M. C. CUTTLE,

INTERNAL CYLINDER FOR HOSIERY DYEING MACHINES.

APPLICATION FILED MAY 9, 1917.

1,246,723. Patented Nov. 13, 1917.

Fig. 1.

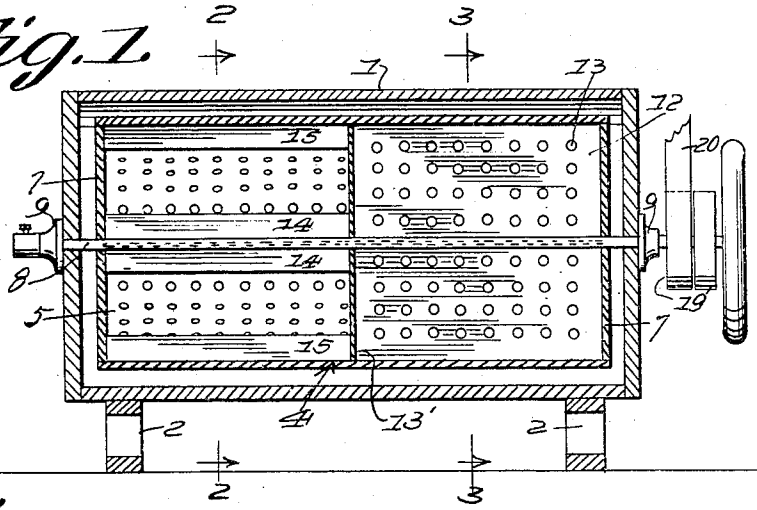


Fig. 2.

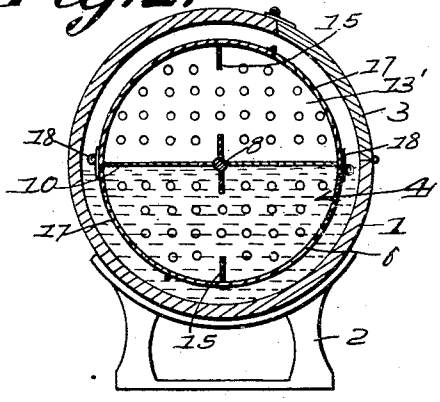


Fig. 3.

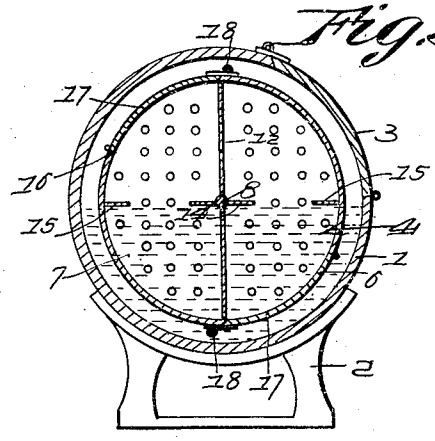
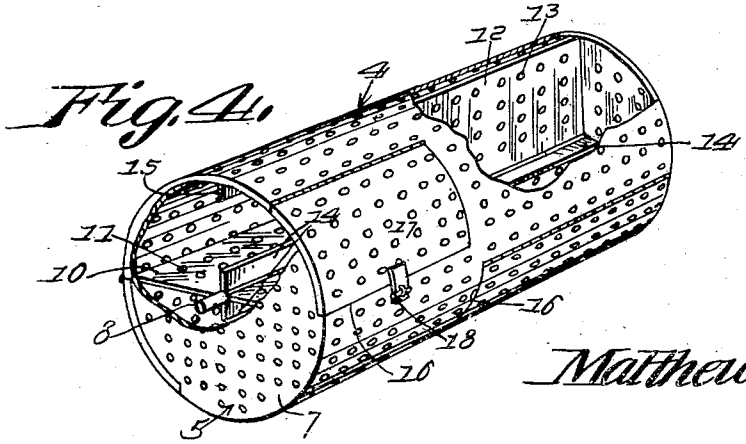


Fig. 4.



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INTERNAL CYLINDER FOR HOSIERY-DYEING MACHINES.

1,246,723. Specification of Letters Patent. Patented Nov. 13, 1917.

Application filed May 9, 1917. Serial No. 167,500.

To all whom it may concern:

Be it known that I, MATTHEW C. CUTTLE, a citizen of the United States, residing at Atlanta, in the county of Fulton and State of Georgia, have invented certain useful Improvements in Internal Cylinders for Hosiery-Dyeing Machines, of which the following is a specification, reference being had therein to the accompanying drawing.

The present invention has reference generally to improvements in that class of inventions known as bleaching and dyeing and more particularly relates to an internal cylinder for hosiery dyeing machines.

As the primary aim and object this invention contemplates the provision of a device of the above mentioned character wherein fabrics and goods of the most delicate nature may be thoroughly penetrated by the dyestuffs with the least possible friction.

It is an additional object of this invention to provide an internal dyeing cylinder of such a construction that when the same is in use the fabrics and goods will be properly supported and prevented from being rolled and tangled.

Among the other aims and objects of this invention may be recited the provision of a device of the character mentioned with a view to compactness, and in which the number of parts are few, the construction simple, the cost of production low and the efficiency high.

Other improvements and novel details in the construction and arrangement of the various parts of the apparatus will be brought out more in detail in the description to follow, which for a clear understanding of the invention, should be considered in connection with the accompanying drawings forming a part hereof, and wherein is disclosed for the purpose of illustration a convenient and satisfactory embodiment of the invention. It is to be noted in this connection that minor changes in the construction and arrangement of parts may be made without departing from the spirit of the invention or the principle of operation of the various parts.

The invention is clearly illustrated in the accompanying drawings, in which:

Figure 1 is a longitudinal central section of the cylinder showing the same mounted in a dyeing machine;

Fig. 2 is a transverse section taken on line 2—2 of Fig. 1;

Fig. 3 is a transverse section taken on line 3—3 of Fig. 1; and

Fig. 4 is a perspective detail of the internal cylinder partly broken away.

Similar reference characters indicate corresponding parts throughout the several views in the drawings.

Referring now, more particularly, to the accompanying drawings there is illustrated a dyeing machine consisting of a cylindrical casing 1 maintained in a supported position by supports 2 positioned beneath the respective ends thereof, access being had to the cylinder through the medium of a pivotally mounted door 3. Operatively mounted in the casing is an improved internal dyeing cylinder indicated in its entirety by the numeral 4.

In the present instance the improved cylinder consists of a body 5 the walls of which are provided with perforations 7 to permit of the free passage of the dye liquor into the body. A longitudinally extending shaft 8 is arranged through the end walls of the body and is journaled in suitable bearings 9 in the ends of the casing, the body being rigid with the shaft so as to rotate therewith. A longitudinal partition 10 is now mounted within the body 5 being rigid with the shaft and at opposite points with the inner surface of the body and of a length about one half of the length of the cylinder. This partition is also provided with perforations 11 to permit of free passage of the dye liquor therethrough. Another longitudinal partition 12 is mounted adjacent the opposite end of the cylinder and is disposed in a plane at right angles to the plane of the partition 10 being rigid with the shaft and at opposite points with the inner surface of the body of the cylinder. This partition is also provided with perforations 13 to permit of free passage of dye liquor therethrough. A perforated transverse partition 13′ is arranged in the body between the inner ends of the longitudinal partitions. As is to be appreciated these partitions divide both ends of the cylinder body into compartments which are approximately one half the size of the cylinder and are particularly designed to effectively support fabrics that are placed therein to be dyed.

Coöperating with the partitions and the

adjacent perforated walls of the body in each compartment are oppositely positioned baffles 14 and 15, the baffles 14 extend longitudinally of the shaft and radiate therefrom while the baffles 15 are carried longitudinally of the inner surface of the body at a point directly opposite the adjacent baffle 14. These baffles coöperate with the partitions in the adjacent walls for properly supporting delicate fabrics that are disposed in the several compartments and prevent the same from being rolled and becoming tangled.

With a view toward providing suitable means whereby the fabrics may be placed in the compartments of the cylinder, the walls of the body are provided with door openings 16 removably closed by pivotally mounted arcuate and perforated doors 17. Suitable latch means 18 serve to removably hold the doors in a closed position. Suitable means may be employed for alternately rotating the cylinder in different directions in the present instance consisting of pulley wheels 19 about which actuate power transmitting belts 20.

The mode of operation of this invention may be reviewed as follows: Assuming that the device has been assembled in the manner described and as indicated in the drawing, to place fabrics into the cylinder body it is only necessary to open the door 3 and one of the doors 17 and in this connection it will be observed that when in this position that the adjacent partition is adapted to be arranged in approximately the plane of the lower edge of the door opening in the casing so that goods may be easily placed in the adjacent compartment and withdrawn therefrom. Of course after all of the compartments are filled the actuating means is started to alternately rotate the cylinder slowly in different directions so that the goods may be alternately drawn through the dye liquor in the bottom of the casing. Owing to the perforations in the walls of the body and in the partitions it will be apparent that the fabric or goods within the compartments will be thoroughly penetrated by the dye liquor. Likewise the baffles 14 and 15 will coöperate with the adjacent walls of each compartment in the cylinder body and with the partitions for assuring of the dyeing of the goods with the least possible friction and for preventing the goods from being rolled and becoming tangled. Furthermore, the partitions are disposed in planes at right angles so as to facilitate the running of the machine and the balancing of the load.

It is believed in view of the foregoing description that a further detailed description of the operation of the invention is unnecessary. Likewise it is thought that the advantages of the invention will be readily apparent.

As many changes could be made in the above construction and many apparently widely different embodiments of this invention could be made without departing from the scope thereof, and it is intended that all matter contained in the above description or shown in the accompanying drawings shall be interpreted as illustrative and not in a limited sense. It is also to be understood that the language used in the following claims is intended to cover all the generic and specific features of the invention herein described and all statements of the scope of the invention, which as a matter of language might be said to fall therebetween.

Having thus fully described this invention, what is claimed as new and desired to be secured by Letters Patent, is:—

1. An internal cylinder for hosiery dyeing machines including a body having perforated walls and ends, a shaft disposed longitudinally through the body and rigid with the ends thereof for rotatably supporting the body, a perforated longitudinal partition permanently fixed in the body and dividing the body into compartments, and opposed baffles carried by the inner surface of the wall of the body and arranged in the same plane and at right angles to the plane of the partition for coöperating with the partition and the wall for preventing fabrics adapted to be disposed in the cylinder from being rolled and becoming tangled.

2. An internal cylinder for hosiery dyeing machines including a body having perforated walls and ends, a longitudinally disposed shaft through the body and rigid with the ends thereof for rotatably supporting the body, a transverse perforated partition in the body midway the ends thereof, and perforated longitudinal partitions permanently fixed in the body and against the transverse partition and positioned at right angles to each other for coöperating with the transverse partition in providing compartments in the body.

3. An internal cylinder for hosiery dyeing machines including a body having perforated walls and ends, a longitudinal shaft through the body and rigid with the ends thereof for rotatably supporting the body, a longitudinally arranged perforated partition in the body and rigid with the shaft and with opposite points on the inner surface of the body for dividing the body into compartments adjacent one end, another perforated partition rigid with the shaft and with opposite points on the inner surface of the body and in a plane at right angles with the first partition for dividing the body into compartments at the other end of the cylinder and at angles to the first men-

tioned compartments, a perforated transverse partition between the inner ends of the longitudinal partitions, and doors movably mounted on the body for permitting of access to the several compartments.

4. An internal cylinder for hosiery dyeing machines including a perforated body, a shaft therethrough and rigid therewith, a longitudinally extending perforated partition permanently fixed in the body and extending about one-half the length of the body from one end for dividing the body into compartments, another perforated partition in the opposite end of the body and at right angles to the first partition, and opposed baffles arranged in each compartment longitudinally thereof and respectively carried by the shaft and the inner surface of the body for coöperating with the partitions and the walls for preventing fabrics adapted to be disposed in the cylinder from being rolled and becoming tangled.

In testimony whereof I affix my signature.

MATTHEW C. CUTTLE.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."