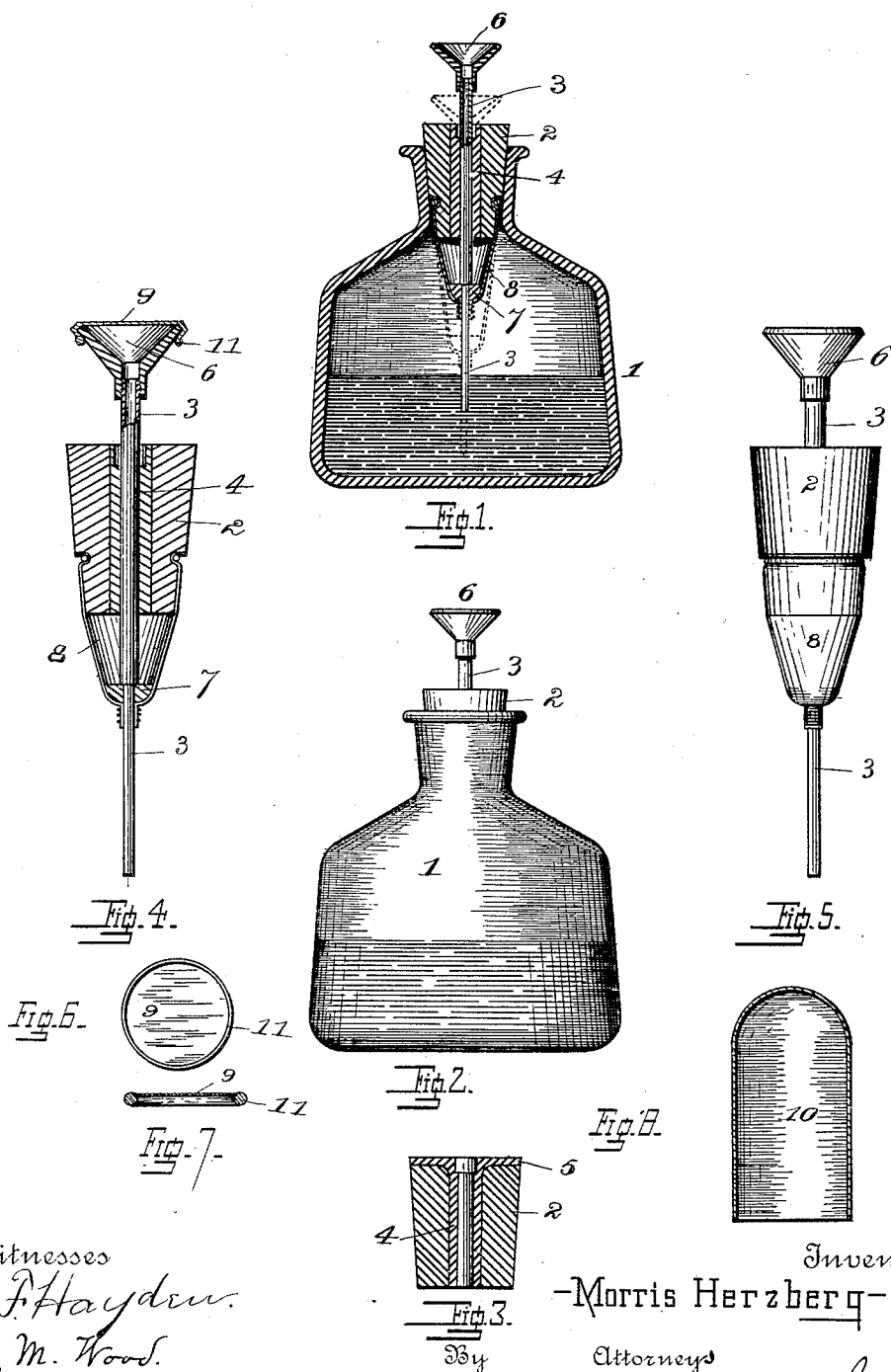


(No Model.)

M. HERZBERG.
BOTTLE STOPPER.

No. 462,766.

Patented Nov. 10, 1891.



Witnesses
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UNITED STATES PATENT OFFICE.

MORRIS HERZBERG, OF CHAMBERS COUNTY, ALABAMA.

BOTTLE-STOPPER.

SPECIFICATION forming part of Letters Patent No. 462,766, dated November 10, 1891.

Application filed May 26, 1891. Serial No. 394,213. (No model.)

To all whom it may concern:

Be it known that I, MORRIS HERZBERG, of Chambers county, State of Alabama, have invented certain new and useful Improvements in Bottle-Stoppers; and I do declare the following to be a full, clear, and exact description of the invention, such as would 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 figures of reference marked thereon, which form a part of this specification.

This invention relates, as above stated, to bottle-stoppers, having especial reference to the class thereof which may be applied to ink-stands or cologne-bottles in which it is desirable that the main body of the liquid may be stored away from contact with the atmospheric air and a relatively small portion be automatically brought into position for use, the bottle being sealed normally.

The object, principally, of this invention is to construct an automatic delivering device which is capable of being sold separately and applied by any person, however unskilled, to the ordinary ink-bottle in which small quantities are sold and from which, direct, the liquid is consumed.

I will now proceed to a description of the invention, as shown in the accompanying drawings, in which—

Figure 1 is a vertical central section of the device, showing by broken lines the position assumed by the elements upon the depression of the fountain-tube. Fig. 2 is a side elevation of the device, and Fig. 3 is a detail view in central section of a more expensive modification of the cork and fitting-tube therein. Fig. 4 is an enlarged sectional view of the stopper removed from the bottle; and Fig. 5 is a side elevation thereof, the elastic sealing diaphragm shown in the former figures however being omitted in the latter. Figs. 6 and 7 show the sealing diaphragm, respectively, in inverted plan view and in central section. Fig. 8 shows a rubber or metal cover for protection in shipping and to cover the stopper when not in use.

The bottle 1 is supposed to be a small bottle, such as those in which ink is sold for domestic purposes. The cork or stopper 2 is truncate-conical in form, as usual, and should

be long compared to the standard dimensions of corks in order that it may fit several sizes of neck-openings in bottles.

For the purpose of providing a fit for the tube 3, hereinafter described, a bushing 4 is driven into a hole cut through the center of said stopper and may have an annular flange 5, as shown in Fig. 3, projecting therefrom over the upper end of the cork, which is both for the purpose of preventing downward movement of the said bushing and strengthening the stopper, said bushing being preferably glued or cemented within the cork. The tube 3 is preferably of hard rubber and is of course longitudinally perforated. By means of screw-threads externally of said tube and internally of the said funnel or lesser reservoir 6, said funnel 6 is secured to the upper end of said tube, its form being preferably about as shown and its size such as experience shows to be preferable. The tube should be reduced on its lower end in order to slip on the washer 7, and a shoulder will thus be provided which will limit its movement upwardly upon the tube and cause it to descend when the tube is depressed. The lower side of this washer 7 is rounded in order that the elastic sack 8 may not be torn or unduly stretched by acute angles. The lower end of the cork 2 is reduced in size below the smallest diameter of the neck-aperture of the bottle in order that the sack may not be cut or torn by sharp faults in the glass or by frictional contact therewith, and an annular groove is provided wherein the said sack may be pressed by the cord in tying, as will be now described. The sack 8 is made in the form of a tapering elastic tube, and is secured at one end to the reduced lower portion of the cork 2 and at the other to the tube below the washer 7 by being tied with a wire or cord.

It is obvious that the depression of the tube 3 will elongate the sack 8 and hence reduce the ink and air-space within the bottle and force the ink upwardly through said tube into the lesser reservoir, whence it may be used, it flowing directly upon the pen, the contact of which with the funnel has caused the said depression. As ink is used and the tube elevated air passes downwardly through the tube and then takes the place of the ink re-

moved. If the cork is not bushed with some non-absorptive substance, said cork will be swelled by the ink and the working of the device be thereby interfered with.

5 This device has the appreciable advantage that it may be made and sold so cheaply as to add very little to the cost to the consumer of a small bottle of ink such as used in schools and for family use, and notwithstanding its
10 inexpensiveness really furnishes a desirable inkstand of the class described. It is hence obvious that the benefits derived from an improved inkstand would be hereby extended to a class who are not able to purchase the
15 very costly devices now in common use.

In Figs. 6 and 7 is shown the sealing diaphragm 9, which is of soft elastic rubber having around its edge a corded or thickened portion 11, by means of which the said diaphragm may be stretched over the reservoir
20 6, as shown in Fig. 4, and securely seal the opening and at the same time allow sufficient elasticity to the chamber so formed to allow the reservoir 6 to receive ink in case of acci-
25 dental depression of the tube in shipping or handling filled or stoppered bottles of ink or

other liquid. The cup or shield 10 may be employed to cover over the stopper and so prevent dust-accretion or accidental depression of the tube when in process of transportation.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. In a device of the class specified, a cork, 35 a tube passing through said cork, and an elastic sack surrounding said tube and secured thereto at one end and at the other end secured to said cork, substantially as specified.

2. In a device of the class specified, the tube having on its top an open-topped reservoir and the elastic diaphragm 9, adapted to be drawn over and close said top and form an expandible chamber in said reservoir, sub- 45 stantially as and for the purpose specified.

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

MORRIS HERZBERG.

Witnesses:

J. H. MADDOX,
R. A. RIDGEWAY.