

Posselt's Textile Journal

A Monthly Journal of the Textile Industries

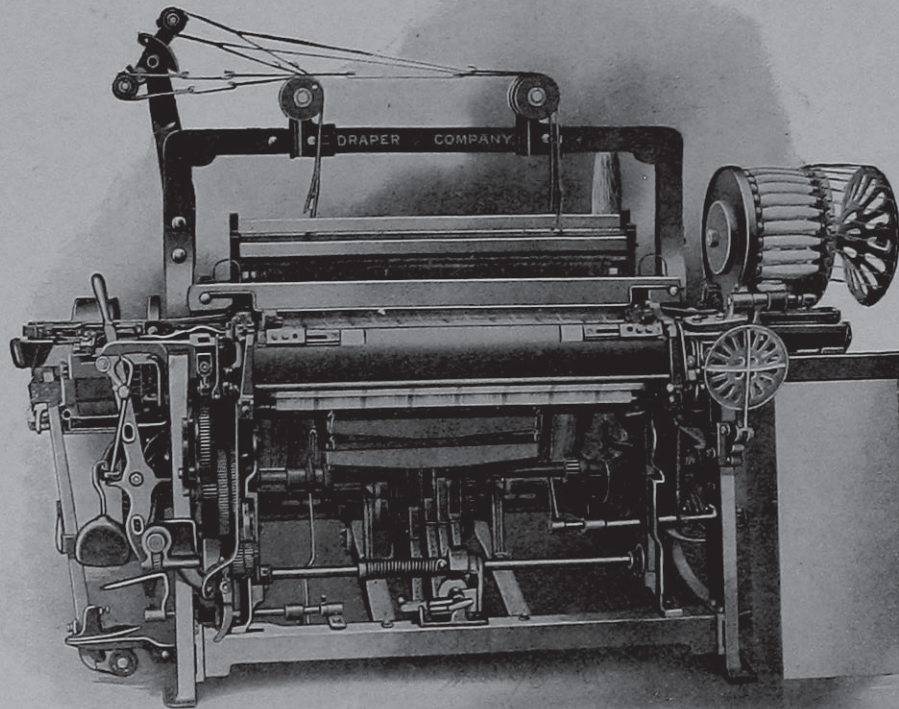
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By E. A. POSSELT

Entered as second-class matter February 10, 1908, at the post office at Philadelphia, Pa., under the Act of Congress of March 3, 1879.

E. A. Posselt, Publisher, 2028 Berks St., Philadelphia, Pa.
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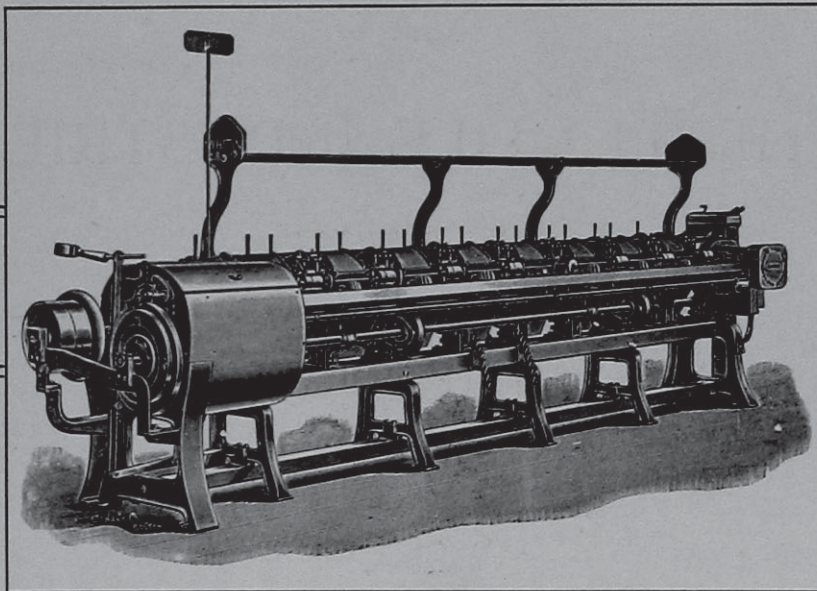
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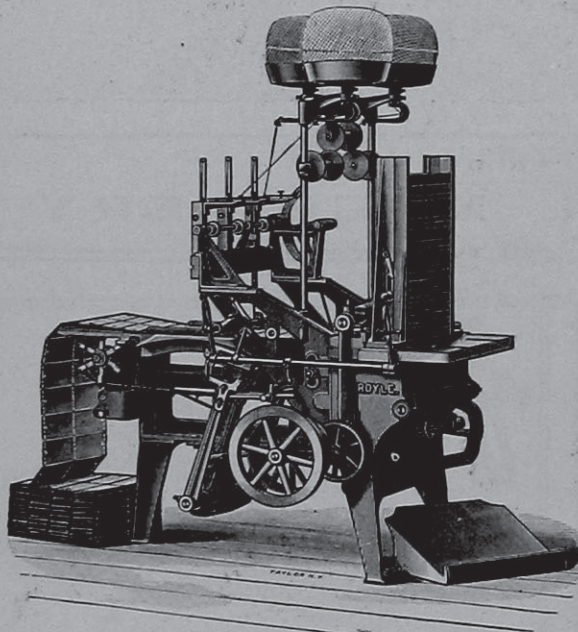
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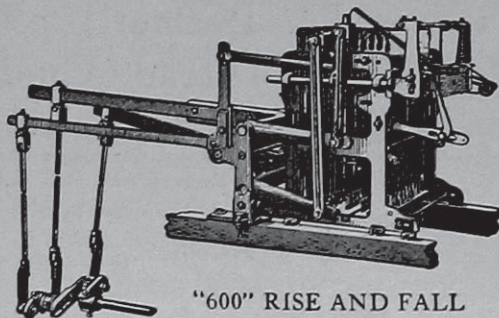
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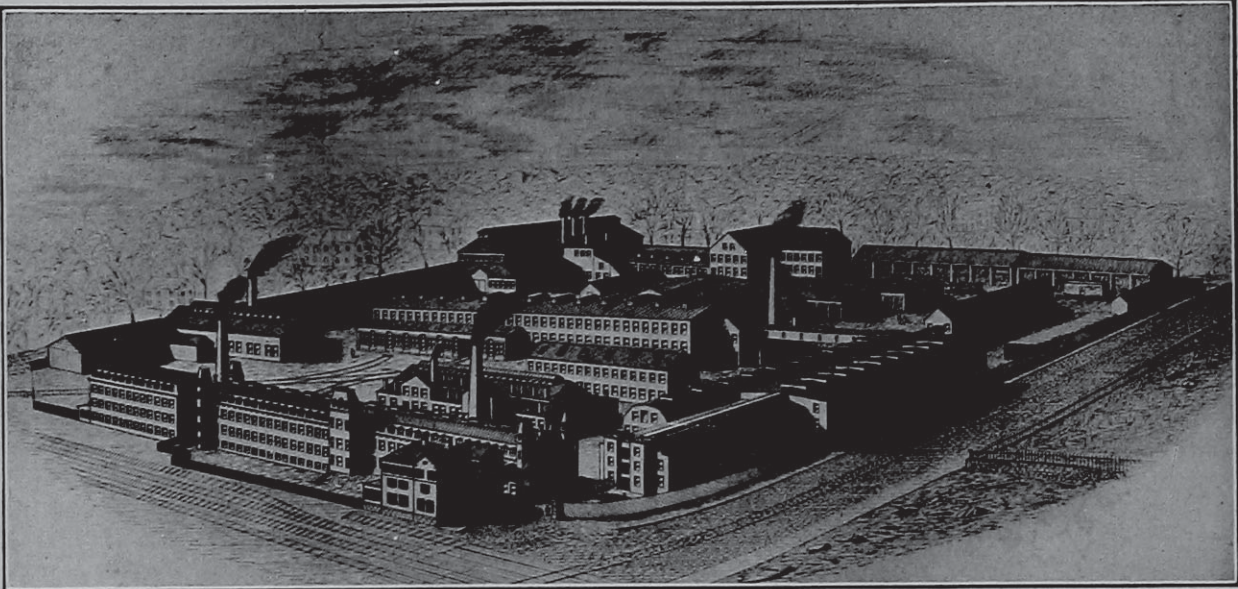
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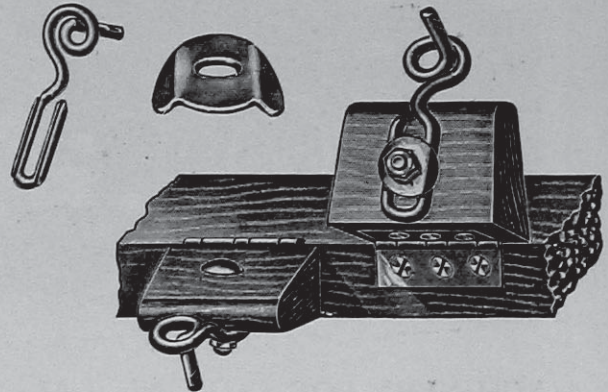
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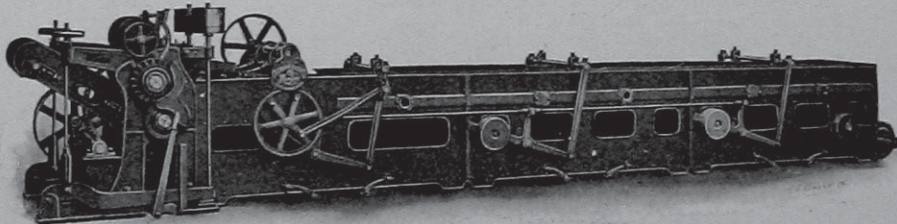
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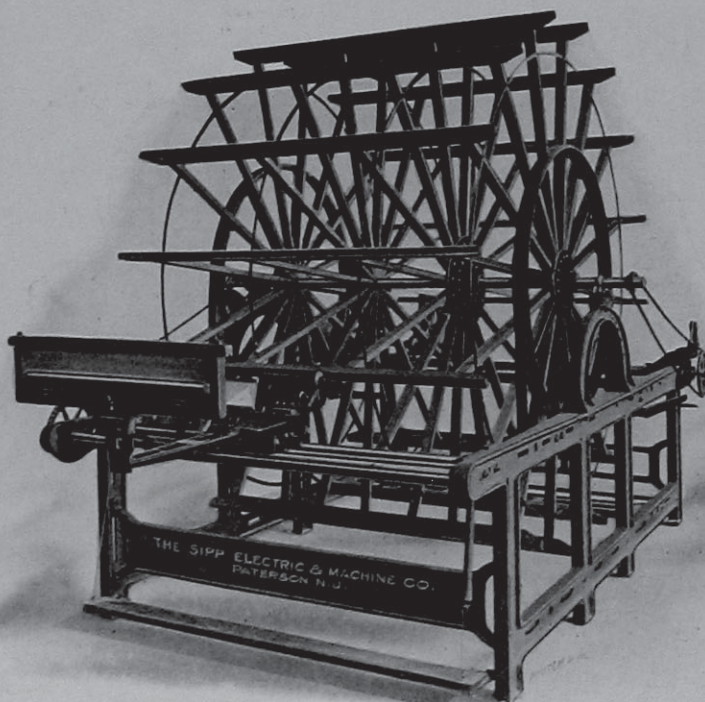
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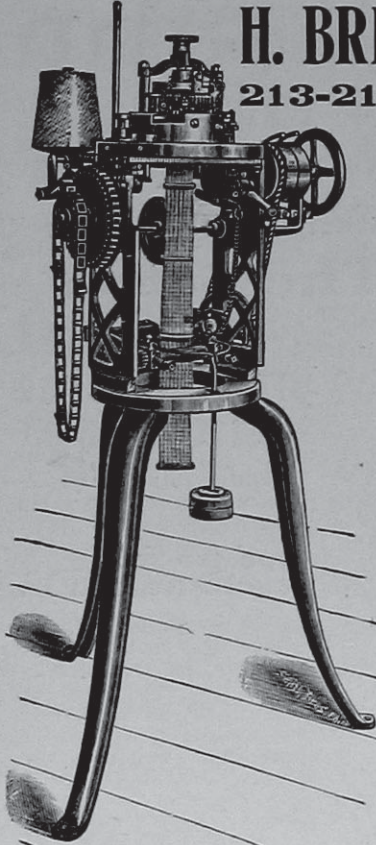
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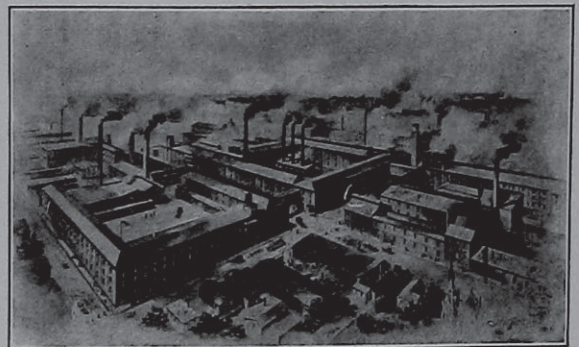
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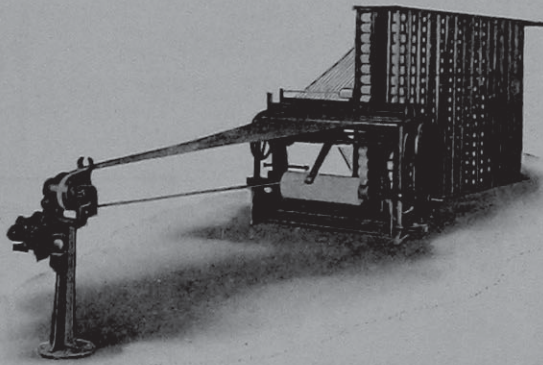
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HENRY TROEMNER

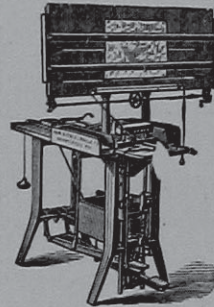
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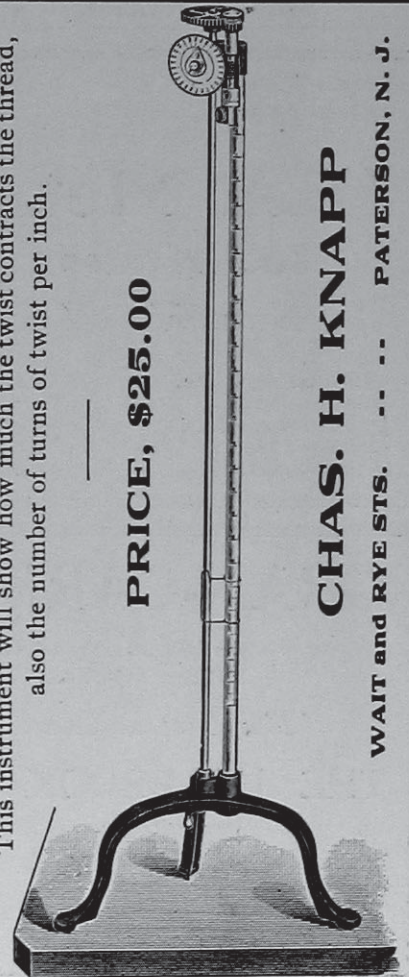
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Potassium bichromate: Fairly full shades are obtained. One per cent. gives a fuller shade than 2 per cent.

Sodium arseniate: With 2, 3 or 4 per cent. of this at the boil for three-quarters of an hour, a good dyeing of the kemps is effected. A much darker shade is obtained than on wool similarly treated, but this is not so marked when both wool and kemps are treated together, as is necessary for any practical use. Nevertheless, even in this case, an improvement is seen, and the wool takes a fuller shade with the same percentage of dyestuff. There is no danger if the material is well washed off, as no trace of arsenic can be found on analysis in the dyed product. The absence of the metal shows that it does not act as a mordant, but has some special effect upon the kemps.

These experiments prove that an oxidizing agent is the most satisfactory, although experiments with perchromic acid, a powerful oxidising agent, and with hydrogen peroxide give very poor results. Perchromic acid is very unstable, and it is very probable, therefore, that the oxygen escapes before it can attack the epithelial covering of the fibre.

In the majority of the experiments, particularly with sodium arseniate, and sodium hypobromite, the remarkable feature is that, when dyed separately but with the same percentage of dyestuff, the kemps take a much deeper shade than wool, and yet when both, kemps and wool, are dyed together, the wool takes a much darker color. In any case in which the kemps take the dye at all they always take a duller shade than a good wool fibre, owing to their lack of lustre. This is only to be expected when we remember that in good wool the medullary or central portion of the fibre is absent. In a poor quality of wool, it is only present in a comparatively small degree; the greater portion of the fibre is transparent. In kemps, the whole interior of the fibre is absolutely opaque, and when by the aid of any means, either chemical or physical, the horny covering is broken, and the dye penetrates the opaque centre, it is impossible for the dyes to give good bright colors. In practice, however, it is important to dye the kemps in this imperfect manner, rather than allow them to appear as white hairs in the finished goods.

Whilst the horny covering remains intact, this will appear lustrous to a certain extent, owing to the reflection of the light off the covering, but when this is broken up, the opaque interior is exposed and under no circumstances will it appear lustrous."

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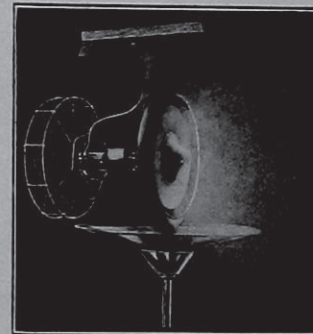
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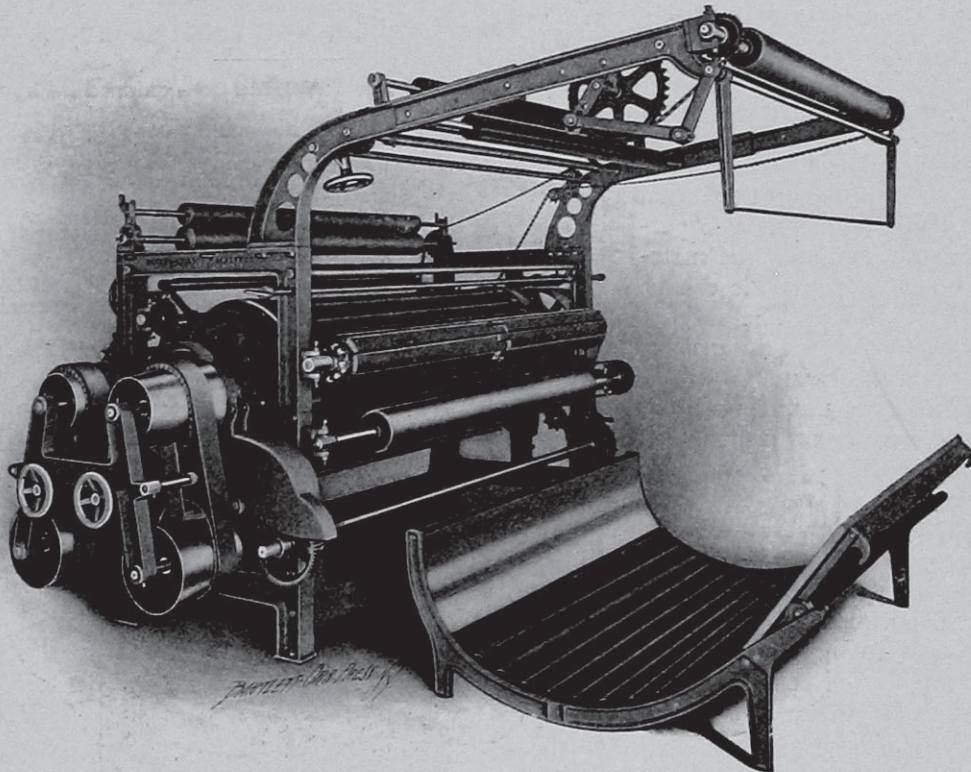
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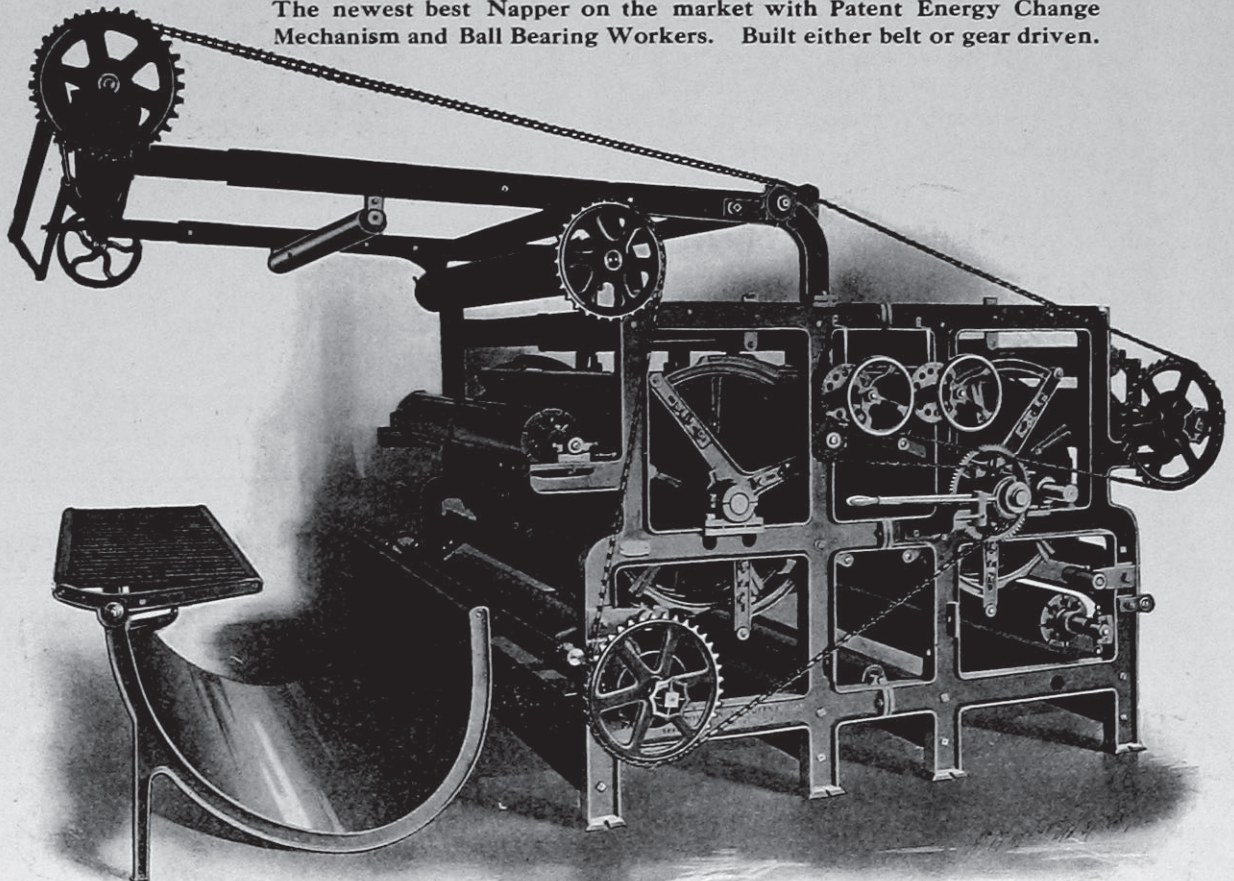


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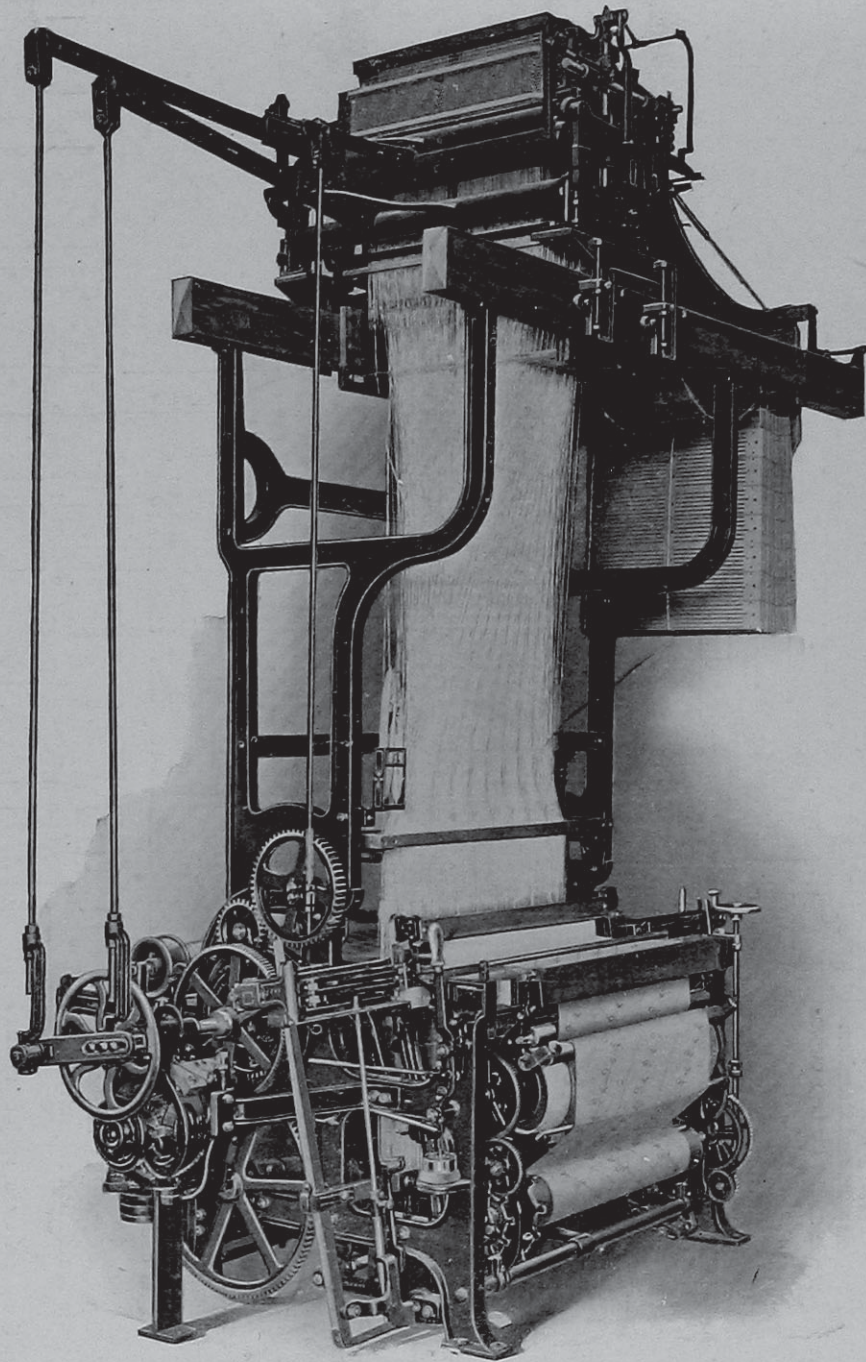
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Posselt's Textile Journal

Vol. IV.

June, 1909.

No. 6.

COTTON FINISHING.

GIVING A DESCRIPTION OF THE VARIOUS PROCESSES.
WITH DETAILS AS TO THE MOST APPROVED MACHINERY.

The same, as with other textiles, the fabrics after leaving the loom, whether it refers to White Goods, Yarn Dyed or Piece Dyed Goods, Plain or Fancies, must be subjected to various finishing processes so as to bring them into commercial condition. With reference to Piece Dyes, part of the finishing is done before and after the dyeing process.

The details of the finishing process for cotton goods vary with the class of fabrics under operation.

In many instances, weighting materials are added to the fabric structure during the finishing process, so as to hide, more or less, its actual construction.

Every department of cotton finishing requires machinery of the most approved construction, both on account of quality as well as quantity, it being the object of this treatise to quote only that machinery which is known to give the best results.

The finishing of cotton fabrics has advanced wonderfully in late years, some classes of cotton fabrics, if properly finished, so closely resembling woolsens, worsteds, linens, half silks, and in fact in some instances pure silks, that the average buyer must be guided by the reputation of the store. Most every reader, although he may not like to acknowledge it, will remember that he has bought *all cotton* trousers for *all worsted*, again any number of persons will never be able to tell which they actually are, more so when new. To distinguish some of our fine textured, fancy cotton dress goods, having been handled by an experienced finisher, from half silks or pure silks, in many instances requires the eyes of the practical manufacturer; the average buyer being guided entirely by the word of the sales person.

A point to be kept constantly in mind by the finisher, is to obtain the required finish without influencing the strength of the cloth.

Cotton fabrics, when coming from the loom, as a rule, present a soft, flabby structure, in fact they look rather unsightly; a feature you cannot say, to the same extent, of other textiles. For this reason, the selection of the proper finishing materials, as well as the process itself, is a most important item, *i. e.*, using the proper finishing materials and a process which will fill up the interstices as produced in the fabric by the interlacing of warp and filling; imparting in turn, at the same time, to the fabric a certain amount of stiffness.

As will be readily understood, this finish will disappear when during wear washing the fabric, it only having been imparted to the fabric to bring the latter into a salable condition.

The process of finishing differs with White Goods and Fancies. In connection with the latter, there is

again a difference in the finishing process between Stock or Hank Dyed and Printed Fabrics. The first, as a rule, receive only a most simple process of finishing, the latter being in turn bleached, printed and finished.

Cotton fabrics, after weaving, may be subjected to the following sub-processes of finishing:

Inspecting, Burling and Trimming, Bleaching, Washing, Scutching, Drying, Mercerizing, Singeing, Shearing, Napping, Brushing, Starching or Sizing, Impreginating, Breaking the Finish, Dampening or Moistening, Calendering, Mangling, Gaufréing, Moiréing, Stretching and Widening, Pressing, Doubling, Measuring, Rolling and Papering.

Cloth Inspecting and Trimming.

This is the first process the woven cloth, when reaching the finishing room, is subjected to. A fa-

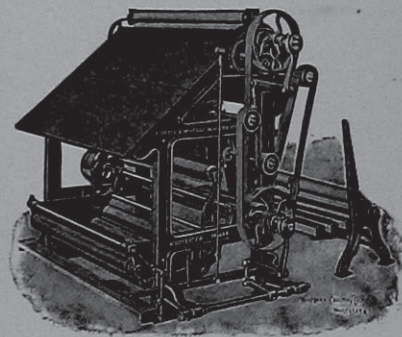


FIG. 1.

vorite machine used in connection with this work is shown in Fig. 1, in its perspective view. This machine is built by the Curtis & Marble Machine Co., and is designed for assisting in a convenient and rapid inspection of the goods, either in separate cuts as they come from the loom, or in large rolls after the ends of individual pieces have been stitched together on a Mill Sewing Machine.

Two primary brushes, for cleaning the cloth before it passes to the inspection table, are used; one is for cleaning the face, the other for cleaning the back. A secondary brush, for cleaning the face of the cloth after it has passed the table and draft rolls, is also provided, to remove any loose threads or lint which may remain on the face of the goods after inspection. These brushes operate during the forward movement of the cloth by the draft roll feed; means being also provided for disconnecting the operating mechanism of these brushes and then imparting a reverse rotative action to the feed or draft roll, so that the cloth can

be stopped and automatically run backward by said draft rolls for re-inspection of any portion of the fabric after it has passed the inspection table. This then is done without having the surface of the cloth subjected to the brushing action during this backward draft movement, or while the cloth remains idle; in this way preventing any one position of the fabric from receiving excessive brushing.

In the operation of the machine, the draft rolls, delivery feed mechanism, and brushes are simultaneously put into effective action, by depressing a foot treadle lever extending across the full width of the machine in front and at its bottom.

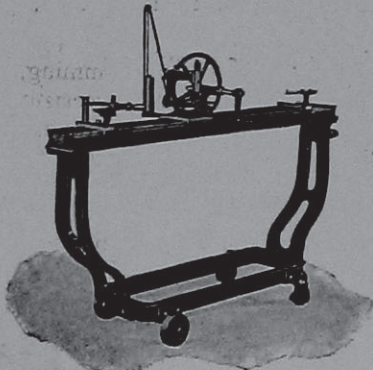


FIG. 2.

The cloth moves forward over the inspection table in an upward receding direction, thereby enabling the eye of the operator to readily detect imperfections, and this, too, with the cloth moving at a comparatively rapid speed.

The draft rolls and delivery feed of the machine are put into reverse action without any operation of the brushes, by depressing a short treadle, as situated at the right hand side of the machine, slightly above the large treadle previously referred to. Release of the treadle, stops the action and thereby arrests the feed of the cloth.

The driving pulley and operating shaft of the machine continue in constant motion, while the control of the draft rolls and brushes is effected by quick acting frictional clutch devices, responding to the depression and rise of the primary and secondary treadles, so that the starting and stopping of the draft rolls and brushes for feeding and arresting the cloth in its passage over the inspection table and the reversal of the draft rolls are effected instantaneously or as quickly as the foot can act on the treadle, the reversing of the action of the draft rolls requiring only such instant of time as is consumed in passing the foot from one treadle to the other.

The goods after inspection are either laid in folds in back of the machine by means of a regular Swinging Plaiting Down Device operated in conjunction with the delivery feed roll; or in place of this device, the machine is provided with a Rolling Head to set on the floor back of the machine, and with spreader bars for taking out wrinkles and turned edges. This Rolling Head is the arrangement shown in our illustration.

These machines are also built without brushes, if

so desired, for handling goods which are run through a brushing or shearing machine, on which the threads and dirt are removed, or for such goods as do not require brushing.

MILL SEWING MACHINES. The same are used for convenient sewing together of the ends of two or more pieces as coming from the loom, into a string, for convenient handling in finishing rooms, bleacheries, printeries, etc. They are also used for stitching together the two ends of one piece (or a string of two or more pieces) when the same has to run several times through a machine, like for example, the napper, the shear, etc.

Fig. 2 shows us a specimen of such a mill sewing machine, the same being known as the Portable Hand Power Sewing Machine. The sewing machine (a Singer head) is mounted on trucks so as to be readily moved about the room. The machine is built in different widths as required. The cloth is held out smooth and straight by pins on the machine, and as the operator turns the crank by hand, the stitching mechanism is operated, and at the same time the sewing machine head is made to travel in a straight line across the goods, stitching the pieces together with a continuous chain stitch.

In place of this hand power machine, there are also portable mill sewing machines in the market, operated by foot power, as well as stationary sewing machines, operated by belt power, the latter being a heavier built machine, designed more particularly for handling goods in the cloth room of large bleacheries, etc.

(To be continued.)

FINISHING PROPERTIES OF CARRAGEEN.

By E. Hastaden.

Carrageen, possibly better known to our readers as *Irish Moss* or *Pearl Moss*, is a sea weed, *Chondrus Crispus*, growing on the northern coast of the Atlantic Ocean, where it is collected when thrown by the breakers, after storms, upon the coast, dried and marketed. The bulk of the article comes from Ireland, some of it from Scotland, a small amount of it coming from our coast. It contains a large portion of a peculiar gelatinous matter, termed *pectin* or *vegetable jelly*.

In Ireland and Scotland, in days gone by, carrageen moss was used exclusively for warp sizing, for the fact that it is cheaper than any starch, and for which reason it probably is still used there. However, for this purpose carrageen is of little value, since its adhesive qualities are not strong enough to give it commercial value; it adheres too loosely to the yarn.

The translator of this article, while in the 70's Superintendent of Woolen Mills in New England, then used carrageen extensively for the sizing of woolen warps.

On the other hand, carrageen is at present, for some unaccounted reason, not properly appreciated as a finishing substance, in fact it is less used at present than formerly; possibly on account of the stiff cotton finishes now desired, and for which carrageen is not

suitied. From 1880 to 1890, carrageen was more or less neglected, and when the Author of this article wanted to start using it in 1899 he had the greatest trouble in buying any. He could then actually only get it in Germany, from druggists. Of late years, however, carrageen has come again into the finishers' hands, and it seems that its value for this purpose is beginning to be appreciated by Cotton Manufacturers.

When boiled with water, it forms a thin, almost transparent jelly, which is sometimes mixed with sulphates of soda, and magnesia, etc., for introducing into dyed goods, as Oxford shirtings, in order to produce a more mellow feel, and to make the fabric more pliable and less likely to curl at the edges, when dry. 3 lbs. of carrageen, if boiled with 10 gallons of water, will result after cooling in a solid jelly.

Carrageen, however, is not suitable for finishing cotton goods which have to be heavily calendered, for the fact that it has little power of retaining loading materials under pressure, hence it can be used only for fabrics which are not to be heavily weighted. In the finishing of such fabrics it renders most excellent service, and if taking the item of cost into consideration, there is no other substance that answers nearly as well. It has the excellent property of giving a full handle, combined with suppleness, to the fabric, when used. For this reason it seems rather difficult to understand why finishers use dextrine and farina starch dressings instead of carrageen, which is not only cheaper, but gives better results. In cases where carrageen alone will not produce the proper results, it is interesting to note, how adding a small percentage of wheat starch will correct the matter.

Carrageen is an ideal material to use for the finishing of flannelettes, enabling us in turn to weight them rather heavily. The slightness of the adhesive power of carrageen gives it a great advantage for use in connection with raised goods, since it makes the decoction incapable of matting the raised nap, while at the same time bleeding of colors is avoided, also loss of fibre, and waste of finishing material.

The use of carrageen also assists in preventing the fading of colors during washing, and is not so easily washed out from the fabric as dextrine. If a flannel or flannelette is finished on face and back with a solution prepared by boiling 3 lbs. of carrageen in 40 gallons of water, the fabric will be satisfactorily filled, remain soft, require no calendering, and at the same time the pile is so slightly laid during the process of finishing, that a brushing or slight napping will at once restore it.

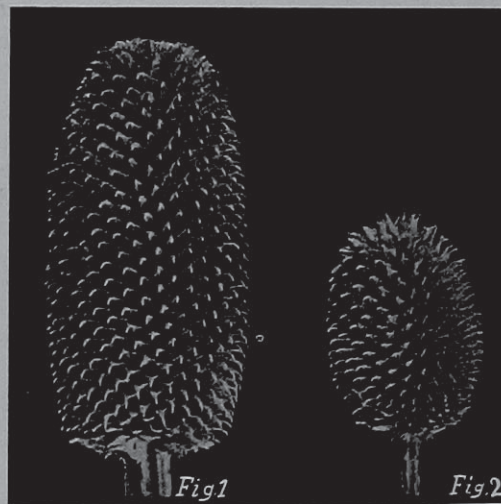
Remember that you may mix carrageen jelly with any other finishing material desired to be used, a feature which greatly increases its scope of use. In preparing the decoction, use good care, more so for the fact that the quality of the article is rather variable, different qualities requiring different treatment as to soaking and boiling. In all cases the moss is brought into solution exactly in the same way as glue—that is, by means of a long preliminary soaking in cold water, followed by a brief boiling. The best sort of carrageen is almost white, inferior kinds being colored

down to a greyish black. The latter, weight for weight, yield less jelly than the better kinds, and requires a longer time for soaking and boiling. A good sample of carrageen requires about 12 hours' soaking and 2 hours' boiling, which will afford a starting point for judging the periods requisite for the inferior qualities of carrageen, and which in the extreme, may have to be extended to about 24 hours' soaking and from 4 to 5 hours' boiling.

During warm weather, be sure to add an antiseptic at the soaking, so as to prevent putrefaction, which would not only result in a waste of material but at the same time produce a bad odor, a feature which is one of the objections to the use of carrageen, for finishing purposes. The best antiseptics are formaldehyde, to the extent of about $\frac{1}{3}\%$ of the weight of decoction, and salicylic acid to the extent of about $\frac{1}{8}\%$, and when the decoction will then keep for any reasonable length of time.—Färber Zeitung.

PRACTICAL POINTS ON GIGGING.

Gigging consists of the combing or teasing out of the fibres which in the process of fulling have become felted together on the face and back of the fabric. The gigging must be exactly alike in every part of the piece, and no section must be subjected to any amount of working of which another is deprived.



In gigging, there are three considerations connected with the mere mechanical part of the work which it is very important to notice.

The first of these is the teasel,

The second is the tension of the goods as they are brought into contact with the running surface of the cylinder, as covered with teasels, and a

Third that may be mentioned, is the condition of the fabric as regards dampness during the gigging process.

(1) The Teasel

Is a part of the gig which usually gets but little consideration, far less indeed than it really deserves, and yet at the same time it has been for hundreds of years an indispensable tool to the woolen finisher.