(No Model.)

H. W. WILLS.

MACHINE FOR WASHING AND REMOVING LABELS FROM BOTTLES.

No. 525,377. Patented Sept. 4, 1894.

Fig. 1.

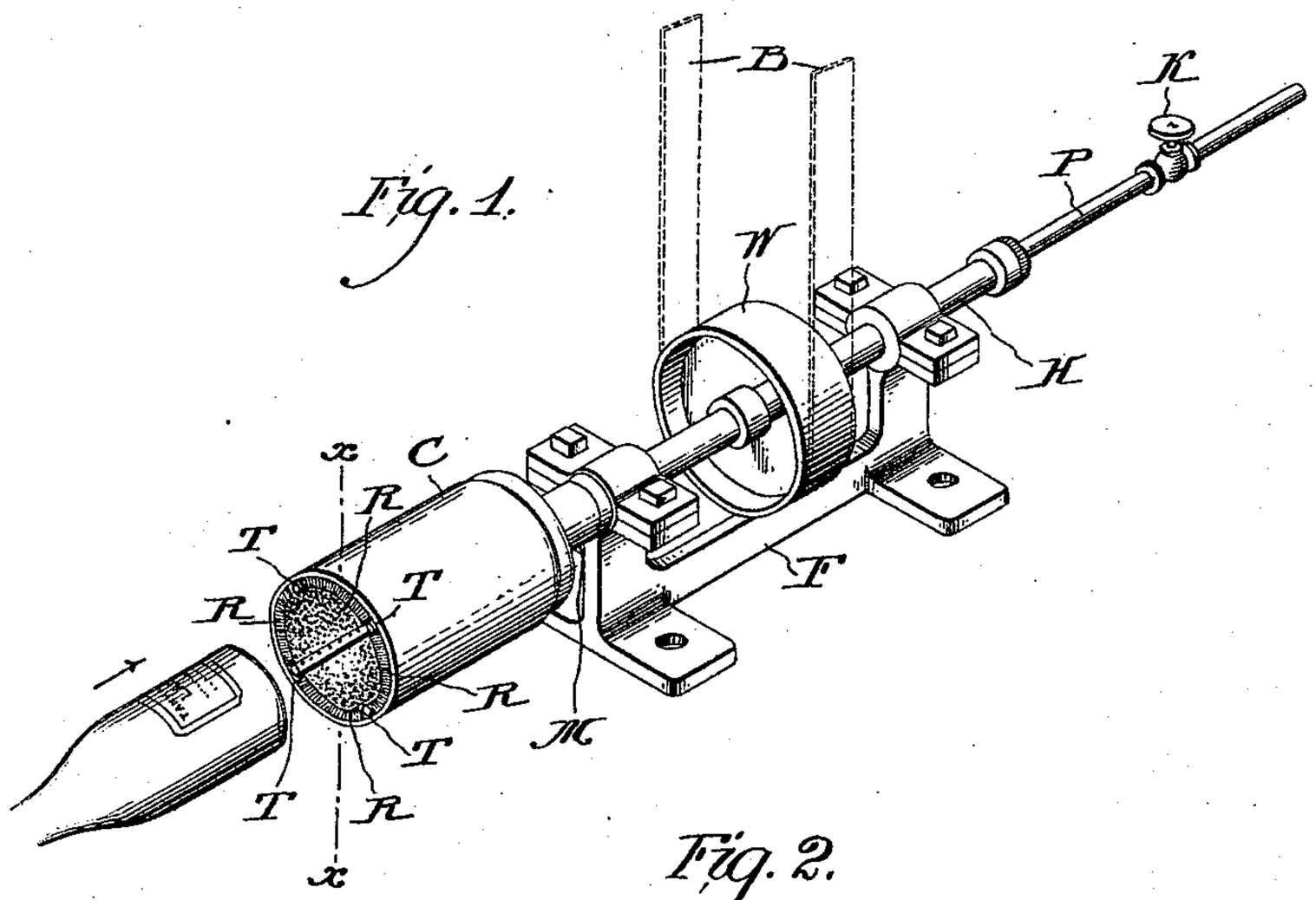


Fig. 2.

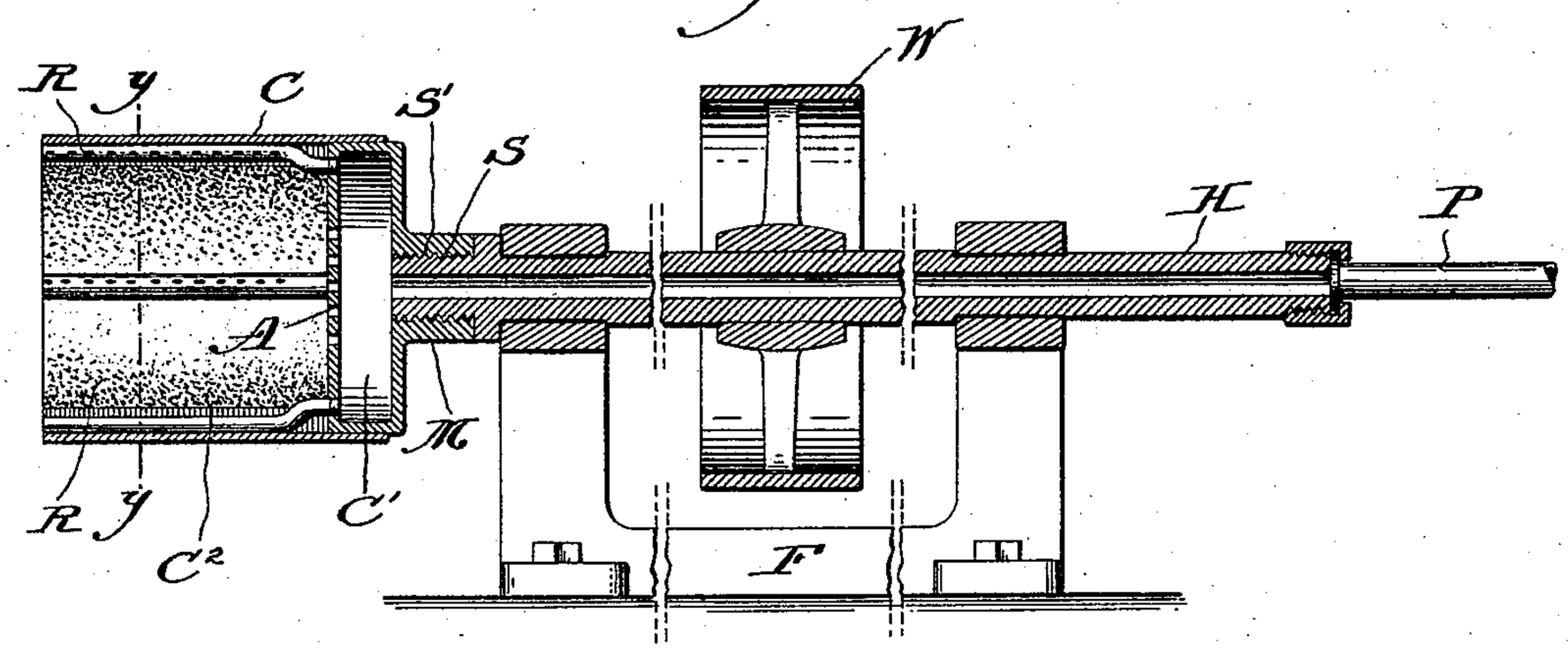
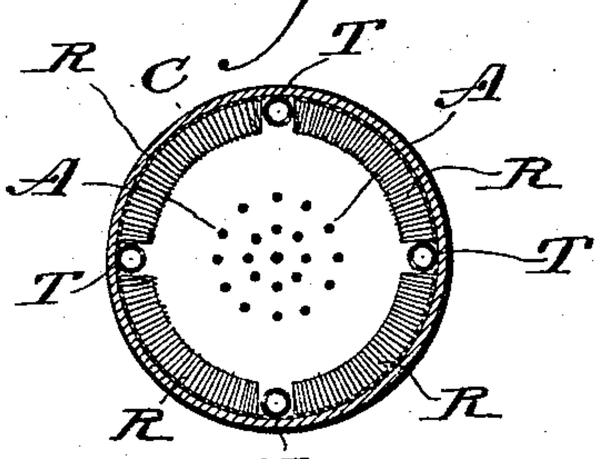


Fig. 3.



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MACHINE FOR WASHING AND REMOVING LABELS FROM BOTTLES.

SPECIFICATION forming part of Letters Patent No. 525,377, dated September 4, 1894.

Application filed June 3, 1893. Serial No. 476,450. (No model.)

To all whom it may concern:

Be it known that I, HENRY W. WILLS, a citizen of the United States, residing at Philadelphia, county of Philadelphia, and State of Pennsylvania, have invented a new and useful Improvement in Machines for Washing and Removing Labels from Bottles, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to a machine for removing labels from circular bottles and at the same time cleansing their outer surfaces.

The arrangement of mechanism illustrated in the drawings and hereinafter described I find admirably suited to the purpose, although the details may be varied without departing from my invention.

In the drawings, Figure 1 is a perspective view of my improved label remover and bottle cleanser, with a bottle in position to be inserted in the machine. Fig. 2 is a sectional side view of the same on the line *x*—*x* Fig. 1 on a larger scale; and Fig. 3 is a cross-section of the bottle-receiving cylinder on the line *y*—*y*, Fig. 2.

H is a hollow shaft or pipe mounted upon the frame F. On the shaft H is the pulley W, around which passes the belt B through which power is applied to revolve the pulley and the shaft. At one end of the hollow shaft or pipe H is secured the pipe P, upon which is the cock K controlling the admission of water through the pipes P and hollow shaft H. At the other end of the hollow shaft or pipe H is the screw thread S.

The cylinder C is constructed as follows: One end of it is formed so as to be closed except at its central portion, which is formed into a circular flanged mouth M provided with the inner screw thread S′ which is adapted to be screwed upon the thread S, thus securing the cylinder C to the hollow shaft or pipe H. The cylinder C is formed of two parts, the small chamber C′, into which the water is directly admitted, and the main or bottle receiving chamber C^2. Water is admitted into the main chamber through the holes A and the perforated pipes T. The pipes T are disposed at the periphery of the main chamber and terminate at the open and bottle-receiving end of the cylinder. Within and at the periphery of the main chamber C^2, and between the pipes, I place card clothing R, composed of a material such as bronze or phosphor brass, which will not rust under the action of the water. Other rough and resilient materials, such as bristles, may be found suitable, although I prefer to use card clothing.

The operation is as follows: Water having been admitted into the cylinder, the power is applied and the machine revolved. The bottle is inserted into the cylinder, and the water issuing from the holes A and the pipes T, thoroughly cleanses the outside of the bottle and wets the label so that the rough surface of the card clothing will scrape it and completely remove it. The tendency of the water issuing from the pipes T is to spurt out in a direction opposite to that of the cylinder's rotation and thus not to spurt against the bottle with any force. To obviate this, I dispose the holes so that they will open, not directly toward the axis of the cylinder, but midway between this direction and the direction of revolution as shown in Fig. 3. Thus the tendency of the water to fly back is availed of to force it toward the axis of the cylinder and directly against the surface of the bottle. If desired, I may cut off the supply of water, or I may reconstruct my machine so as to omit all the means for supplying liquid to the cylinder and merely retain the card-clothing or equivalent material. In either of these cases, if the bottle is thoroughly wet when inserted, the card-clothing or equivalent material will remove the label.

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

1. In a machine of the character specified, the combination of a revoluble cylinder divided into two compartments, one of which is connected with the source of liquid supply, and the other of which has a rough material secured to its inner surface, the two chambers being separated by a perforated wall, with perforated pipes disposed at or near the periphery of the latter chamber and communicating with the chamber connected with the source of supply.

2. In a machine of the character specified,

in combination, the revoluble hollow shaft H, the chambers C′ and C² separated by a perforated wall, connection between the chamber C′ and hollow shaft H, the perforated pipes T, the roughened material R, and connection between said hollow shaft H and the source of supply, substantially as described.

3. In a machine of the character specified, the combination of a revoluble cylinder divided into two compartments, one of which is connected with a source of liquid supply, and the other of which has a rough material secured to its inner surface, with perforated pipes disposed at or near the periphery of the latter chamber and communicating with the chamber connected with the source of supply.

In testimony of which invention I have hereunto set my hand.

HENRY W. WILLS.

Witnesses:
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