(No Model.)

L. K. BINGHAM.

APPARATUS FOR MAKING PRINTERS' ROLLERS.

No. 419,914. Patented Jan. 21, 1890.

Fig. 2

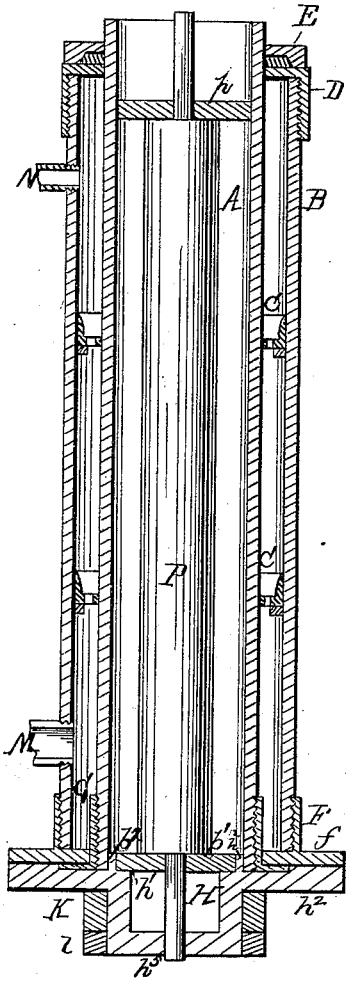

Fig. 1

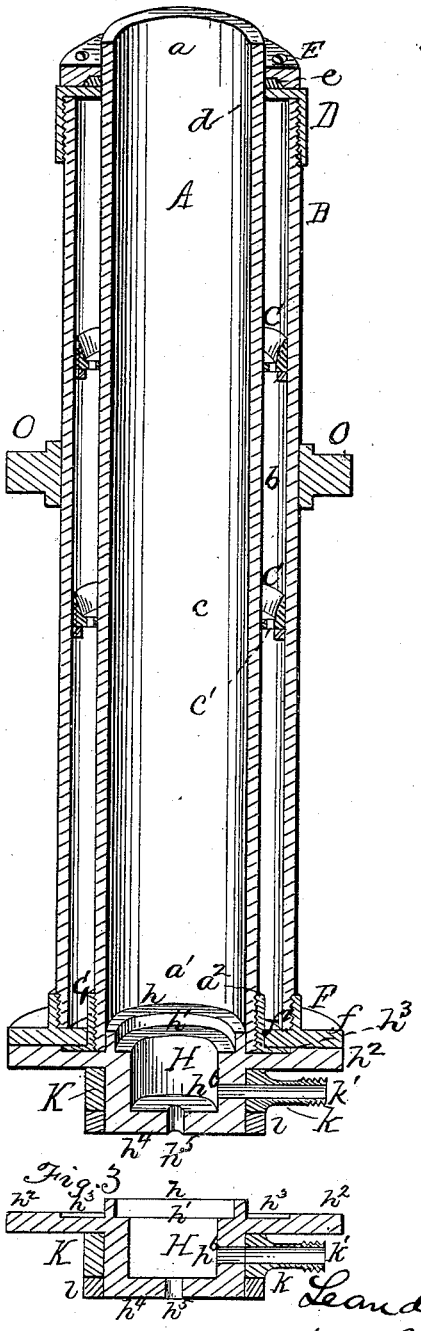

Fig. 5

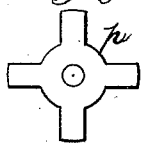

Fig. 4

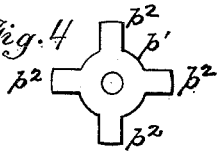

Fig. 3

Witnesses
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UNITED STATES PATENT OFFICE.

LEANDER K. BINGHAM, OF NEW YORK, N. Y.

APPARATUS FOR MAKING PRINTERS' ROLLERS.

SPECIFICATION forming part of Letters Patent No. 419,914, dated January 21, 1890.

Application filed February 15, 1889. Serial No. 299,951. (No model.)

To all whom it may concern:

Be it known that I, LEANDER K. BINGHAM, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Apparatus for Making Printers' Rollers; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

Figure 1 is a perspective view of one-half of the device. Fig. 2 is a vertical diametric section showing a roller-stock in position. Fig. 3 is a section of the removable bottom plate. Figs. 4 and 5 are plan views of the roller-stock-supporting spiders.

This invention relates to improvements in apparatus for making printers' rollers. In making these rollers either a single-mold tube is used or a number grouped together. The latter plan is employed where the rollers are of small or medium size, so that a number can be manufactured at once; but in making large rollers—such as are used in the presses employed in printing the large newspapers—it is hardly feasible to use the grouped molds, and the single-mold tubes are preferable.

It is the object of this invention to so improve the construction of these single-mold tubes as to greatly facilitate the making of the rollers and to simplify and shorten the operation of their construction.

The invention consists in the construction hereinafter pointed out.

In the annexed drawings, the letter A indicates an ordinary mold-tube having the open top and bottom ends a a'. The bottom end a' has the exterior threads a^2. Surrounding this tube is the concentric jacket B, there being a space b between the tube and jacket. Encompassing the tube A are several diaphragms C, secured to the inner surface of the jacket, these diaphragms having the holes c, through which the tube A passes, and the perforations c'. At the top a cap D is screwed upon the jacket B, said cap having a hole d, through which the upper end a of the tube A projects. Around the projecting end a of the tube A are placed the packing e and recessed ring E, the latter fastened to the cap D, and the packing and ring forming a steam and water tight joint around the end a, but allowing due movement of the tube A.

Screwed upon the bottom of the jacket B is the base-plate F, having the circumferential flange f and the central hole f', a little larger than the end a' of the tube A, said end extending down within said hole. Within this hole and surrounding the tube to which it is screwed is a gland G, its exterior flange resting underneath the bottom of the base-plate F.

Projecting up inside the bottom end a' of the tube A is the circular flange h of the removable bottom H. This flange h fits snugly against the inner surface of the tube, and within the flange is a circular rabbet or seat h'. From this flange h a rim h^2 extends outwardly to the edge of the flange f. In the upper face of this rim, next to the outer edge of the flange h, is a recess h^3, into which snugly fits the lower end a' of tube A and the outer part of the gland G. From the rim h^2 the bottom H drops, as at h^4, being cup-shaped, as shown, there being in its lower face a hole h^5 and to one side an opening h^6. Surrounding this bottom H is a traveling ring K, held thereto by an annulus l, secured to said bottom. This ring K has a nozzle k, with a bore k' in the plane of the opening h^6. The bottom H is held to the base-plate F by clamps or otherwise. The jacket B has the steam and water inlet M at the bottom and overflow N at the top and the trunnions O.

When the roller-stock P is put into the mold, it is centered by the spiders p p' above and below, the arms p^3 of the latter resting on the seat h', and the lower end of the roller-stock protruding through the hole h^5 in the bottom H.

The device is turned down and the roller-stock P inserted, the upper spider being in place on the stock. The removable bottom H, with the spider p' in place, is slipped on the end of the stock coming through the hole h^5 and is fastened to the base-plate F. This removable bottom thus acts as a "bung" or "stopper." The ring K is turned so as to close the opening h^6, the device is turned into vertical position, and steam is let into it

through the inlet M, the overflow N being open. After the mold is sufficiently heated the steam is shut off. The nozzle *k* is connected to a composition-supply pipe leading from a suitable source of supply, and the nozzle is turned until the bore *k'* registers with the opening h^6. The composition, being under due pressure, rises within the mold-tube A, surrounding the roller-stock P. As soon as sufficient composition has been admitted the nozzle *k* is turned so as to close the opening h^6. Water is then let in through the inlet M, the overflow N being open. The water rises, fills the jacket B around the tube A, and passes out through the overflow N. A constant current of water is thus maintained through the device, which quickly cools and sets the composition. As soon as the roller is formed the water is let out at M, the stopper or bottom removed, and the completed roller withdrawn from the mold.

In an application of even date herewith, Serial No. 299,950, I have shown and described a group of mold-tubes to which the broad invention is applied. In the present case I only claim the specific device herein shown. In the other application is claimed the broad invention of a molding apparatus provided at its bottom with an inlet communicating with the lower end of the mold and having a ring provided with a nozzle, whereby the composition may be admitted into the inlet, or the latter may be closed.

Having described my invention, what I claim is—

1. An apparatus for making a single printer's roller, consisting of the mold-tube A, the jacket B, having the trunnions O O, the inlet M, and overflow N, there being a space *b* between the tube and the jacket, the removable bottom H, having the opening h^6, the traveling ring *l* around the bottom H, and having the nozzle *k*, as set forth.

2. The combination of the tube, its surrounding jacket, and the base-plate of the latter, with the removable bottom having the flange and seat within the tube and the lower spider resting on said seat, as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

LEANDER K. BINGHAM.

Witnesses:
THOS. HOUGHTON,
M. DORIAN.