

No. 702,002.

Patented June 10, 1902.

J. C. HAMER.
APPARATUS FOR DYEING YARN.

(Application filed Jan. 2, 1902.)

(No Model.)

Fig. 1.

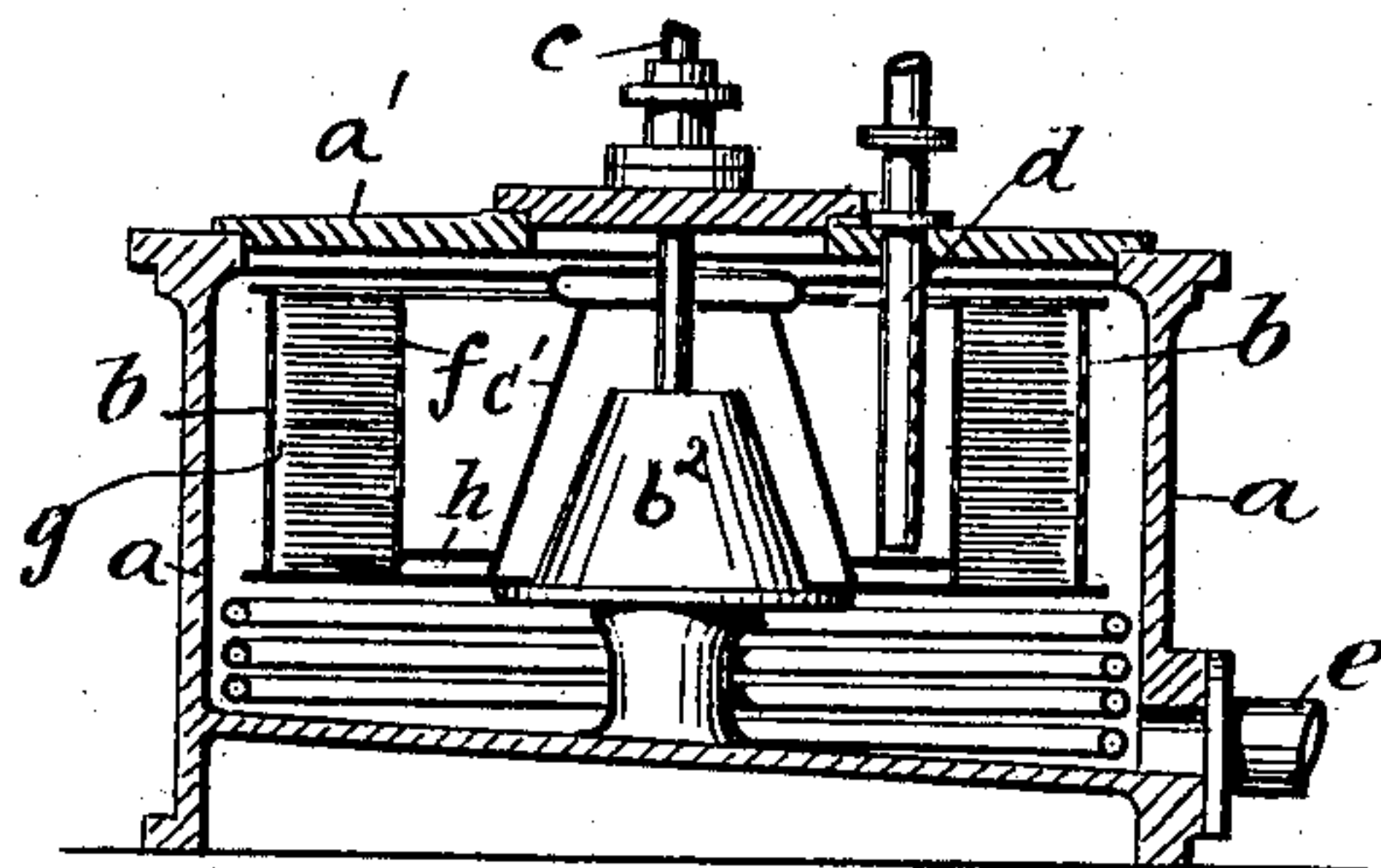


Fig. 2.

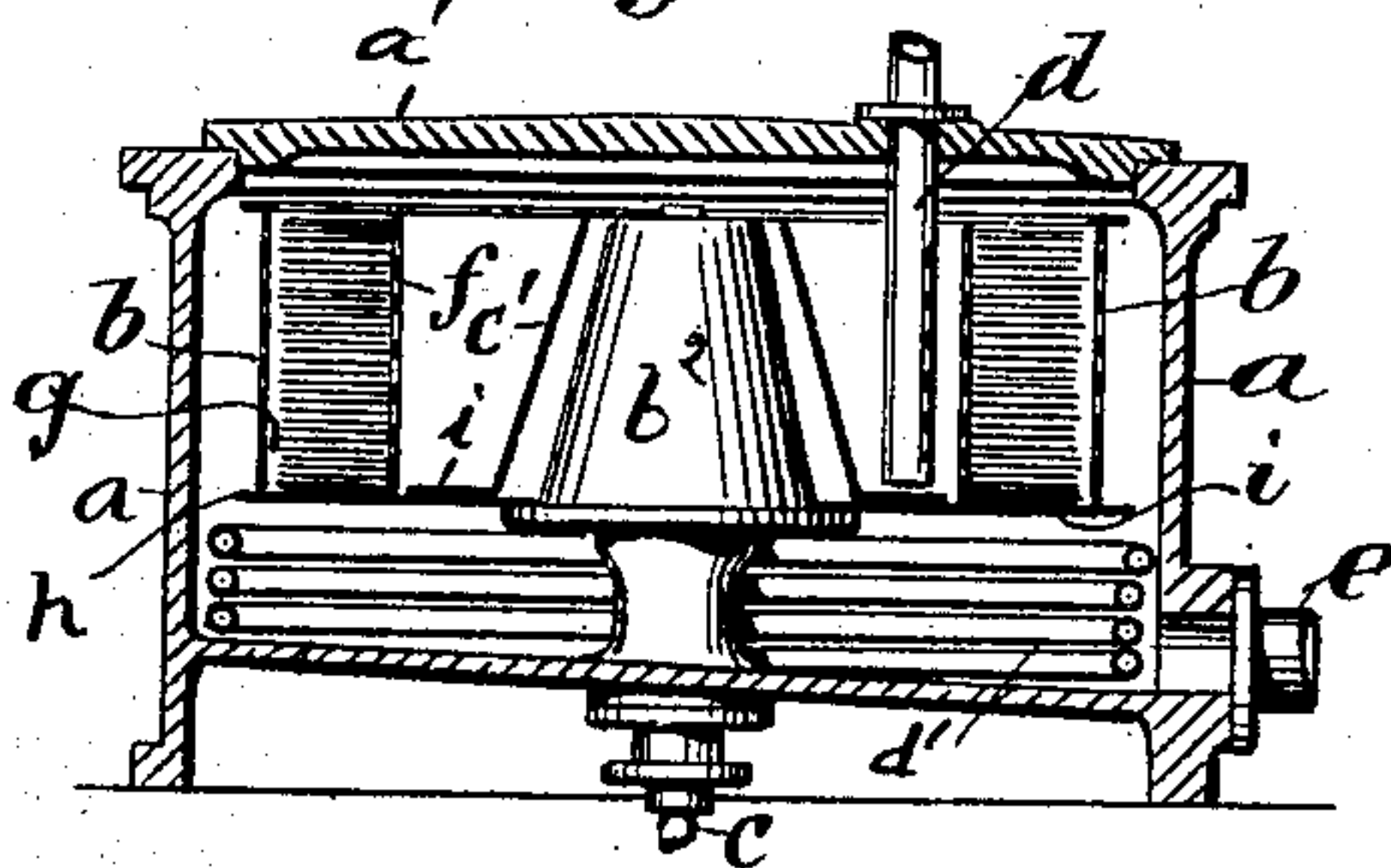


Fig. 3.

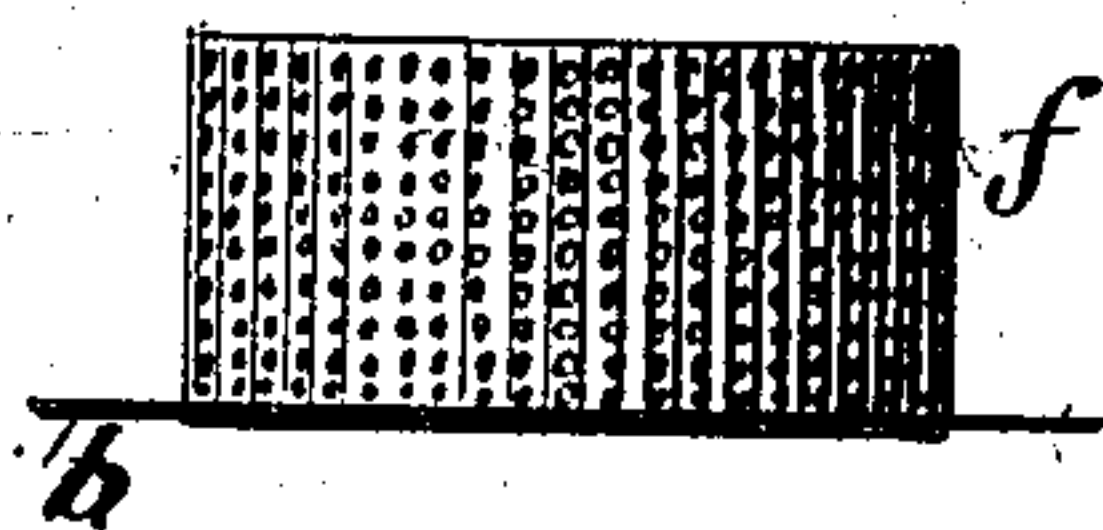
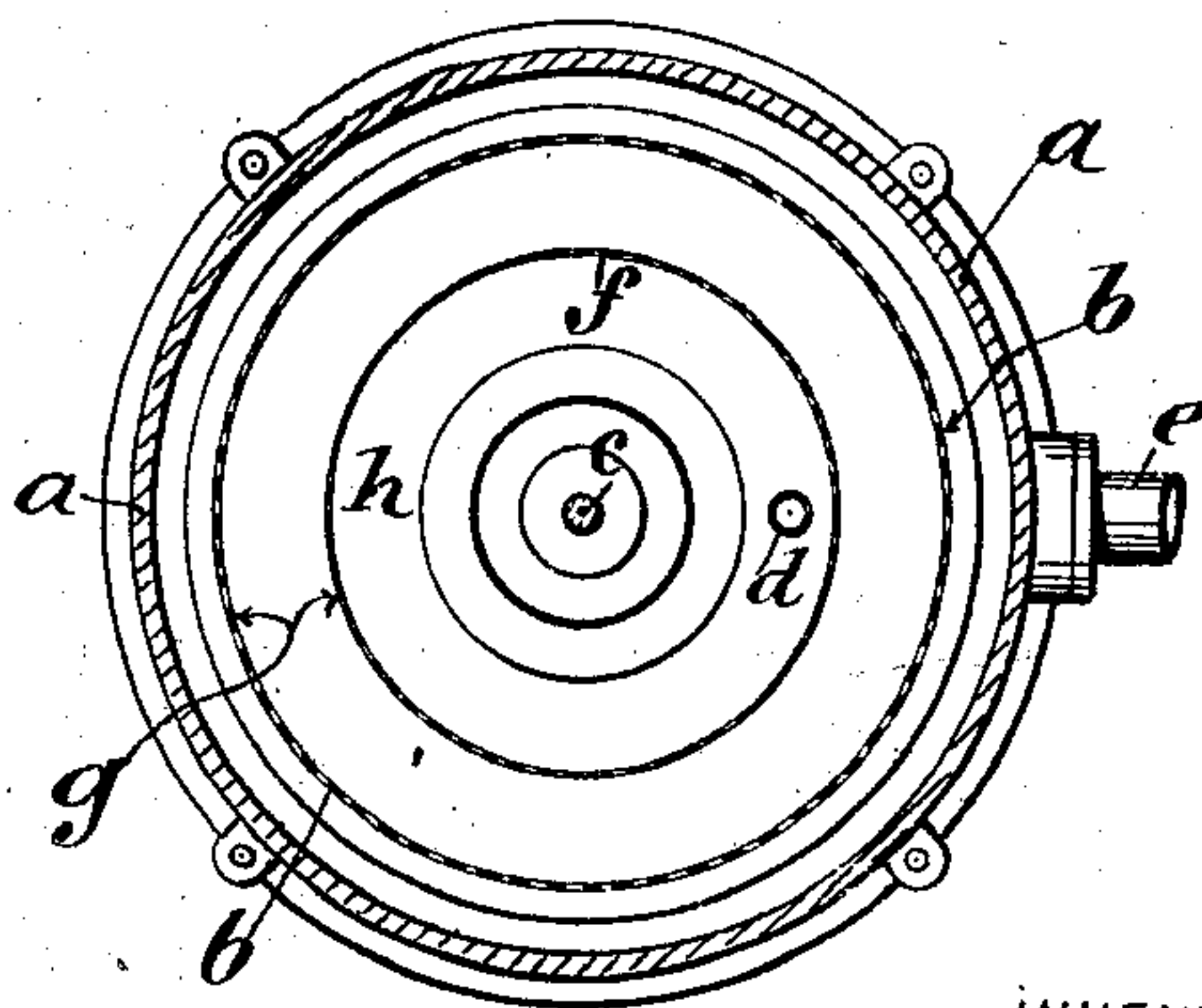


Fig. 4.



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APPARATUS FOR DYEING YARN.

SPECIFICATION forming part of Letters Patent No. 702,002, dated June 10, 1902.

Application filed January 2, 1902. Serial No. 88,224. (No model.)

To all whom it may concern:

Be it known that I, JOHN CHARLES HAMER, a subject of the King of Great Britain, and a resident of Radcliffe, in the county of Lancaster, England, (whose post-office address is Withins House, Radcliffe,) have invented new and useful Improvements in Apparatus for Dyeing and Otherwise Treating Yarn in Cop or other Similar Compact Form, (for which I have made application for Letters Patent in Great Britain, No. 8,156, dated April 20, 1901, and in Germany, Serial No. 25,934, dated May 8, 1901,) of which the following is a specification.

My invention relates to improvements in and connected with the centrifugal type of apparatus for dyeing and otherwise treating yarn in cop and other similar form, for which I have obtained Letters Patent No 663,888, dated December, 1900, and has for its object to extend and facilitate the application and use of such apparatus for dyeing, bleaching, scouring, sizing, washing, and degreasing cotton, wool, silk, or other fibrous material of vegetable, animal, or mineral origin, skins or feathers in a raw, partly or wholly manufactured state, garment, or other made-up form. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figures 1 and 2 are vertical sections, Fig. 3 a detached elevation, and Fig. 4 a sectional plan of Fig. 1, of two different forms in which my apparatus may be constructed.

Similar letters refer to similar parts throughout the several views.

a is the casing; a' , the lid thereof; b , the revolving perforated cage therein, having a solid bottom b' , secured to a boss b^2 on the cage-driving shaft c ; c' , a hollow cone surrounding the boss b^2 ; d , the liquor-inlet pipe; e , the liquor-outlet; d' , the steam-pipe of the apparatus, which parts are all old.

In carrying out my invention in lieu of packing the material or articles to be treated in a number of perforated receptacles, such as described in the specification belonging to the aforesaid Letters Patent, I employ in the cage b , adjacent to the liquor-inlet pipe d , a perforated or slotted inner circular wall f , forming an annular space g between the same and the outer wall of the cage b , open at the top

and adapted to receive and hold the material or articles to be treated. The wall f is formed at its bottom with a flange h , resting upon the cage-bottom b' , and is made either in one piece or in segments. This flange is either formed on the wall f internally, as shown in Fig. 1, fitting around the hollow cone c' , so as to keep the wall f concentric with the cage b , or externally, as shown in Fig. 2, so as to serve as support for the material or articles to be treated. In the latter case the wall f is kept concentric with the cage b by a flange i upon the cage-bottom b' , formed on or placed around the hollow cone c' .

The materials or articles to be treated are according to their form either in bundles or otherwise packed into the said annular space or wound around the said wall while in the cage b , Figs. 1, 2, and 4, or while out of the same, Fig. 3, so as to allow of charging one while the other is at work in the cage, as may be found most convenient.

In the arrangement shown in Figs. 1 and 4 the cage b is driven overhead, and in Fig. 2 underdriven, as will be readily understood.

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

1. In an apparatus for dyeing or otherwise treating yarn in cop and similar compact form, a casing, a revolving removable annular perforated cage therein, a perforated wall in the said cage having a flange at its bottom resting upon the bottom of the said cage and a liquor-inlet pipe internally adjacent to the said wall, the latter forming an annular space in the said cage which is open at the top, all combined substantially as and for the purpose set forth.

2. In combination, the casing, the driving-shaft depending therein having a conical boss, a hollow cone encircling said boss, a perforated cylindrical cage carried by said boss, a removable annular wall between the cage and cone, and a perforated pipe depending into the space between the cone and annular wall, substantially as described.

In witness whereof I have hereunto set my hand in presence of two witnesses.

JOHN C. HAMER.

Witnesses:

ALFRED BOSSHARDT,
STANLEY E. BRAMALL.