

Boiling-Off Silk

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HANDLING PIECES IN LOOPS.

This method of handling silk piece goods is extensively used for a large number of light fabrics, mousseline, pongee, crepe-de-chine, etc. The piece is hung on loops or rings of cotton thread which are sewed at regular intervals on one or both selvages. These rings of cotton thread are then hung on sticks, and the piece takes the position shown at Fig. 1. B B show the sticks in cross section; F, the loops or rings of cotton thread; P, the folds of the piece. This illustration shows the piece hung by both selvages, there being a ring or loop of cotton thread around each end of the stick, corresponding to the two selvages, which are thus

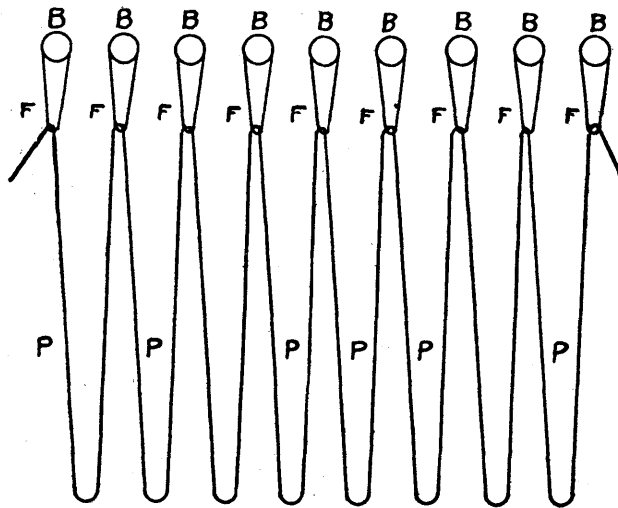


FIG. 1.—DYEING PIECES IN LOOPS.

suspended vertically in the bath. When the sticks rest on the sides of the tub the piece can be readily immersed completely in the liquor, and by moving the sticks so as alternately to separate and bring them together, the folds of the cloth are alternately separated and brought together, which facilitates the action of the liquor on both sides of the cloth.

The other method of looping the pieces consists in at-

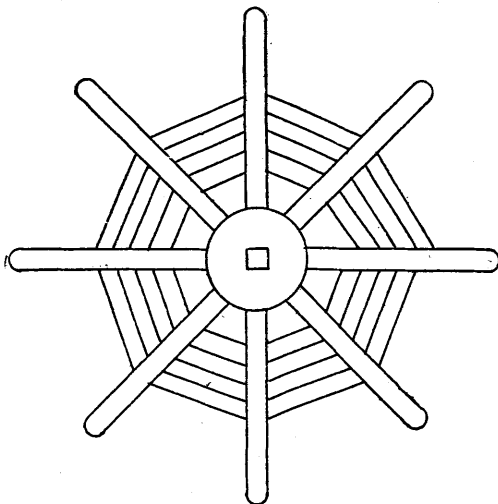


FIG. 2.—STAR FOR DYEING PIECE GOODS.

taching the rings or loops of cotton thread to one selvage only, sometimes passing the loop of thread through several folds of the piece at one time. If the loops are then hung on the sticks the piece assumes a position at a right angle to that shown at Fig. 1, one selvage being looped horizontally at the top of the tub, the other, which is not looped,

being at the bottom. The manipulation of the pieces in the bath is the same, being similar to the handling of skeins, except that it is not necessary to move the pieces from the top to the bottom as they are completely immersed in the liquor.

Larger tubs are required for handling the pieces in loop form than for skein dyeing, or piece dyeing in rope form. The dimensions of the tubs are made to suit the width of the goods. The details of the boiling-off process are naturally identical with those already described.

HANDLING PIECES IN THE OPEN WIDTH.

This method of handling the pieces, which is accomplished mechanically in a number of different ways, consists in keeping the piece spread out during the operation, preventing the possibility of its forming folds. It is used for both heavy and light goods in which folds are liable to form, and cause streaks that show after drying. It is also employed for fabrics in which the boiling-off bath causes a contraction or shrinkage of the yarn, for example, certain fabrics made of mixed wool and silk. In the last named case the piece is kept under tension on rolls to counteract the shrinkage as much as possible, this arrangement being known as boiling-off under tension.

For heavy and delicate fabrics, *gros satin*, for example, there is still used a very old arrangement formerly employed in blue-vat dyeing, and which is known as the *champagne*

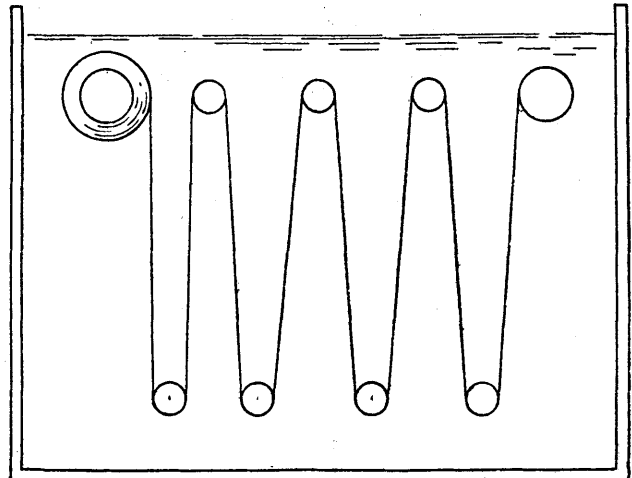


FIG. 3.—DYEING SILK PIECES UNDER TENSION.

or star. This arrangement consists of a vertical stem or shaft, on which are placed two hubs each carrying a set of horizontal spokes arranged in the form of a star, as shown in the plan, Fig. 2. These spokes each carry a row of hooks on the inside. The selvages are fastened to these hooks, and the piece is thus wound in spiral form between the two stars, as shown in the illustration.

The production with this device is small, and it requires a very large bath, but a perfect circulation of the liquor between the folds can be produced by moving vertically the *champagne* or reel, which is simply hung in the soap bath. No matter how delicate the goods are there is no danger of their becoming marked, as the pieces do not come in contact with any solid part of the device. With this arrangement the pieces are given the two soap baths, degumming and boiling-off, rinsing and weighing baths, etc. The cloth is removed only when all of the operations are completed.

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BOILING-OFF SILK.

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Silk pieces are boiled off under tension in a machine similar to the jigger that is used extensively in the dyeing of cotton goods, but the silk machine is generally larger. It usually consists of a rectangular tub made of metal and carrying at each end a large roller. The piece is rolled alternately on each of these two rollers, between which are a series of smaller rollers placed alternately at the bottom and top of the tub, and over which the piece moves while completely immersed and under tension in the soap bath during the passage between the two end rollers. The tension which occurs each time that the piece is wound on an end roller facilitates the removal of the dissolved gum.
