

(No Model.)

J. M. LEWIN.
Bottle Stopper and Fastening.
No. 230,791.
Patented Aug. 3, 1880.

FIG. 1.

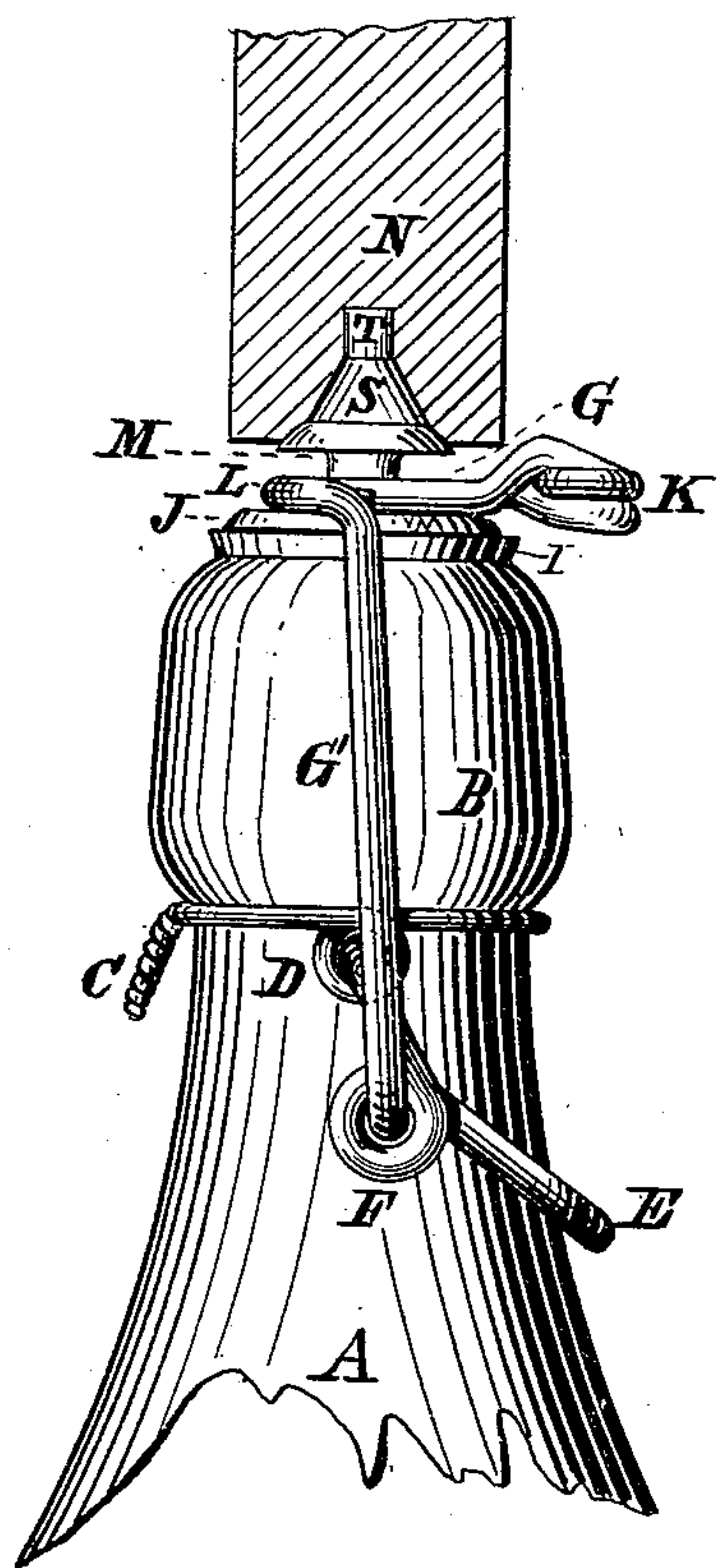


FIG. 2.

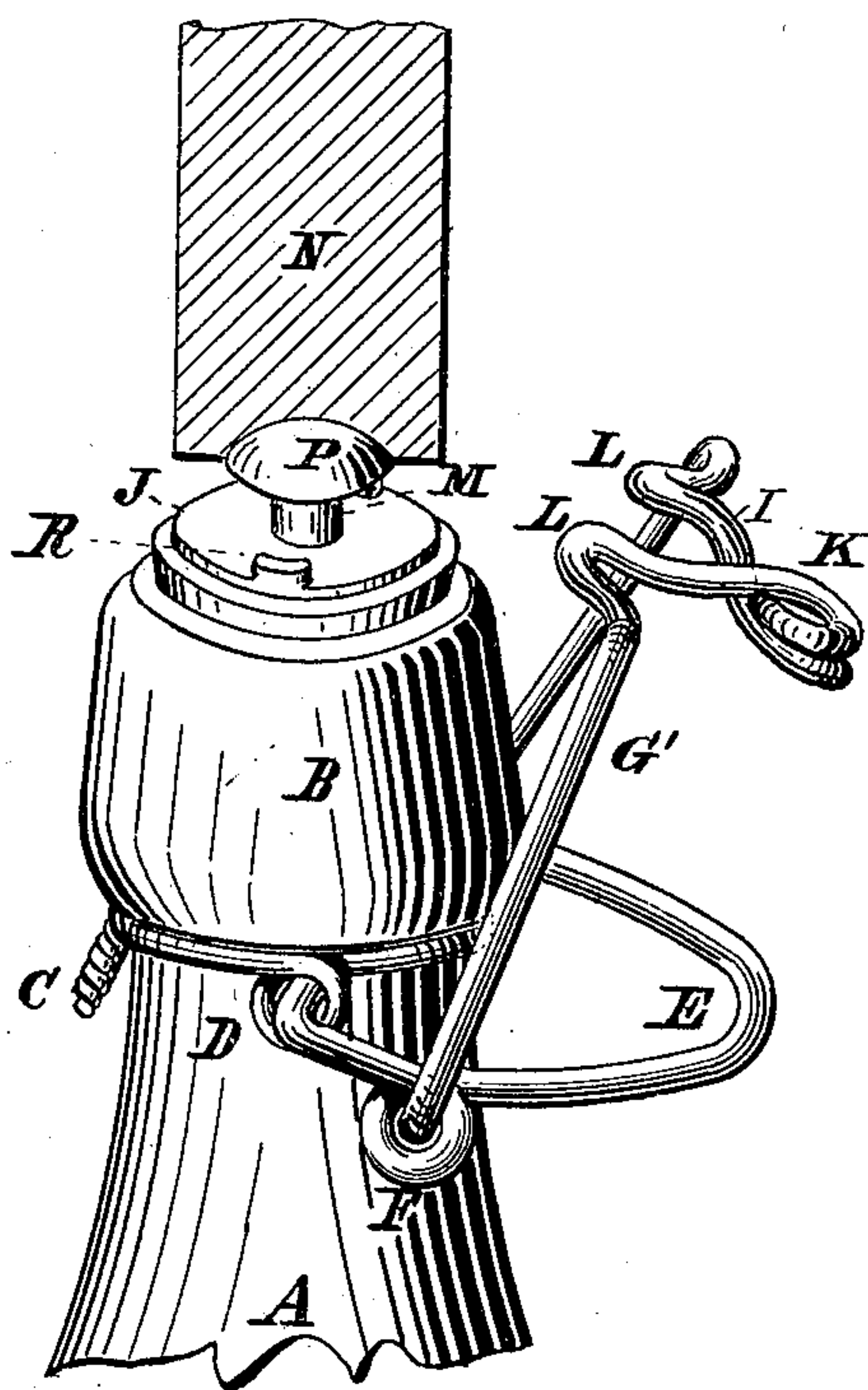


FIG. 3.

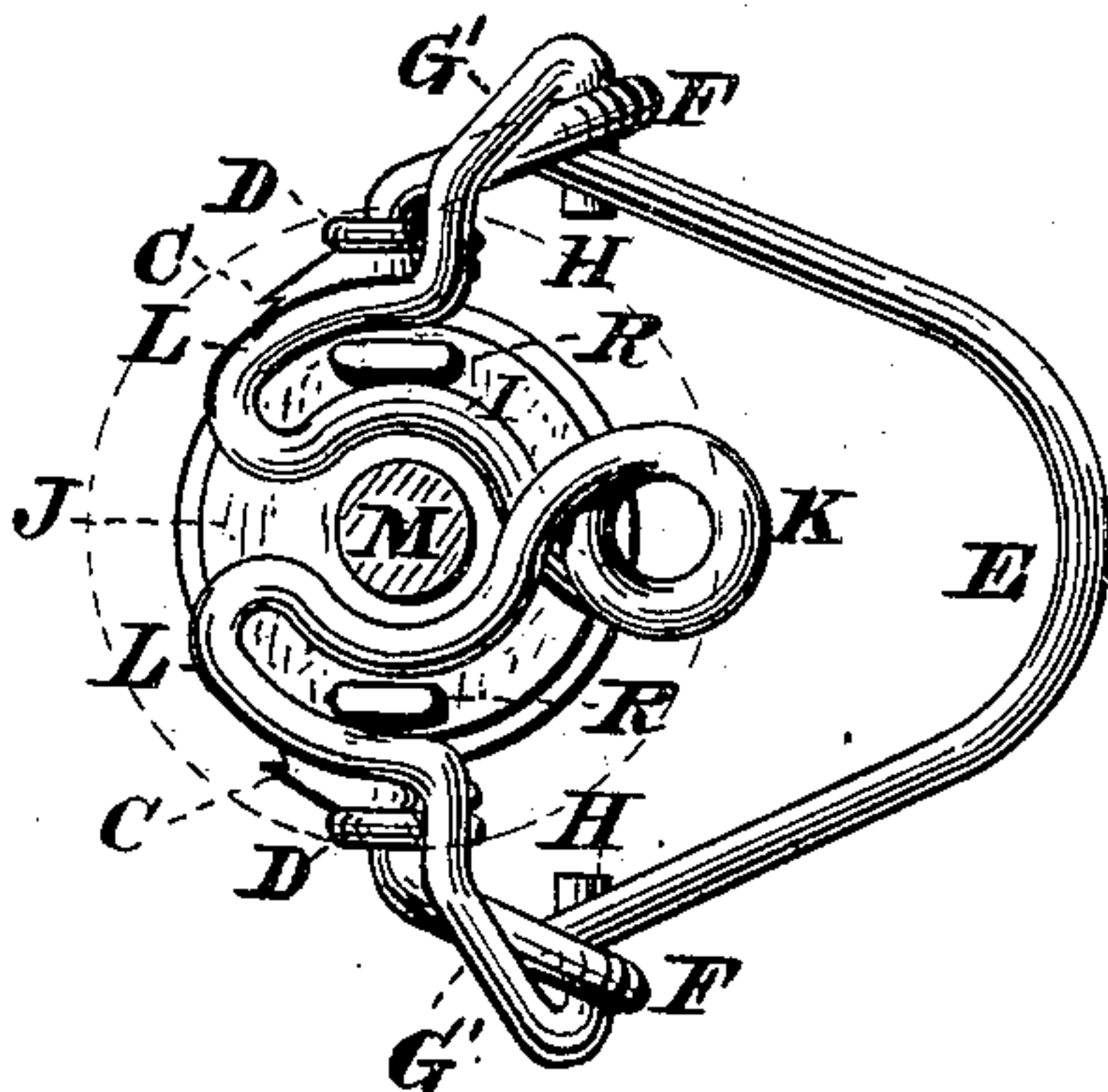


FIG. 5.

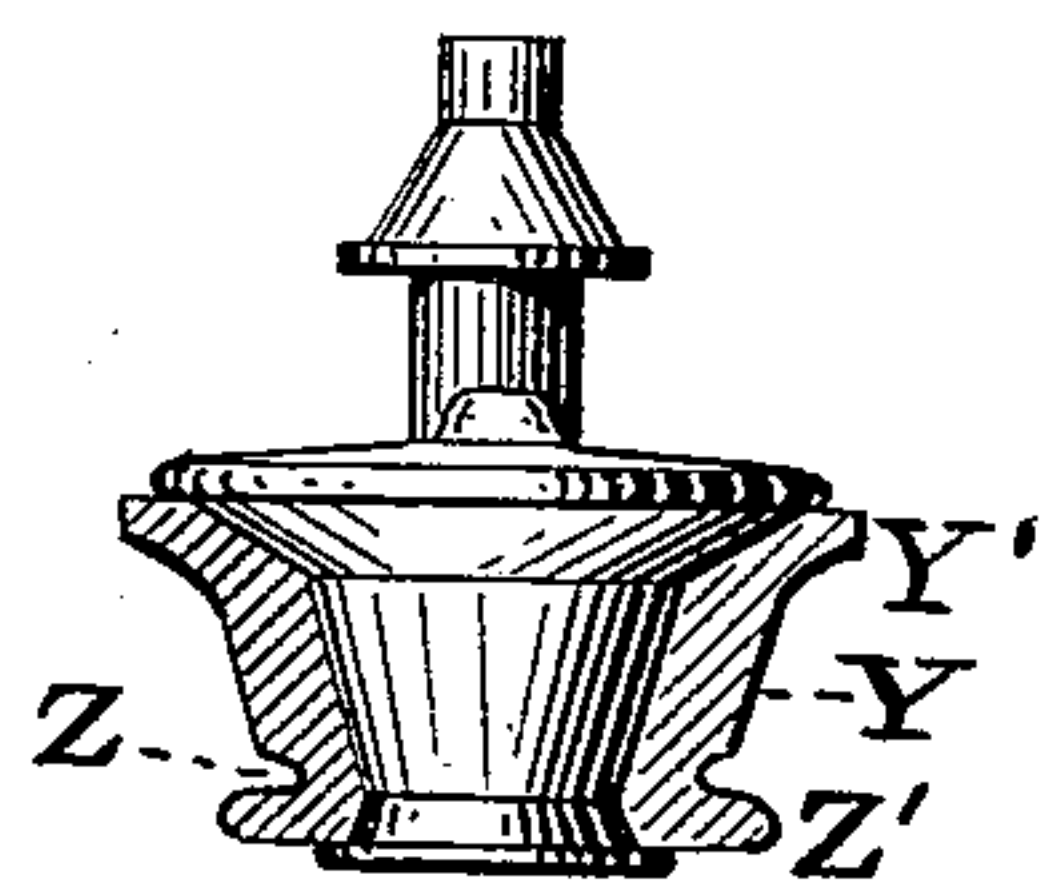
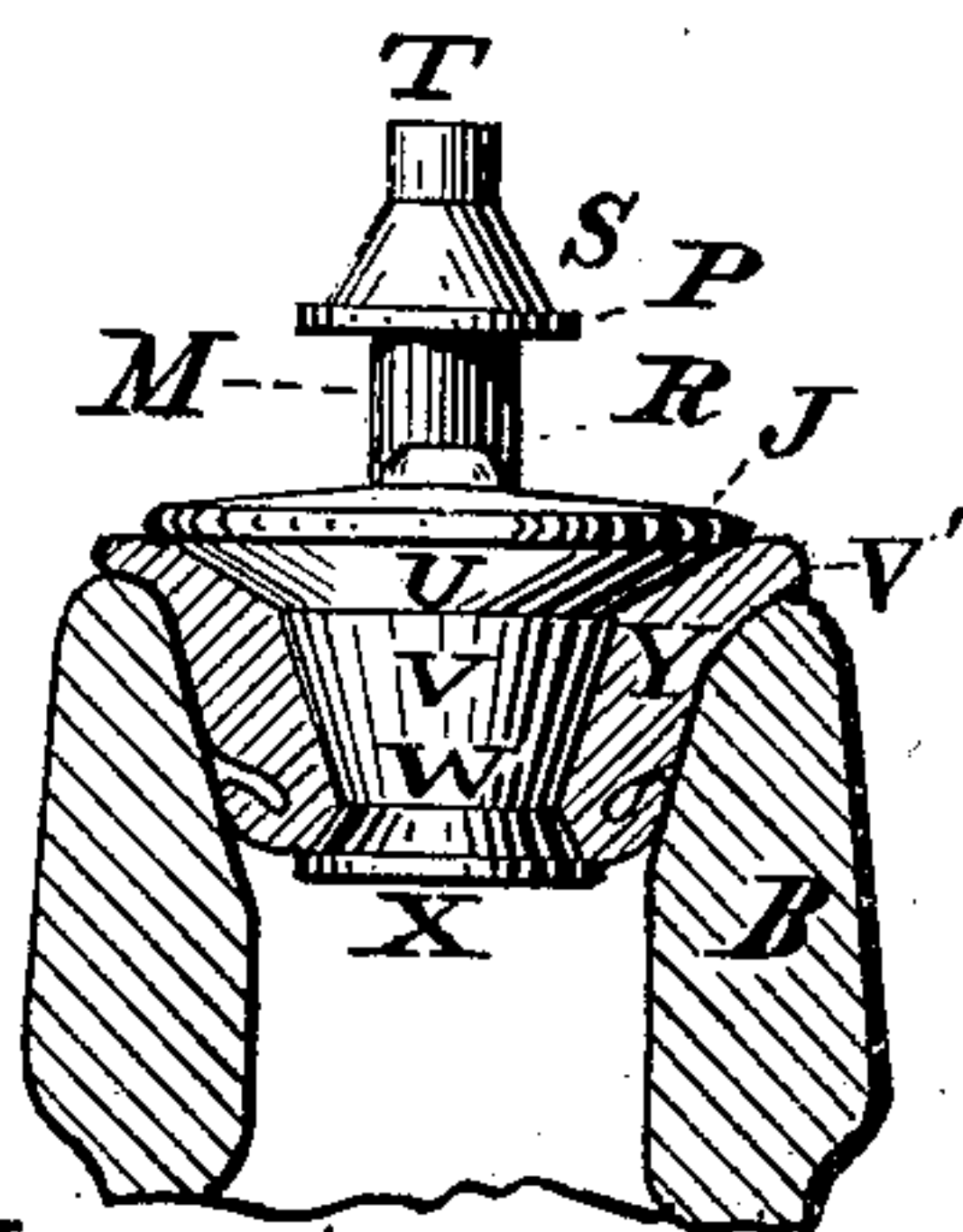


FIG. 4.

Witnesses:

Michael J. Stark,
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Inventor:

John M. Lewin.
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UNITED STATES PATENT OFFICE.

JOHN M. LEWIN, OF LOCKPORT, NEW YORK, ASSIGNOR OF ONE-HALF OF
HIS RIGHT TO JOHN BAXTER NAISMITH, OF SAME PLACE.

BOTTLE STOPPER AND FASTENING.

SPECIFICATION forming part of Letters Patent No. 230,791, dated August 3, 1886.

Application filed June 3, 1880. (No model.)

To all whom it may concern :

Be it known that I, JOHN M. LEWIN, of Lockport, in the county of Niagara and State of New York, have invented certain new and
5 useful Improvements on a Bottle Stopper and Fastening; and I do hereby declare that the following description of my said invention, taken in connection with the accompanying
10 sheet of drawings, forms a full, clear, and exact specification, which will enable others skilled in the art to which it appertains to make and use the same.

My present invention has general reference to bottle-stoppers, and particularly to that class
15 of stoppers used for closing bottles containing sparkling liquids, which are filled with said liquids when the latter are under tension or pressure in a so-called "bottling-machine."

The object of my said invention is the pro-
20 duction of a stopper of the kind described capable of being passed through the charging-cylinder during the filling operation and then removably secured to the bottle by means on the exterior of said bottle before said bottle
25 is removed from the bottling-machine.

In the drawings already referred to, Figure 1 is a side elevation of a bottle and its stopper and fastening, showing the latter as applied to the bottle. Fig. 2 is a perspective view of
30 the same, the fastening being shown in position for application. Fig. 3 is a plan of the stopper and fastening, the head of the stopper being shown removed and the stem or neck drawn in section. Fig. 4 is a sectional eleva-
35 tion of the stopper detached, and Fig. 5 a similar view of the same as inserted into the neck of a bottle.

Like parts are designated by corresponding letters of reference in all the figures.

40 A is the usual bottle, containing or to be filled with sparkling liquids, such as pop, soda and Seltzer waters, champagne, &c. It has on its neck B the usual neck-wire C, provided with eyes D, wherein is pivoted a lever, E. This
45 lever has on opposite sides eyes F, wherein is pivoted a yoke or bail, G, by means of pivots H, formed on the rods G', as clearly shown in the figures. The yoke has in its mid-
50 dle a spring-clamp, I, by means of which it engages the stopper J, said spring-clamp be-

ing made entirely of wire in one piece with the yoke. To accomplish this end I form in said yoke a double eye, K, and two jaws, L, said jaws and eyes standing at or nearly at right angles to the brace-rods G' of said yoke. 55 By this construction of the yoke the jaws L, standing at right angles to the brace-rods G', act, in conjunction with the lever E, upon the top surface of the stopper J to hold the same down, while the eyes K in said yoke give elas- 60 ticity to the jaws L to embrace the neck M of said stopper sufficiently to hold the stopper removably to the yoke.

In operation, the stopper J is removed from the yoke, which can be readily done, owing to 65 the fact that the eyes K, acting as springs, allow the jaws L L to separate for a sufficient distance to pass the neck M. Now, the stopper is placed into the charging-cylinder of a bottle-filling machine (not shown) in the same 70 manner as the usual cork stopper, it filling the said cylinder nicely to prevent escape of liquid on the upper end of said cylinder. This being accomplished, the bottle is placed into position and filled in the usual manner, after which the 75 plunger N is brought down to force the stopper through said cylinder into the neck B of the bottle, which will thereby be hermetically sealed; but since the pressure of the liquid within the bottle would force the stopper out 80 of the same as soon as the plunger N was removed, I attach the stopper to the bottle by the means described, lifting the lever E. so that the spring-clamps L of the yoke G may be passed over the neck M, and then depressing 85 said lever to cause the lower side of the jaws to press upon the upper surface of the stopper with all the force necessary to hold said stopper in proper position; after which the bottle may be removed from the filling-machine with- 90 out fear of its ejecting the said stopper.

To draw liquid from the bottle the lever E must be lifted. This will cause the upper side of the jaws L L to press against a head, P, on the neck M, and thereby to pull the stopper 95 out of the neck a sufficient distance to enable its entire removal; but since some persons unacquainted with the operation of this fasten- ing may, in order to remove the stopper, try to push on the jaws L, or since there might be 100

a possibility of the jaws slipping off the stopper, and thereby to release the same, I have formed on the top surface of said stopper two oppositely-located lugs, R. These lugs are engaged by the U-shaped parts of said jaws, and thereby lock the yoke in position, precluding the possibility of its being pushed off without first lifting the lever E, and with it the yoke G, sufficiently high to allow the U-shaped parts or jaws L L to pass over said lugs R. This construction is quite an essential feature in my device, since it materially increases its efficiency and guards against accidental release of the stopper during shipping.

The head or button P, already mentioned, has a tapering projection or shank, S, and a straight cylindrical portion, T, above. This I have thus constructed to fit a correspondingly-shaped recess in the plunger N, and thereby to facilitate the stopper's passage through the charging-cylinder, said button and projections preventing the stopper from falling over and thereby to wedge itself into the said cylinder. Instead of these projections S T, as shown in Figs. 1, 4, and 5, I may form the head P with a curved top surface, as illustrated in Fig. 2, which will also perfectly center the stopper in the charging-cylinder, but may not be quite as positive in its action as the device heretofore described.

Below the top surface of the stopper J, I have formed a tapering part, U, and below that another tapering part, V, while below this is still another tapering inverted part, X, as clearly shown in Fig. 5. These tapering parts act, in conjunction with a rubber packing-ring, Y, embracing the tapering parts mentioned, in such manner that when the plug J is depressed the said packing-ring will be expanded, and thereby wedge itself tightly into the mouth of the bottle.

On the lower edge of the elastic packing-ring Y, I have formed a neck, Z, Fig. 4, and below that a projecting flange, Z'. This neck and flange act within the neck of the bottle in the following manner: The flange Z', being larger in external diameter than the internal size of the neck, is caused to bend upward, as shown in Fig. 5, when the stopper is being inserted into said bottle, and thereby to collapse sufficiently into the neck Z to enable said stopper to enter. The tendency of said flange is to always resume its original position, as shown in Fig. 4, and thereby presses with considerable force against the interior of the neck B, and increases the tightness of the stopper.

It will now be readily observed that with this stopper I am enabled to use a fastening on the exterior of the bottle, that I can remove the stopper from its fastening, and then pass it through the charging-cylinder to finally again attach it to the fastening, thereby using but one permanent stopper.

Having thus fully described my invention,

I claim as new and desire to secure to me by Letters Patent of the United States—

1. A bottle-stopper fastening in which the yoke is provided with spring-clamps constructed to embrace the stopper around its neck for more than one-half of its periphery, whereby the said stopper can be readily affixed to and removed from the yoke, as specified.

2. A bottle-stopper fastening consisting, essentially, of the yoke G, having the double-coiled eye K and U-shaped jaws L, constructed to embrace the neck M of the stopper for more than one-half of its periphery, in combination with the stopper J, having the said neck M and shoulder P, as described.

3. A bottle-stopper fastening consisting, essentially, of the yoke G, having the double-coiled eye K and U-shaped jaws L, constructed to embrace the neck M of the stopper for more than one-half of its periphery, in combination with the stopper J, having said neck M and shoulder P, and catch-lugs R, engaging the U-shaped jaws L and the lever E, the whole being constructed for joint operation substantially in the manner as and for the object specified.

4. The combination, with the bottle A, having the usual neck-wire C and lever E, of the yoke G, having jaws L L and spring K, and stopper J, with the neck M and shoulder P, as specified.

5. The combination, with the bail G, having the U-shaped clamp L, of the stopper J, provided with the lugs R and the lever E, as described, whereby the yoke is locked in position upon the stopper, as stated.

6. An elastic stopper for bottles having an elastic central tapering body, Y, provided with a flange, Y', on its upper end, with a circumferential groove, Z, near, and with a flange, Z', on its lower end, said stopper being fitted to a non-yielding central body having tapers to expand said elastic body, as stated.

7. An elastic stopper, consisting of an elastic central body, Y, having near its lower end a circumferential groove, Z, and terminating in a projecting flange, Z', said body being fitted to a central non-yielding plug having a flange, J, and double tapers U V of different angularity, said taper U being adapted to spread the upper part of the elastic body into a flange, Y', and the taper V to expand the body Y, the whole being constructed for operation substantially in the manner as and for the object specified.

In testimony that I claim the foregoing as my invention I have hereto set my hand in the presence of two subscribing witnesses.

JOHN M. LEWIN.

Attest:

MICHAEL J. STARK,
FRANK HIRSCH.