

No. 651,831.

Patented June 19, 1900.

I. L. DAVENPORT.  
AUTOMATIC INK SUPPLY FOR INK BOTTLES.

(Application filed Jan. 24, 1900.)

(No Model.)

Fig. 1.

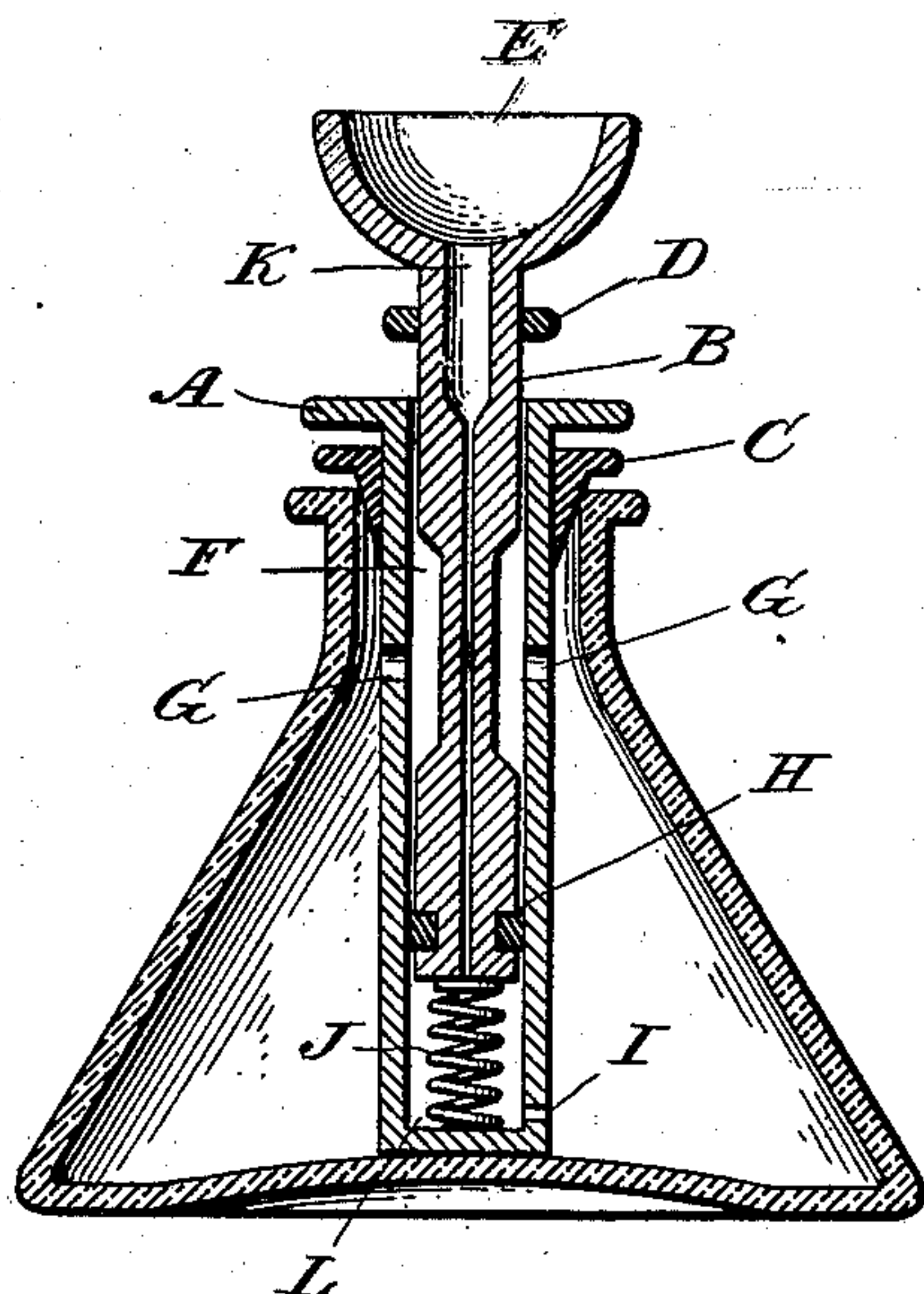


Fig. 2.

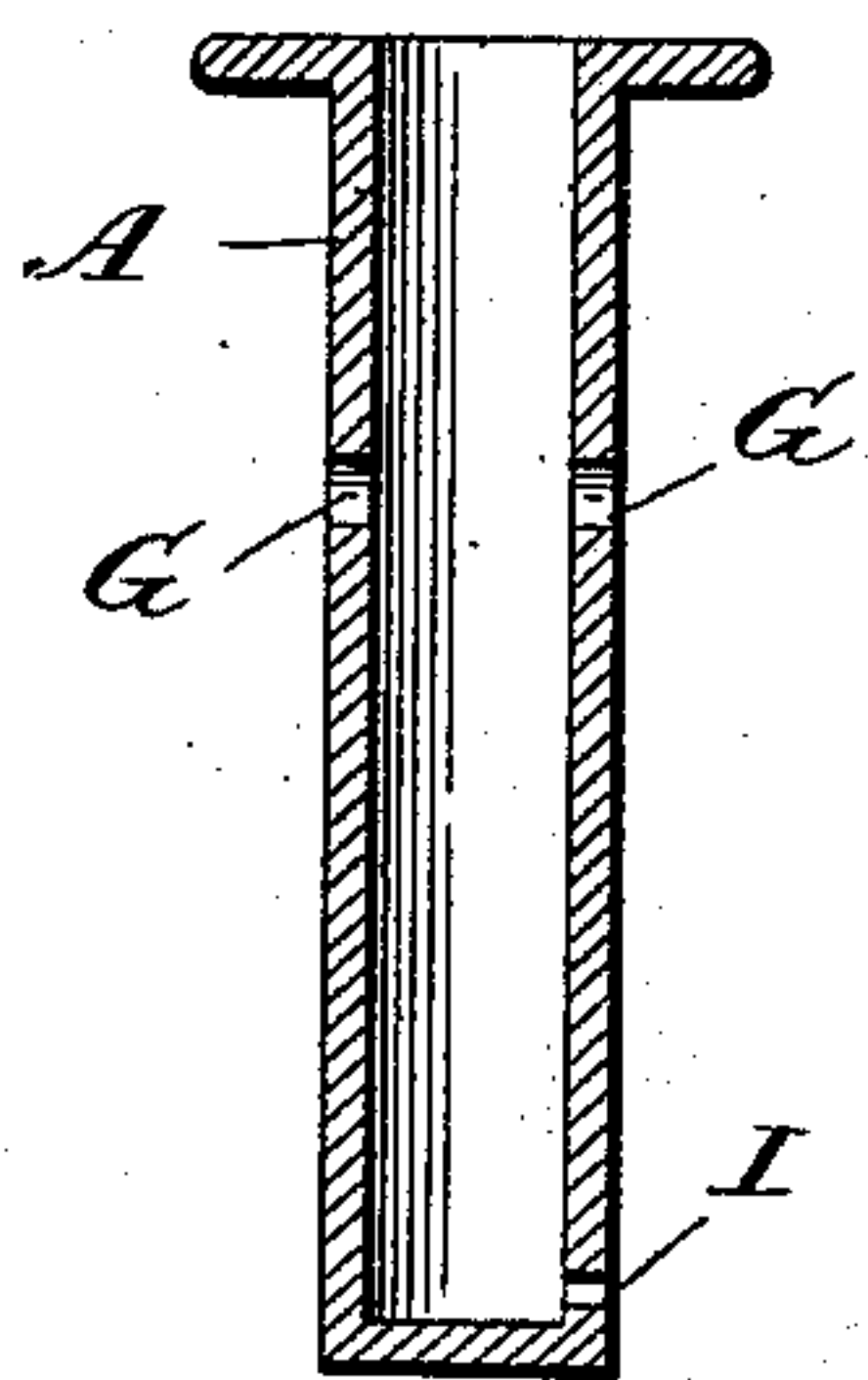


Fig. 3.

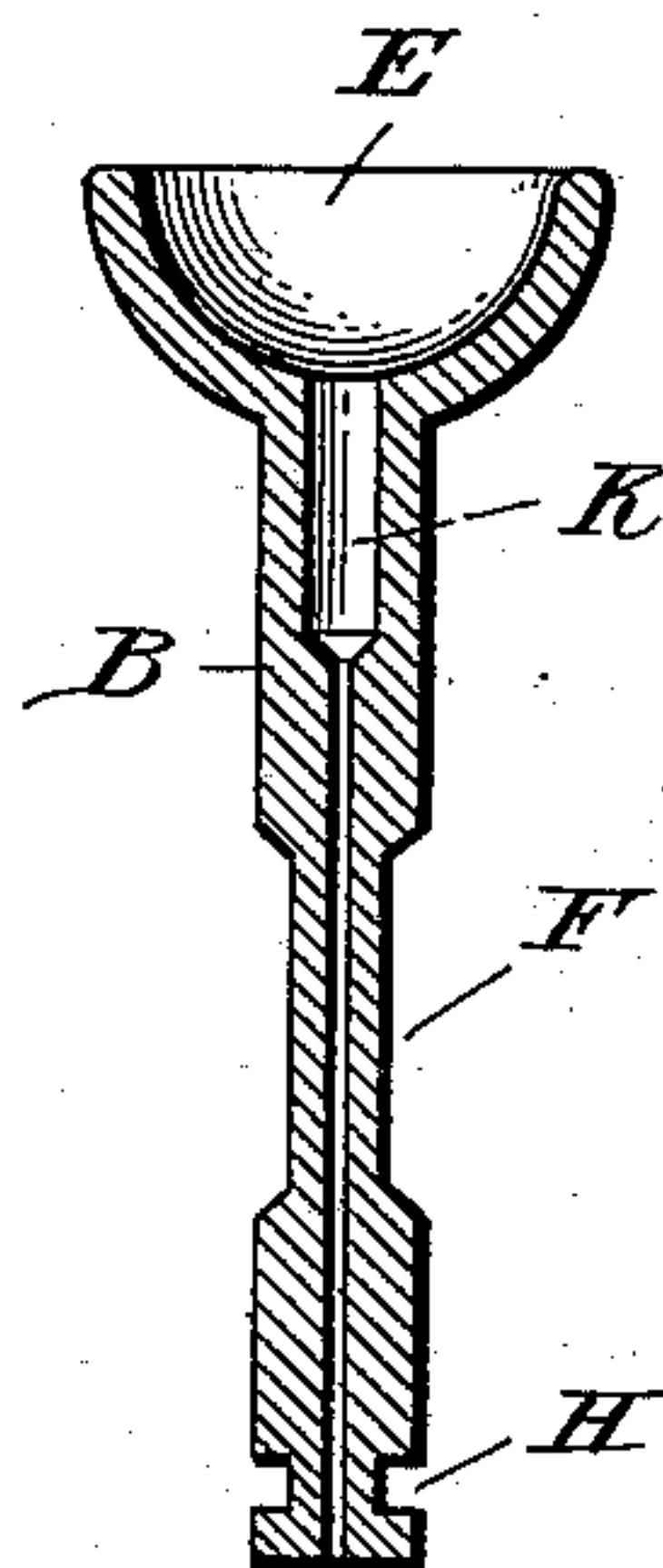
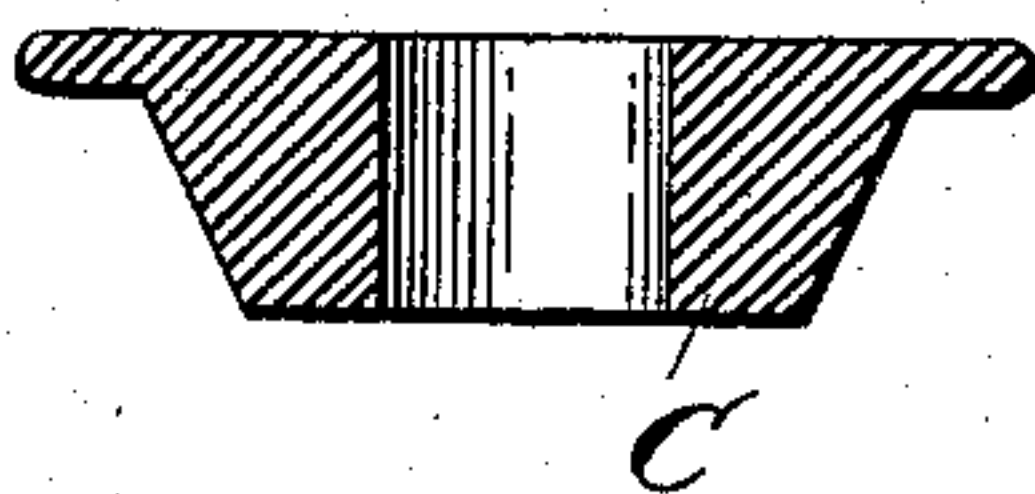


Fig. 4.



Fig. 5.



Witnesses.

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# UNITED STATES PATENT OFFICE.

ISAAC L. DAVENPORT, OF HURFFVILLE, NEW JERSEY.

## AUTOMATIC INK-SUPPLY FOR INK-BOTTLES.

SPECIFICATION forming part of Letters Patent No. 651,831, dated June 19, 1900.

Application filed January 24, 1900. Serial No. 2,576. (No model.)

*To all whom it may concern:*

Be it known that I, ISAAC L. DAVENPORT, a citizen of the United States, residing at Hurffville, in the county of Gloucester and State of New Jersey, have invented a new and useful Automatic Ink-Supply for Ink-Bottles, of which the following is a specification.

My invention relates to improvements in automatic ink-supplies designed to be inserted into any ink-bottle; and it has for its object the production of such a device that will always give a fresh supply of ink to the pen quickly and obviate the necessity of inserting the pen into the ink-bottle, and thereby smearing the penholder with ink, and such a device that will be low in cost, long-lived in service, easy in operation, and efficient in action, and at the same time prevent the evaporation of the ink from the bottle. I obtain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a vertical section of my entire invention. Fig. 2 is a sectional view of the case, inside of which the plunger operates. Fig. 3 is a sectional view of the plunger removed from the case. Fig. 4 is a sectional view of the conical band or stopper. Fig. 5 is a modification of Fig. 4.

Similar letters refer to similar parts throughout the several views.

A, Figs. 1 and 2, represents a cylindrical case of suitable length having a rim or lip at the upper end and in which are two or more holes (represented at G) to allow the escape of what ink may pass up between the case A and plunger B and a small hole (represented at I) for the inlet of the ink.

B, Figs. 1 and 2, represents the plunger, to which is attached the funnel E and in which is a longitudinal bore through the center, which is expanded at the upper end, as represented at K, for the purpose of receiving the point of the pen and to give the ink a larger space to fill, therefore a slower rise at the top to prevent spurring. The plunger B is made smaller at F to prevent the carrying up of ink that may get between the case A and the plunger B, and the plunger B has a groove at the lower end at H to receive packing, which may be of rubber, thread, or other material.

J represents a spiral spring to push the plunger B up to normal position as soon as pressure is removed from same.

C, Figs. 1, 4, and 5, represents the stopper, which slips over the case A and which may be made of rubber or other material.

D, Fig. 1, represents the gage-ring, which is preferably of rubber and is intended to stop the descent of the plunger B at the proper point to give a right supply of ink into the funnel E. This ring D, being of rubber or other flexible material, can be adjusted up or down on the plunger B, and thus regulate the depth of the stroke of the said plunger, and thereby regulate the amount of ink to be pumped up into the funnel E.

The operation of my invention is as follows: The case A is inserted into the ink-bottle until the lower end rests on the bottom of the bottle. Then the stopper C is forced down until it fills the mouth of the bottle tightly. The ink flows into the space L through the small opening I. The point of the pen is inserted into the opening K of the plunger B, and by a slight pressure the plunger is forced downward and the ink is forced up through the central opening, thus coming in contact with the pen at the top. When the pen is lifted from the plunger B, the spring J lifts it to normal position and the ink returns to the space L.

Having described my invention, what I claim is—

1. In an automatic ink-supplying device for ink-bottles the combination of the casing A provided with the holes G and I, and the tubular plunger B having the smaller diameter at F and provided with the packing H.

2. In an automatic ink-supplying device for ink-bottles, the combination of a tube A, adapted to extend to the bottom of the bottle, perforation I, provided in the lower end of said tube, perforations G, provided in the upper portion of the tube, a plunger B, adapted to fit snugly within the tube A, a reduced portion F, provided in said plunger intermediate its length, and a spiral spring arranged below the plunger for returning same to normal position after it has been depressed, substantially as described.

3. In an automatic ink-supplying device the combination with the bottle, of a tube A,



adapted to extend to the bottom of said bottle, a wedge-shaped cork fitted around the upper portion of said tube adapted to close the neck of the bottle, perforation I, provided in the lower end of said tube, perforations G, provided in the upper part of same, a plunger B, adapted to the tube A, and a spiral spring J, arranged below the plunger, substantially as described.

10 4. In an automatic ink-supplying device, the combination with the bottle, of a tube A, adapted to fit within the same, perforation I, provided near the bottom of said tube, perforations G, provided in the upper portion of

said tube, a plunger B, adapted to the tube 15 A, a reduced portion F, provided in said plunger forming a chamber adjacent to the apertures G, and an adjustable ring D, provided on the projecting upper end of the plunger for regulating the stroke of the plun- 20 ger and thereby regulating the amount of flow up through said plunger, substantially as described.

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Witnesses:

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