No. 666,902. Patented Jan. 29, 1901.

J. MAJOR.

COP CARRIER FOR DYEING MACHINES.

(Application filed Nov. 6, 1900.)

(No Model.)

FIG. 1.

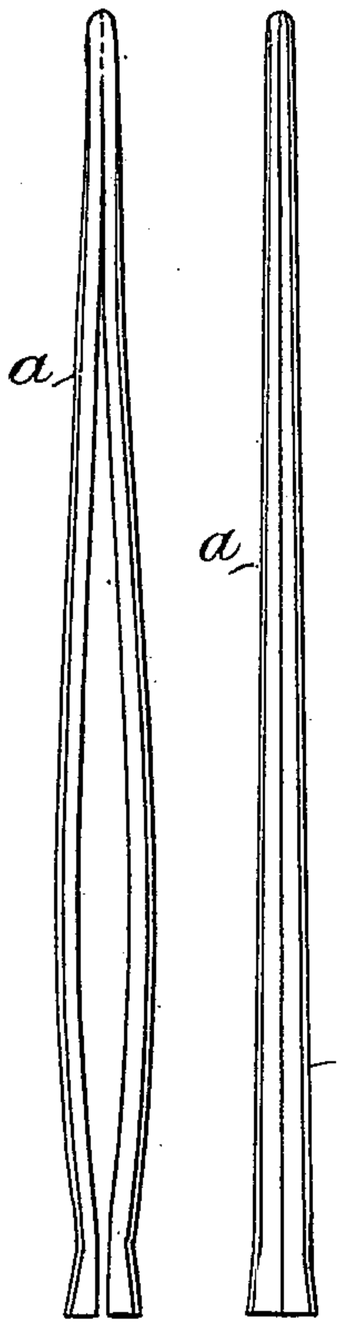


FIG. 2.

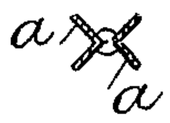


FIG. 3.

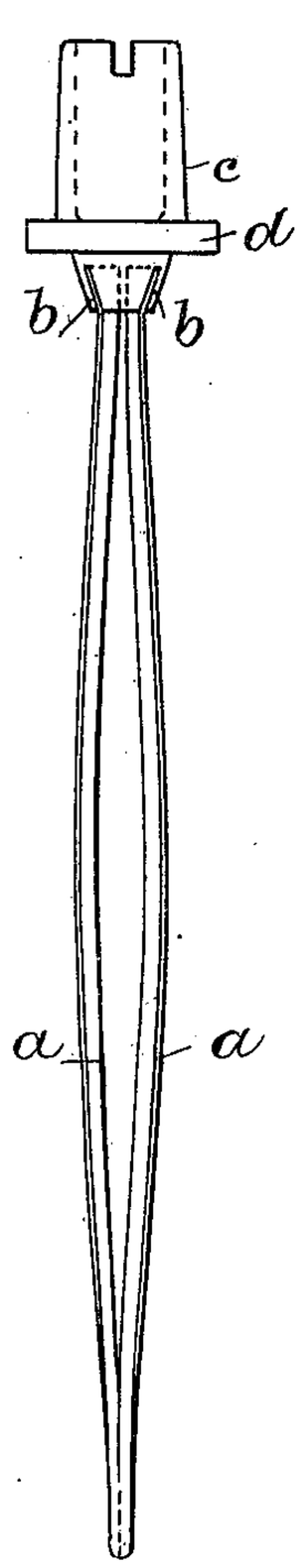


FIG. 5.

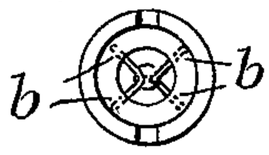
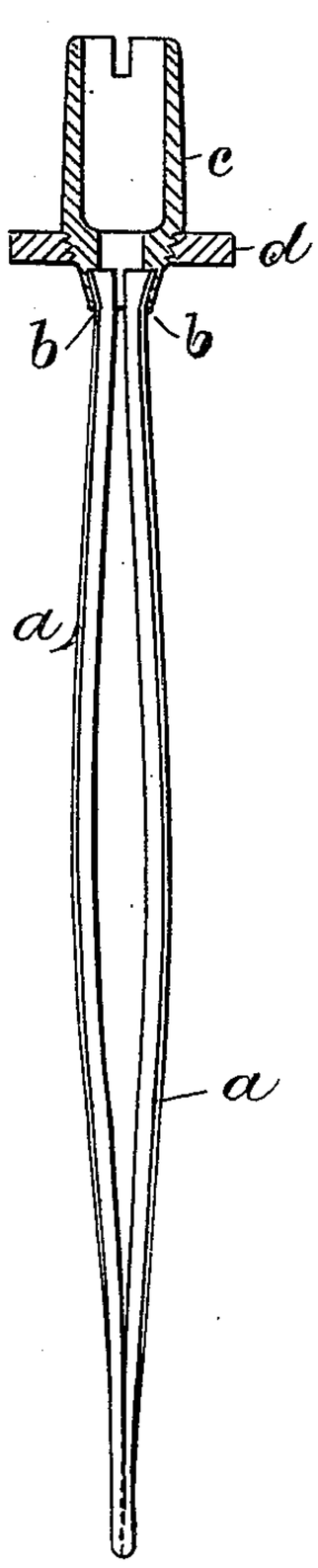


FIG. 4.



WITNESSES:

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JAMES MAJOR, OF ECCLES, ENGLAND.

COP-CARRIER FOR DYEING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 666,902, dated January 29, 1901.

Application filed November 6, 1900. Serial No. 35,670. (No model.)

To all whom it may concern:

Be it known that I, JAMES MAJOR, a subject of the Queen of Great Britain, residing at Cannon street, Eccles, in the county of Lancaster, England, have invented new and useful Improvements in Spindles or Cop-Carriers for Holding Cops of Spun Yarn During Dyeing, Bleaching, and Similar Operations, of which the following is a specification.

This invention relates to the construction of the cop-carriers used for holding cops of spun yarn in apparatus for dyeing, bleaching, and similar operations, and is more particularly applicable to that class of apparatus wherein the dye or other liquor is forced or drawn in through the center of the cop and expelled in an outward direction, or vice versa; and the objects of this present invention are to hold the cop firmly on the carrier and at the same time give free access for the dye or other liquor to the interior of the cop. Hitherto these carriers, whether perforated or otherwise, have been made in such a form that the cops have either been liable to slip off during the operation or a certain amount of pressure has been necessary to force the cops on, and hence the free access of the dye or liquor to the interior of the cop at the parts where it was held by the carrier was impeded, and the result of the operation on the innermost coils of the cop have been more or less uneven.

The manner in which my said invention is to be performed or carried into practical effect will be readily understood on reference to the sheet of drawings hereunto annexed and the following explanation thereof.

Figure 1 on the drawings shows a front and side view of the improved carrier, and Fig. 2 a transverse section of the same. Fig. 3 is a side view. Fig. 5 is a plan, and Fig. 4 a section, showing the manner of fixing the improved carrier in a taper bush.

In the views similar letters refer to similar parts.

According to this invention I make the cop-carrier *a* from two strips of brass or other metal either semicircular or V-shaped in cross-section and tapered outwardly from the butt for about half their length, the taper being then reduced to the point, where they are soldered or brazed together. The two butt-ends may be held slightly asunder either by a little solder or the edges of the butt-ends fitted in slits *b*, formed in the end of the nipple *c*, in which said bars or strips are inserted, which has a taper screw-thread on the outside, so that when the nut *d* is screwed up the aforesaid strips are firmly secured in the nipple, which may be fixed in or on the lower ends of the revolving spindles of a machine such as hereinbefore named.

I claim as my invention—

1. An improved spindle or cop-carrier for holding cops of spun yarn during dyeing, bleaching and similar operations consisting of two narrow grooved or semicircular blades of thin metal spring-fastened together at the point, the central portion being bulged outward and their butt-ends slightly separated and secured in a hollow cylindrical plug, substantially as described.

2. An improved spindle or cop-carrier for holding cops of spun yarn during dyeing, bleaching and similar operations, consisting of two narrow grooved or semicircular blades of thin metal spring-fastened together at the point, the central portion being bulged outward and their butt-ends slightly separated and secured in a hollow cylindrical plug, and a taper screw-thread on the outside for screwing up and binding the edges of the blades in the slits, substantially as described.

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

JAMES MAJOR.

Witnesses:

EDWARD S. CHESNEY,

J. ERNEST HUGHES.