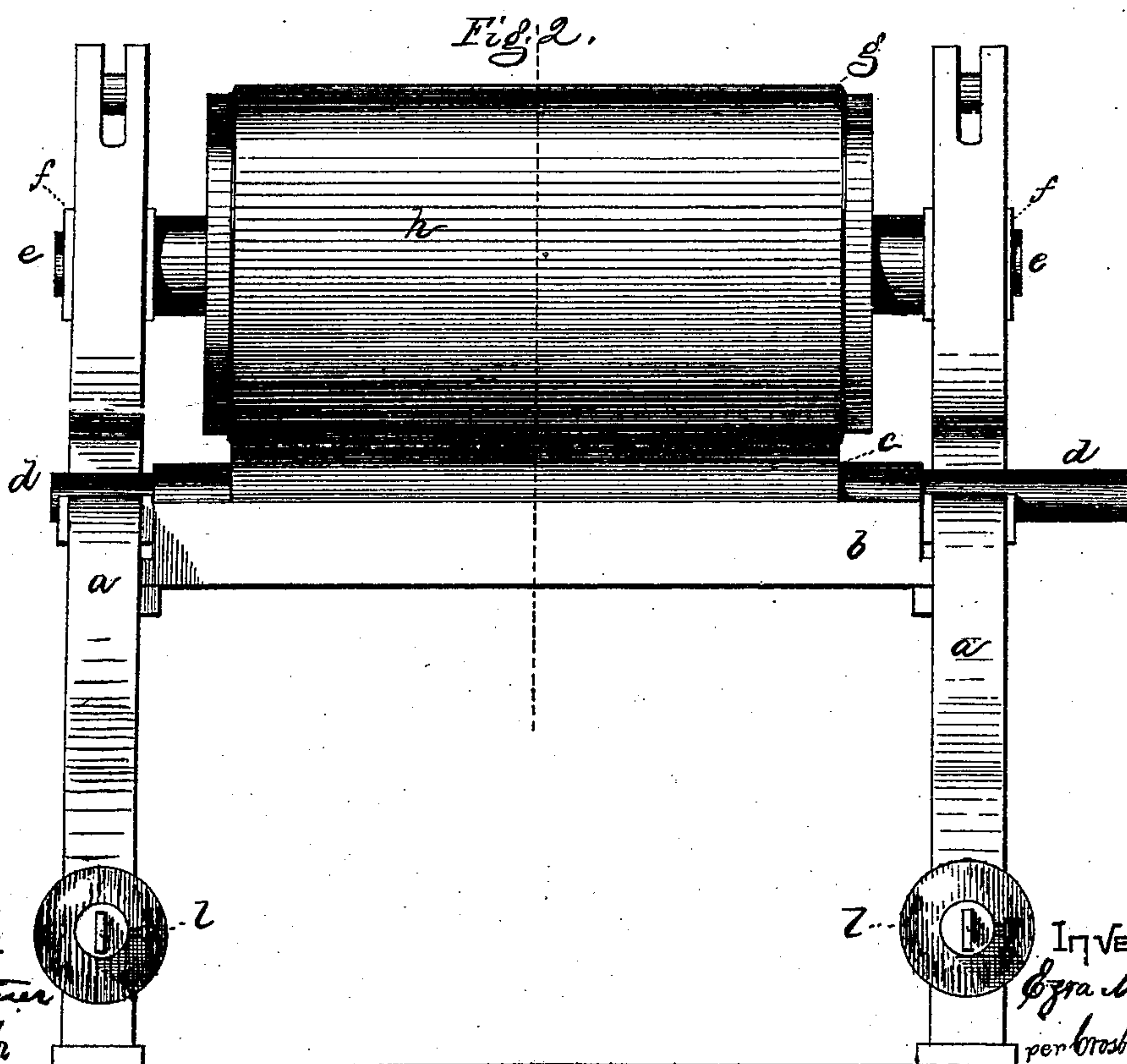
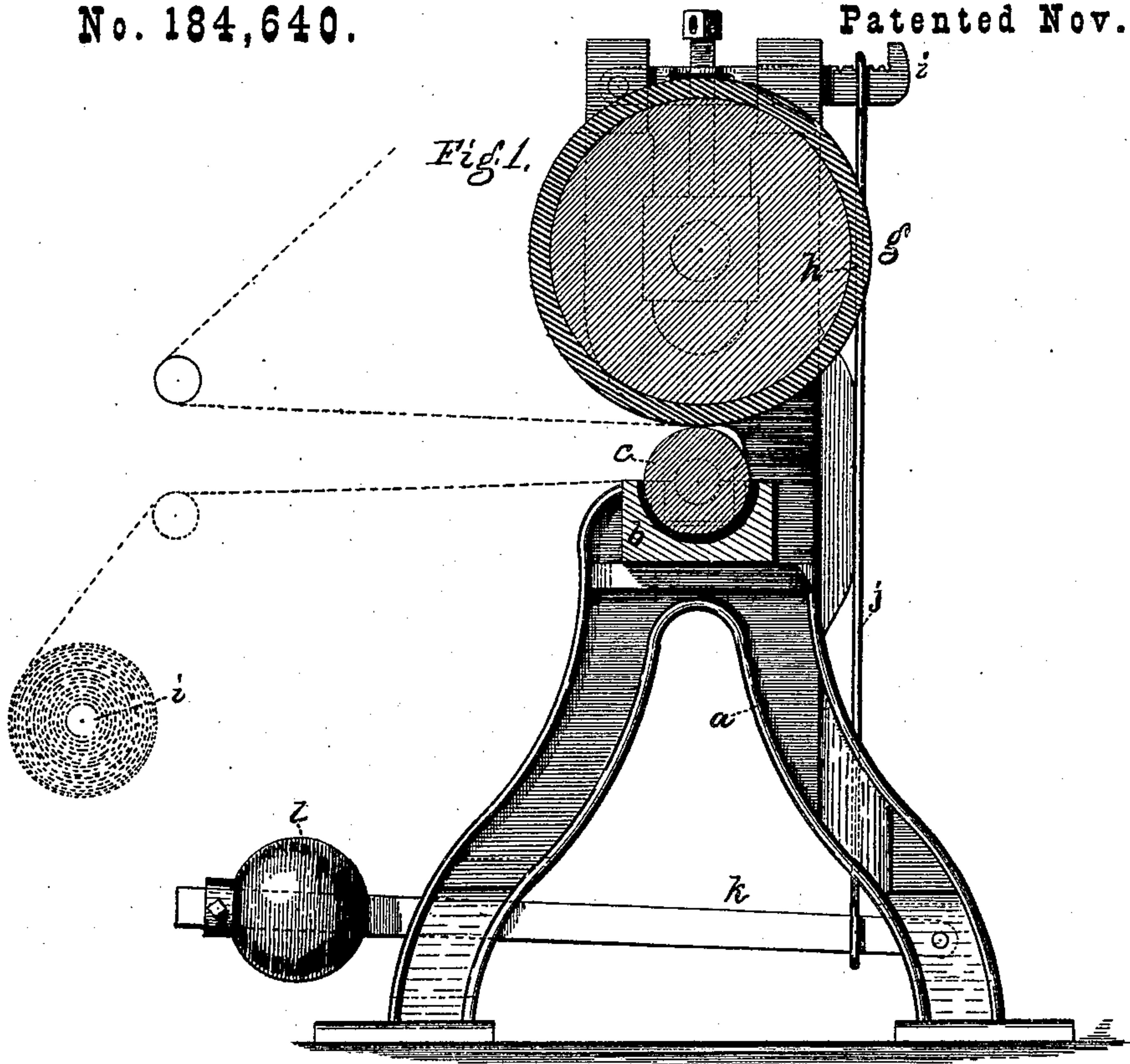


E. MARBLE.
PADDING-MACHINE.

No. 184,640.

Patented Nov. 21, 1876.



Witnesses.
L. H. Latimer
W. J. Pratt

Inventor.
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Atty's.

UNITED STATES PATENT OFFICE.

EZRA MARBLE, OF LAWRENCE, MASSACHUSETTS.

IMPROVEMENT IN PADDING-MACHINES.

Specification forming part of Letters Patent No. **184,640**, dated November 21, 1876; application filed September 7, 1876.

To all whom it may concern:

Be it known that I, EZRA MARBLE, of Lawrence, in the county of Essex and State of Massachusetts, have invented an Improved Padding-Machine, of which the following is a specification:

This invention relates to a padding-machine for immersing or dyeing textile fabrics; and the invention consists in the combination, with the color-box and immersing-roller, of a roller having an impervious seamless jacket, all substantially as hereafter described.

In the padding of textile fabrics, as heretofore practiced, the roller above the immersing-roller has been composed of an iron roll covered with textile fabric wound many times about it. This lapped roll, so called, takes up considerable of the color-mixture, which is usually very expensive, and, being saturated, does not act to squeeze from the fabric being dyed or padded as much color as it would do were the cover of the roller impervious to the color-mixture; and, further, the cover of such lapped roll, being of unequal thickness at the point where the outer end of the textile cover terminates on the surface of the roller, acts to press the color unequally from the textile fabric being dyed or padded, and such fabric presents upon its face a transverse streak or stripe, corresponding with the location of the end of the roller-cover, thereby defacing, in a measure, the fabric and lessening its value.

Fabrics dyed in a padding-machine present substantially a uniform degree of color on both sides or faces thereof; but the lapping of the roller-cover shows injuriously. That portion of the roller where the lap shows or occurs is made harder or thicker than the other portions, and, in passing over the fabric on the immersing-roller, subjects the fabric being dyed to more pressure, and removes from it a little more color, than does any other portion of the roller. To overcome this difficulty and produce a dyed or padded fabric not defaced by this lap, the fabric has been padded or dyed on a printing-machine, the fabric, in such machine, passing between the immersing-roller and the usual under cloth, or "grey," placed on an endless blanket carried by rollers, in the usual way.

When padding with the printing-machine

much color is wasted, the under cloths have to be washed, and the fabric treated in the machine is colored more on one surface than upon the other, making it necessary to use such fabric one side out to preserve a uniformity of color.

The object of this invention is the production of a machine for padding textile fabrics which, in its operation, will not deface the fabric by subjecting it to more pressure at one point than at another during the rotation of the padding-roller, and which, at the same time, will enable the material dyed or padded to present substantially a uniform color on each of its faces.

Figure 1 represent a sectional elevation of a padding-machine constructed according to this invention, the line of section being on line *x x*, Fig. 2; and Fig. 2 is a front view of the machine.

The frame *a* is properly shaped to support the various parts of the machine. The color-box *b*, in which is placed the color-mixture, receives within it the immersing-roller *c*, its journals *d* being supported in suitable boxes on the frame. Above this immersing-roller, and with its journals *e* supported in boxes *f*, is the color-distributing roller *g*, having an elastic impervious surface, the surface, in this instance, being a tubular cover (shown at *h*) of vulcanized india-rubber or gutta-percha, or equivalent gum, such cover being of substantially uniform thickness and hardness, whereby each portion of the surface thereof acts in a like manner upon the fabric being dyed as it passes between the immersing and spreading rollers, and the formation of streaks across the fabric is avoided. The fabric *2* is led from a suitable roller, *i*, under the roller *c*, and into the color-box; then up about the roller *c*, and between it and the spreading-roller, where the fabric is nipped between the peripheries of the two rollers, from selvage to selvage, the color being thereby spread evenly and uniformly, and the excess of color material is forced back into the color-box. The fabric passing from between the rollers, in this my improved machine, has the color evenly distributed on both faces. This spreading-roller does not absorb the color, and therefore uses less color than a fabric covered or lapped

roller, and by its use less coloring material is retained in the fabric as it leaves the roll than with a lapped roll. This saving in color-mixture is a matter of very great importance in the manufacture of dyed goods.

This machine may be run at a greater speed than the ordinary machines heretofore used for this purpose, enabling more work to be accomplished in the same time, and the work is far superior.

The immersing-roller may be either a plain-surfaced metallic roller, or a roller provided with small depressions to assist in taking up color from the color-box, or it may be made of wood or of india-rubber.

The color-distributing roller is held pressed down by any suitable system of levers. As herein shown, a short lever, *i*, is connected, by a link, *j*, with a lever, *k*, weighted at *l*. The

lever *i* also carries an adjusting-screw adapted to bear upon the journal-box of the roller *g*.

I do not broadly claim an india-rubber-surfaced roller, for I am aware that such rollers are commonly used in a variety of machines, and for a variety of different uses; but

I do claim—

In a machine for padding, the combination, with a color-box and immersing-roller, of a roller having an impervious seamless jacket, all substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

EZRA MARBLE.

Witnesses:

JOHN FALLON,
SAM. BARLOW.