No. 661,633. Patented Nov. 13, 1900.

H. W. BOETTGER.

APPARATUS FOR DYEING.

(Application filed Aug. 21, 1900.)

(No Model.) 2 Sheets—Sheet 1.

Fig. 2.

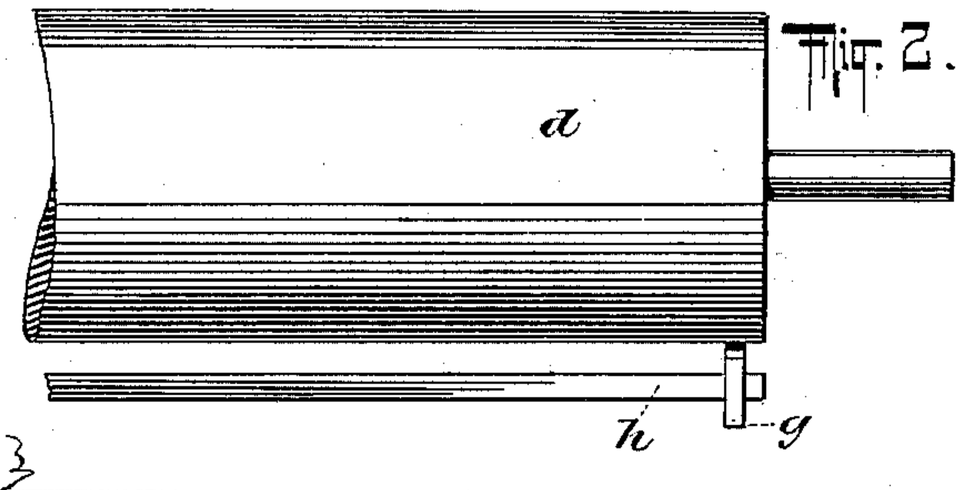

Fig. 3.

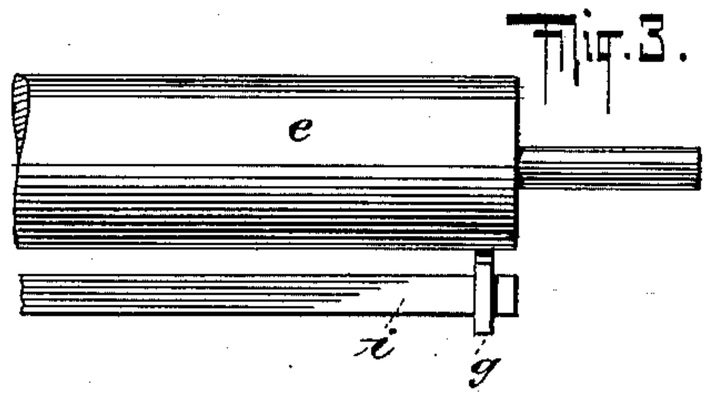

Fig. 1.

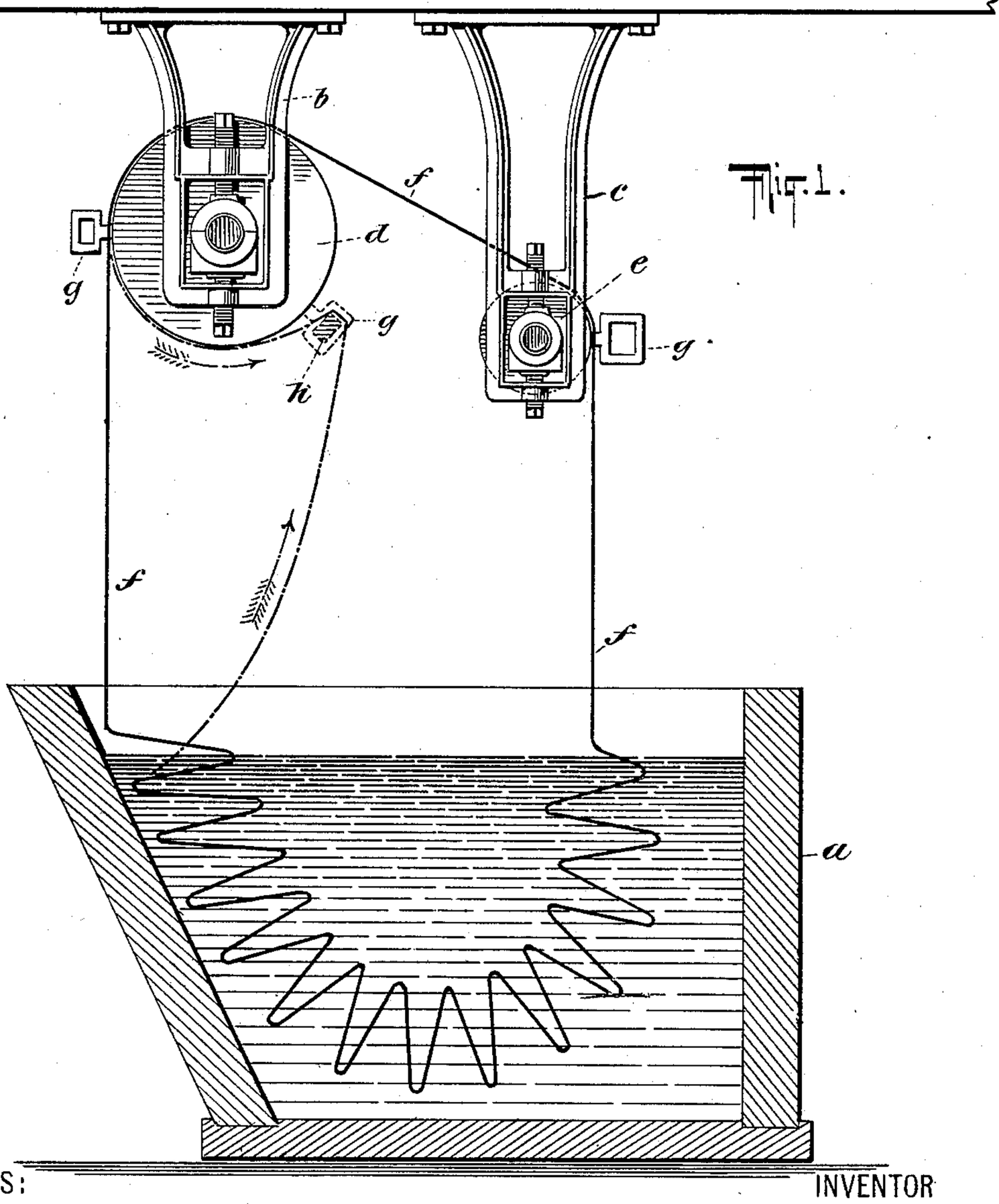

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Fig. 4.

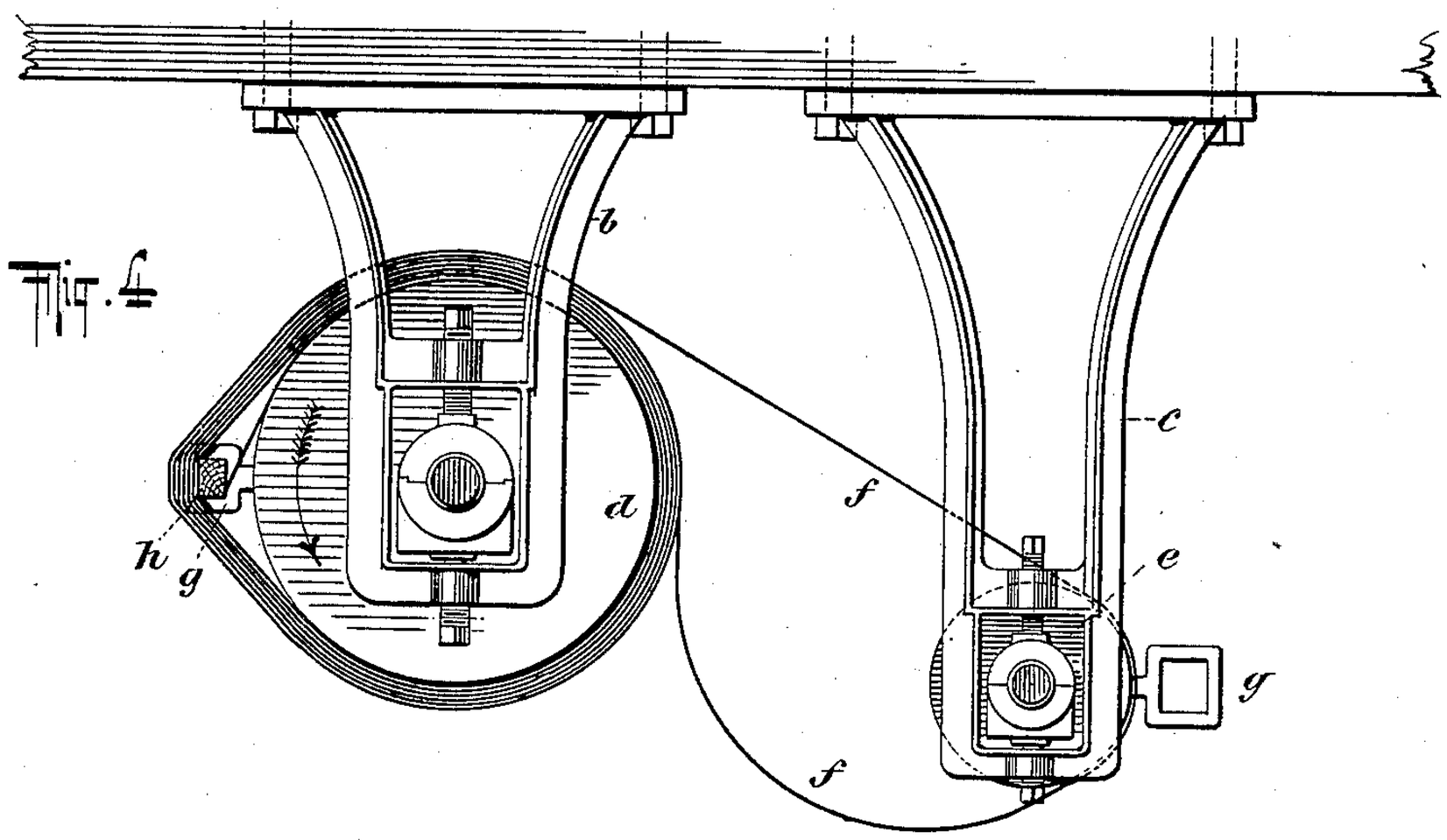
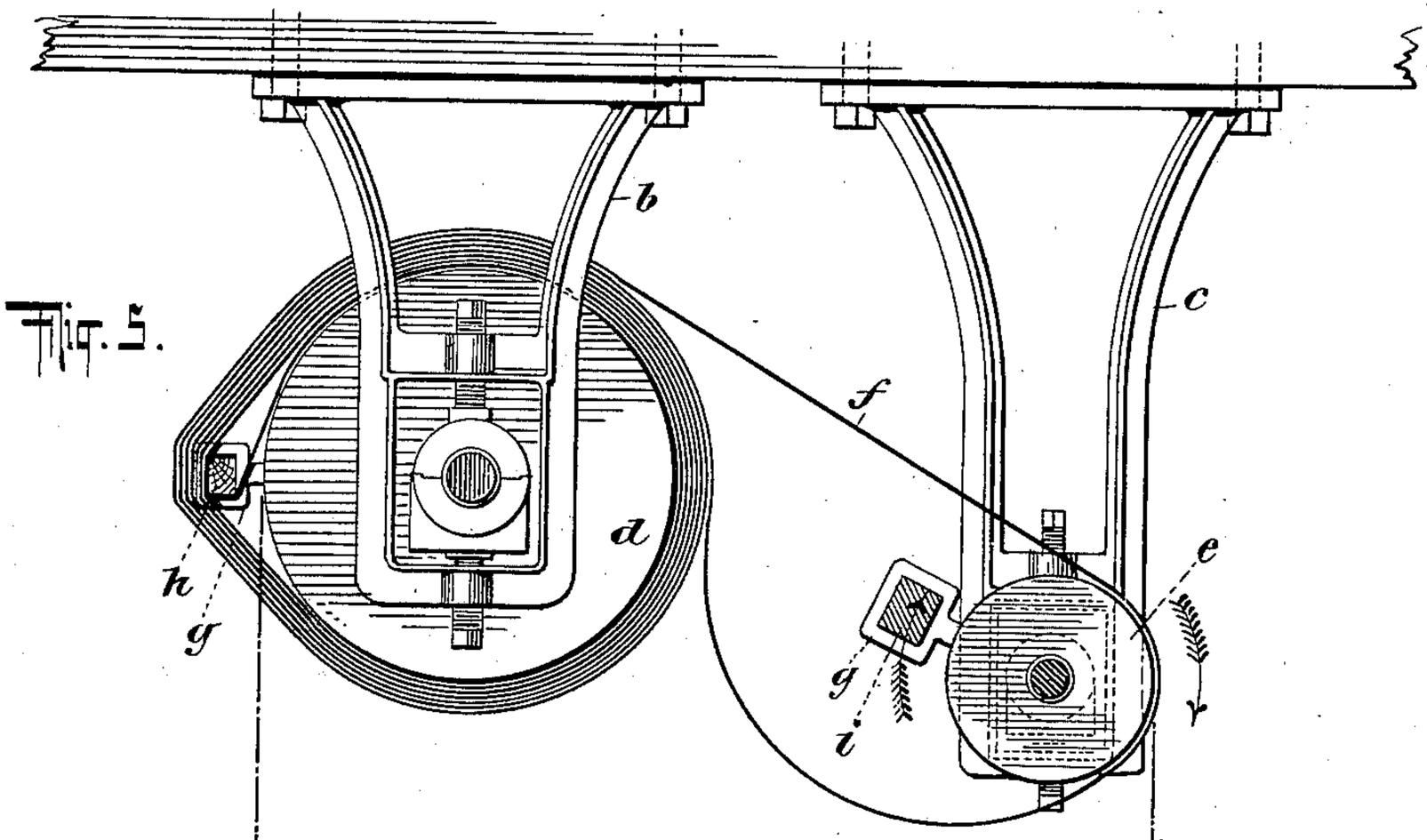


Fig. 5.



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APPARATUS FOR DYEING.

SPECIFICATION forming part of Letters Patent No. 661,633, dated November 13, 1900.

Application filed August 21, 1900. Serial No. 27,536. (No model.)

To all whom it may concern:

Be it known that I, HENRY W. BOETTGER, a citizen of the United States, residing in the borough of Manhattan, city, county, and State of New York, have invented certain new and useful Improvements in Dyeing Apparatus, of which the following is a specification.

In the accompanying drawings I have shown a dyeing apparatus embodying my invention. This dyeing apparatus is shown by way of illustration.

In the drawings, Figure 1 is a side elevation of the apparatus, the dye-vat being shown in section. Fig. 2 is a broken-away view of the end of one of the rollers. Fig. 3 is a broken-away view of the end of one of the rollers. Fig. 4 shows the material wound upon the larger roller, and Fig. 5 shows the apparatus in the position when the goods are about to be reintroduced into the vat.

In the drawings, *a* represents an ordinary dyeing-vat, above which by means of suitable hangers *b c* or other supports two rotating web-manipulating rollers *d e* are supported. The fabric *f*, which is to be operated upon, is preferably in the form of an endless band or web and passes over both of the rollers in the manner shown in full lines in Fig. 1. Each of the rollers is provided with a pair of eyes *g*, which accommodate rods *h i*, which rods are removable and are used for reeling the web of material, as will be described. Each of these rods constitutes a removable web-engaging means for engaging a loop or bight of the web and securing the same to the roller, so as to wind the web upon the roller in a doubled condition when the roller rotates. In dyeing as heretofore practiced it has been customary to remove the goods from the dye-vat, when the bath was about to be changed, in a more or less tangled mass and after the bath had been changed to immerse the goods in the new bath and to set the goods in motion by means of the usual rollers. It was found, however, that by this method there will be considerable chafing of the goods, which would of course leave chafing spots and streaks. Now by my invention instead of lifting the goods out of the vat in a mass at the completion of a dyeing operation I place the rod *h* in the eyes *g* of the roller *d* and turn the roller in the direction of the dotted arrow in Fig. 1, which shows the beginning of the reeling operation, the bight of the web engaged by the rod *h* and the hang of the fabric being indicated by dotted lines. As the roller *d* continues to rotate it will wind the goods upon itself in a doubled condition, as shown in Fig. 4, and the goods will remain in such wound condition while the bath is being changed. The roller *e* during the winding operation may be rotated or remain still, as found most efficient. In Fig. 4 the position of the parts is shown during the changing of the dye-bath. When the dye-bath has been changed and it is desired to reintroduce the goods, the roller *e* is turned into the position shown in Fig. 5. The rod *i* is placed in the eyes and the rollers slowly rotated. The rod or bar *i* at each rotation will lift a portion of the goods and drop it, thereby introducing the fabric into the dye-bath in a regular manner. By proceeding in this manner all tangling of the web is avoided and the liability of the occurrence of chafing spots practically eliminated. The dyeing is thus effected in a very efficient manner.

Having described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a dyeing apparatus, the combination with a dye-bath of a web-manipulating roller provided with a removable rod extending longitudinally thereof and means for supporting the said longitudinally-extending rod outside of the periphery of the said roller whereby the said rod will be available when in place to effect the winding of the fabric upon the roller in a doubled condition.

2. A web-manipulating roller provided with the eyes *g* and a removable rod extending longitudinally of the said roller and supported by the said eyes.

3. In a dyeing apparatus, the combination of a dye-vat and a web-manipulating roller above the dye-vat, adapted to cause a web of fabric to travel in the dye-vat and around itself, and web-engaging means carried by the roller for engaging the web and securing a loop or bight thereof to the roller, whereby upon rotation of the roller the web will be wound thereon in a doubled condition so as to remove the web from the vat in an untangled state to allow the liquid in the vat to be changed.

HENRY W. BOETTGER.

Witnesses:
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