical dyer, and has been placed upon the market by Messrs. Klauder and Bro., of the same city, and of which firm the inventor is a member.

The four illustrations we give of the machine obviate the necessity of any lengthened description, as they will speak powerfully to the eye of the practical man in commendation of its simplicity and merits. As will be seen from fig. 1, the machine consists of a wood framework or casing, the bottom part of which forms the beck or trough to contain the wash or dye liquor.

and correct it. A second set of sticks is furnished with each machine, so that whilst one lot is being dyed, another can be placed upon the second set to be ready for placing into the machine as soon as the first has been taken out. This it will be obvious prevents the machine standing idle whilst the yarn is being got ready. It can thus be kept almost continually in operation, which is a great advantage. The machine can be rapidly charged and discharged, as 100 lb. can be put in or taken out in the short space of three minutes. In the larger machines the quantity can be increased to 300 lb., the time for dyeing being proportionately longer.

The vat is charged with dye liquor from the pan on the left hand side of the machine, fig. 4, in which the dyestuff is dissolved, and from which it passes into the vat whilst the machine is in operation. There is no need to withdraw the yarn from the vat whilst the fresh dye liquor is being added, as is the case in the skein dyeing machines generally in use. The revolution of the yarn cylinder quickly and thoroughly

dyeing small lots the labour of the boy displaces that of two men.

In dyeing by open vats it is well known that the temperature cannot be raised above 204 degs. without the yarn being steam blown and tangled, but in this machine, by its being enclosed as shown, it can be carried up to 212 degs. in the dye bath, which obviously constitutes a very important gain. The additional heat accelerates the dyeing so much that as much work can be accomplished in five minutes as in the usual way can be done in fifteen minutes. The heat ordinarily wasted is thus much more perfectly utilised, and a large saving of fuel is effected, while the atmosphere of the dye-house is kept almost entirely free from steam. This fact alone is a great advantage, as it adds so much to the health and comfort of the work-people.

By adding to the machine a system of reservoirs brought out by the same patentee, the yarn can be boiled out, mordanted, and dyed without once removing it from the machine

until it is finished, no matter how many the number of baths that may be required. The bath, whether of mordant or dye, is pumped from the beck into one of these reservoirs if it be desired to retain it, and the contents of another reservoir are then emptied into the vat, this being repeated as often as necessary or desirable.

In dyeing woollen and worsted yarns one machine can be used for scouring and another for dyeing. For the former process it is of the greatest advantage, keeping the yarn perfectly free, straight, and in good condition for dyeing; the sticks are removed from the scouring machine with the hanks on them without disturbing their arrangement in the least, and placed in the dyeing machine, the transfer from one to the other requiring only six minutes.

Estimated on an average of the colours most in use, one machine will meet out and dye in ten hours 1,000 lb. of cotton yarn; it will dye 1,200 lb. to 1,500 lb. of worsted yarn; and of carpet yarn 2,000 lb. to 3,000 lb. Owing to the several

The dividend of the spinning machine shop of Chemnitz, which formerly belonged to Theodor Wiede, amounts to three per cent. for 1888-89, against 1½ per cent. for the previous year. The management propose to erect a new building and to complete the plant.

The admissions to the Paris Exhibition up to October 31st numbered 23,912,000.

A decorticator has been tested at Bristol, Pennsylvania, within a few days that will interest the people of the South. The machine was intended principally to separate the fibres of the ramie plant from the wood. The first test was made by running a batch of dry stalks of the ramie plant, which had been brought from North Carolina, through the machine. A quantity of jute stalks were then put through, and finally the green stalks grown on a neighbouring farm. The machine did its work in a most satisfactory manner, leaving the fibres clean and free from wood. The fibre was placed in a chemical preparation after being taken from the machine for the purpose of dissolving the gum. It was steamed two hours, after which it was placed in the bleaching vat. After bleaching for about thirty minutes it was taken out and dried, the entire process of transforming the green stalks into delicate fibre ready for the spinner having occupied less than three hours.—*Baltimore (U.S.A.) Record.*

are not in great demand at present, but shoddy, especially the common sorts, are in great request. The yarn market has also been brisk. English mohair and hosiery yarns are selling well, as are also qualities composed of grey and coloured shoddy, and the demand for zephyr kinds is considerable. The sale of ready-made goods continues to be of a most restricted character, the best orders at present coming from England, and chiefly consisting of cheap plush jackets and short fancy dolmans. Broad diagonals are very much used for rain-cloaks at present, in many combinations.

FOURMIES.

During the week business in the piece-goods branch has only been on a limited scale. Manufacturers, as a rule, are very well engaged now, thanks to the large orders recently placed. For the home trade some fresh orders are to hand in 9/8 and 5/4 merino cloths, and the repeat orders for reasorting stocks for England will arrive in about three weeks or a month. The Americans are the only buyers, who, up to now, refuse to pay the advanced rates; it is only likely though that they will be compelled to follow, as their orders must soon be placed if they wish to have them executed in proper time. The yarn branch is very busy. Noils are in great demand, and taken off the market as soon as produced. In tops a few sales have taken place at very firm rates.

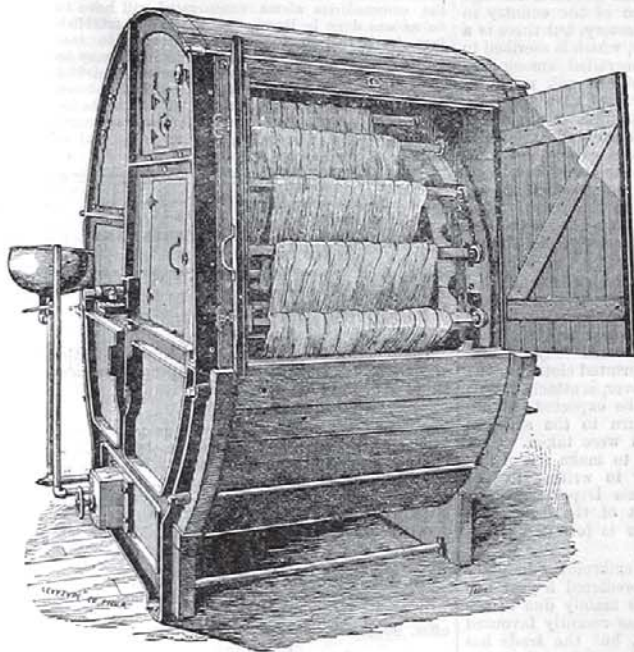


FIG. 3.—SHOWING YARN IN MACHINE.

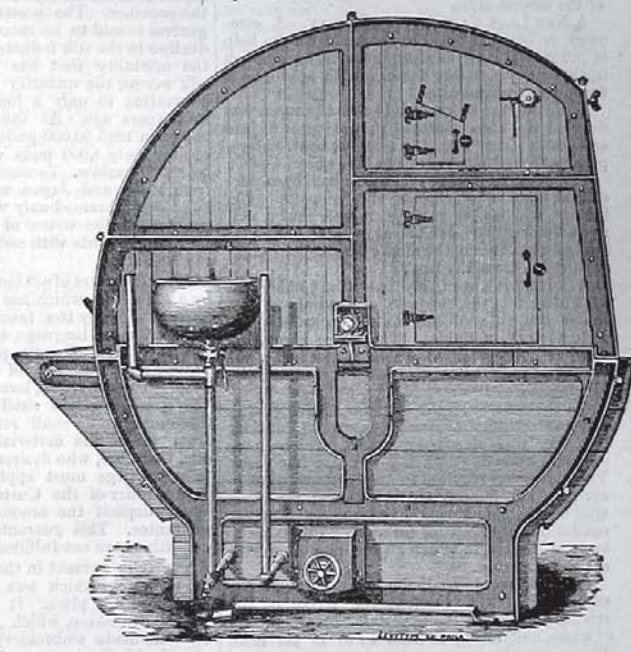


FIG. 4.—SHOWING FEEDING PAN.

points favourable to economy, we have already described, there is a considerable saving of dyewares, often to the extent of 25 per cent.

The machine has passed the experimental stage having been extensively introduced into the trade establishments in America. The mechanical construction is very simple; there are few parts to get out of order. The capacity is from one hundred to three hundred pounds according to the length of reel and kinds of yarn. The lengths of reel may be from 54 to 90 inches, or really of any size that convenience may require.

In economy of labour; in the saving of dyestuffs; in the saving of steam, in the greater production and the improved quality of work realised by the use of this machine, it will be obvious that dyers must realise a great advantage by its early adoption.

The machine may be seen at work in the establishment of, and by application to Mr. E. Heppenstall, whose address is given above.

Foreign Correspondence.

THE WOOL AND TEXTILE TRADES ON THE CONTINENT.

(FROM OUR OWN CORRESPONDENTS.)

ANTWERP.

The position of this market remains unchanged. The demand is active, but stocks of suitable wools are almost nil. During the week on record 280 bales River Plate, and 181 bales sundry wools were sold at full late rates. Good combing Buenos-Ayres wools are the turn against buyers. The future market for tops has revived, its recent flat feeling and quotations are slightly higher for the earlier months. French combing River Plate tops are quoted on the basis of fs. 5-80 (25d. per lb.) for November-December delivery. German combing is quoted at fs. 6-07½ —fs. 5-95 (26½—25½d. per lb.) The next public sales will take place during the present month.

BERLIN.

In the wool market here prices remain very firm, and considerable purchases are being made, especially by Saxon and Lausitz manufacturers. Noils

LYONS.

Manufacturers are now very busy. All available power-looms are at work, and no weavers in this department are idle. Hand-looms are not so well favoured, as the orders for novelties have not yet been placed to a great extent. For winter season matelassés and damasks, which had already been well ordered, have been the object of a supplementary demand. Moire, faille Francaise and prints, are doing well. Satins and Duchesses have been ordered in large lots for Paris and for export. Gros grains are selling very slowly, cotton trams alone being ordered, but only in small lots. On piece-dyed silks the tendency is good. Chinas and Marcelines are in good demand, and pongees are selling in all qualities at satisfactory prices. In serges with cotton wett important orders have been secured. Cheap fancy damasks are in good demand in the piece-dyed qualities, whilst matelassés have had much attention. In ribbons continued activity prevails. Velvet ribbons find increased demand. In grenadines important orders have been placed. Small orders are also to hand for rich fancy velvets.

ROUBAIX-TOURCOING.

The market continues firm, and during the week a large business has again been done. Manufacturers are already well engaged on old orders, and the fresh commissions recently given out, promise well