

J. Holt.

Press Dyeing.

N^o 105,455.

Fig. 1.

Patented July 19, 1870.

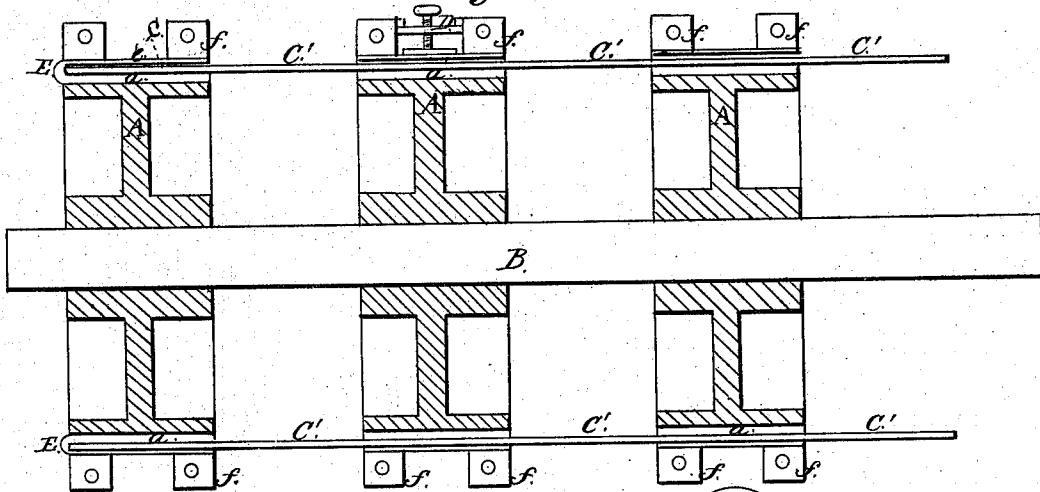


Fig. 2.

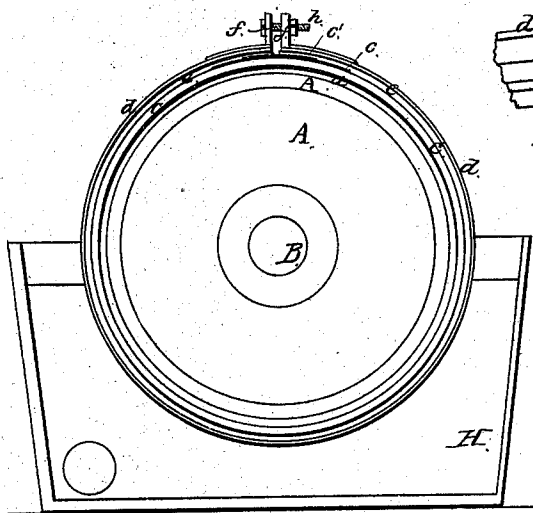


Fig. 3.

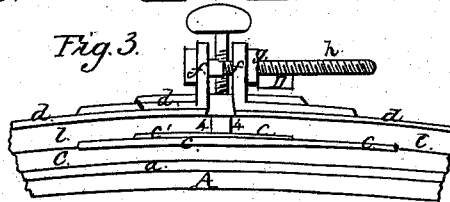
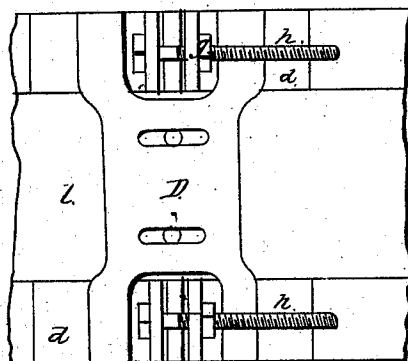


Fig. 4.



Witnesses:

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JOHN HOLT, OF LOWELL, MASSACHUSETTS.

Letters Patent No. 105,455, dated July 19, 1870.

IMPROVEMENT IN PRESS-DYEING.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, JOHN HOLT, of Lowell, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Press-Dyeing, and in the apparatus by which the process is performed, of which the following is a full, clear, and exact description, reference being had to the accompanying drawing making part of this specification; in which—

Figure 1 is a sectional elevation.

Figure 2 is an end view.

Figure 3, an end elevation of the clamping-joint and a segmentary section of the other parts.

Figure 4 represents a plan or top view of fig. 3.

This invention relates to press-dyeing, and to the machinery or apparatus by which textile fabrics are press-dyed in parallel stripes.

This invention has for its object to press-dye or color the stripes in bunting, which is used for flags or ensigns, and in flannels and other fabrics which are capable of being colored in stripes by the press-dyeing process.

In carrying out my invention, I provide one, two, or more common pulleys A, secured to a central shaft, B, and at any desired distance apart.

Each of these pulleys is covered with a suitable thickness of rubber, or other substance, or material, a, impervious to common coloring or dyeing liquid.

The fabric, C, to be colored or press-dyed in stripes, is wound around the covered pulleys as upon a roll, and at any point on the outer surface of the rolled fabric I place a thin piece, e, of rubber, or other material, like that which covers each pulley, and over this a metal plate, c.

Around the outer surface of the fabric, and covering the rim of each pulley, I apply a second rubber packing or blanket, e, the ends of which nearly meet together on the plate c.

Outside of the blanket I apply a clamping-hoop, d, at each end of the pulley or pulleys, the outer edge of each of the former coming opposite or even with each outer edge of the latter.

Ears f project from each end of the hoop, and screw-bolts h pass through them.

A nut, g, on each screw-bolt, serves to draw the ends of the hoop together, and clamp the fabric so closely between the packing substances as to exclude the coloring liquid, while the portions C' of the fabric, between or beyond the pulleys, are free to receive the coloring liquid when immersed therein.

The inner packing c and the thin plate e' cover the fabric beneath the abutting ends d of the outer packing, and prevent the coloring liquid entering beneath such ends, and if the pulleys are wide, for press-dyeing wide stripes in the fabric, I employ a clamp, D, for pressing the abutting ends of the outer packing closely onto the plate e', so as to close any opening between the latter and the ends of the outer blanket,

The clamp D may be held in position by passing beneath the clamping-screws h, as seen in fig. 4, or by projections on the ears f, as seen in fig. 1, or in any equivalent manner.

When either edge of the fabric is to be left in a stripe of the original color, the packing should be folded over it at the end or edge of the pulley, as at E in fig. 1, or a thin packing folded over the edge of the fabric and pressed and clamped between the outer and inner ones, and thus excludes the coloring liquid from the edge of the fabric.

After the fabric has been clamped onto the pulleys, as before described, the journals or end portions of the shaft B are generally placed in bearings or boxes in or upon the ends of a tank, H, which should be nearly filled with coloring liquid in a suitable condition, by heating or by boiling, to pass through and color all of that portion of the fabric C' which comes between or beyond the ends of the pulleys; and, to color all such portions, the apparatus is rotated on its axis a sufficient length of time to allow the unpressed fabric to receive the color.

If preferred, the whole apparatus and the clamped or pressed fabric may be fully immersed in the coloring liquid, and there remain until the fabric is dyed.

After the dyeing or coloring has been fully performed, and before the clamps are released, the unpacked fabric is treated in the usual way, either to set the color or to wash or rinse the fabric which is removed or unrolled after removing the clamps and the packing.

The clamps may be made in two parts, each part having ears f, as seen in fig. 1, or in one part or piece, as in fig. 2, whichever way may best suit the convenience of the user.

Having fully described my invention,

What I claim, and desire to secure by Letters Patent, is—

1. The method substantially as described, of press-dyeing textile fabric in parallel stripes, by rolling or winding such fabric around one or more pulleys, arranged as described, and by packing, and clamping, and immersing such fabric, substantially in the manner set forth.

2. A press-dyeing apparatus, as described, the same consisting of one or more covered pulleys A, and outer packings e e', and e, and clamping-hoops d, having ears f and screw-bolts h, all combined, arranged, and applied substantially in the manner and for the purpose specified.

3. The clamp D, or the equivalent thereof, when used in combination with the hoops h and with the blanket e, as set forth.

JOHN HOLT.

Witnesses:

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WM. H. ABEL.