H. N. CARPENTER.

FOUNTAIN PEN FILLER.

APPLICATION FILED APR. 27, 1910.

983,348. Patented Feb. 7, 1911.

Fig. 1.

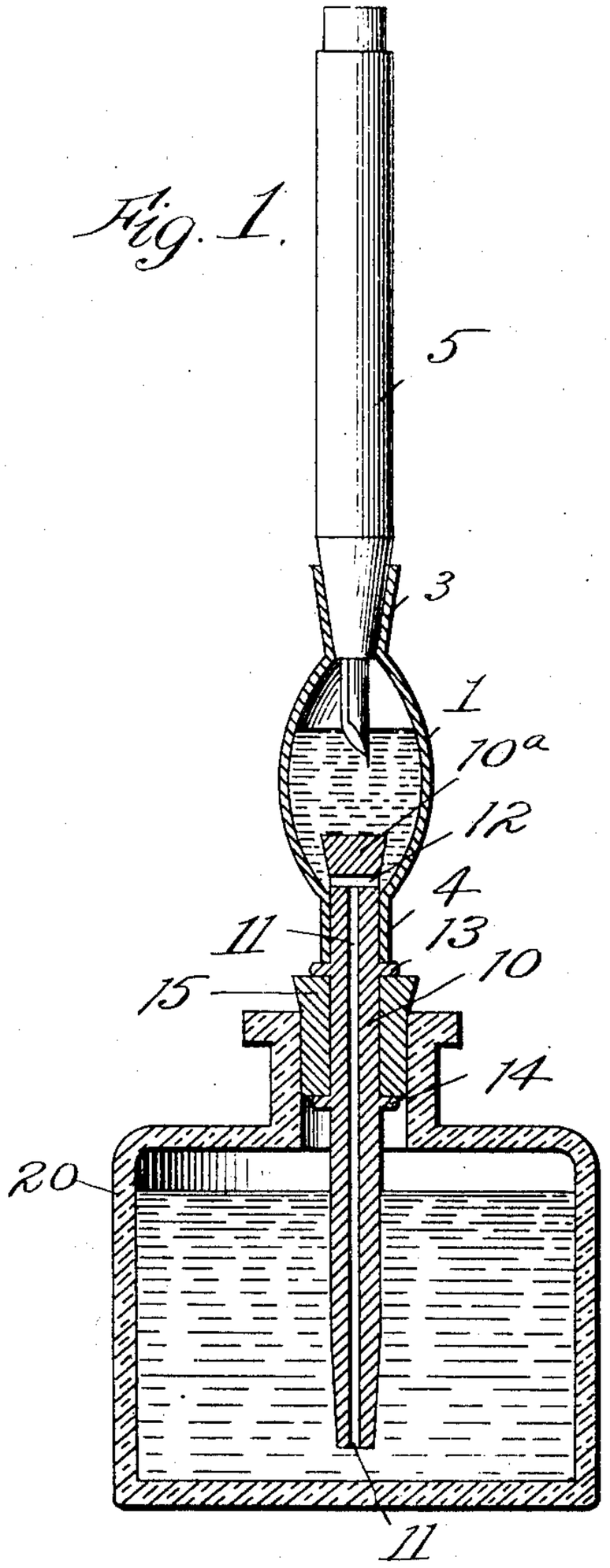
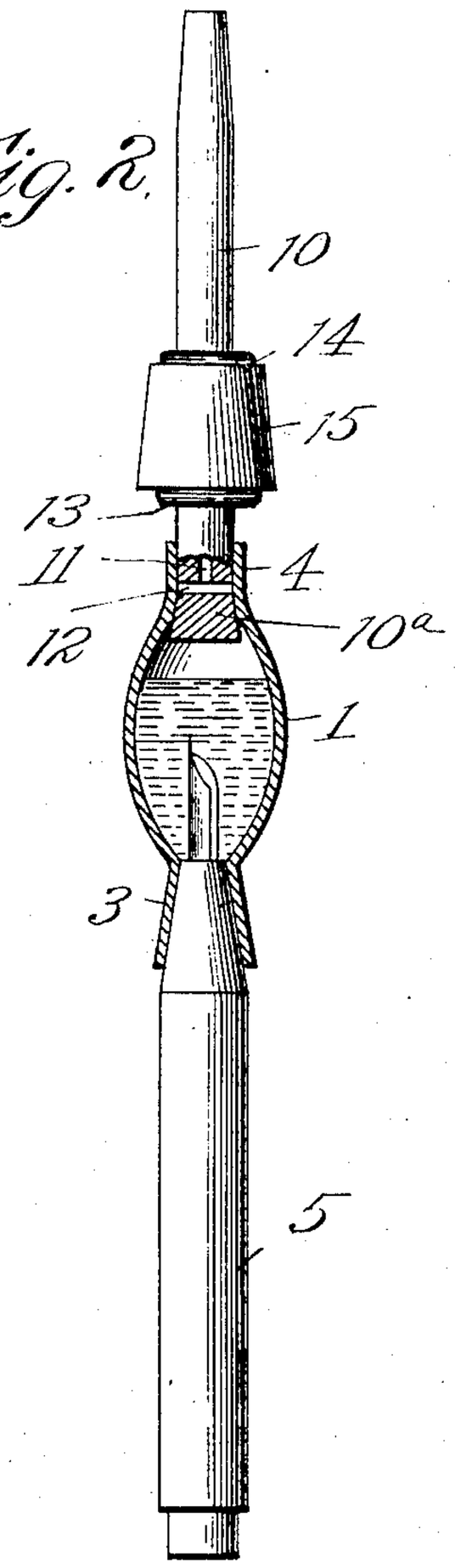


Fig. 2.



Witnesses:
H. N. Knight
E. M. Fenster.

Harald N. Carpenter Inventor,
By his Attorneys Knight Bros.

UNITED STATES PATENT OFFICE.

HAROLD N. CARPENTER, OF WOODFORD, VERMONT.

FOUNTAIN-PEN FILLER.

983,348. Specification of Letters Patent. **Patented Feb. 7, 1911.**

Application filed April 27, 1910. Serial No. 557,846.

To all whom it may concern:

Be it known that I, HAROLD N. CARPENTER, a citizen of the United States, and a resident of Woodford, Bennington county, State of Vermont, have invented certain new and useful Improvements in Fountain-Pen Fillers, of which the following is a specification.

The present invention relates to improvements in fountain pen filling devices of the type covered by my Patent No. 887,919 dated May 19, 1908. The fountain pen filler of said patent comprises an ink reservoir fitted with a closure in the form of a compressible bulb having an aperture adapted to receive and be closed by the end of a fountain pen, whereby upon the inversion of the reservoir and the compression and expansion of the bulb closure, the varying pressure of the air in the bulb will cause the rapid filling of the pen through the opening beneath the pen nib without danger of soiling the fingers.

The object of the present invention is to produce a fountain pen filler of the type explained which can be operated while attached to the bottle of the ink as in my above named patent or which can be detached from the bottle and operated when separated from the bottle for filling a fountain pen.

In order that my invention may be fully understood, I will first describe the same with reference to the accompanying drawings and afterward pound out the novelty more particularly in the annexed claims.

In said drawings: Figure 1 is a vertical sectional elevation of my improved fountain pen filling device shown in the position of the parts when filling the bulb with ink from the bottle. Fig. 2 is a similar view with the device removed from the bottle and inverted in the position assumed when filling the pen.

1 is a compressible bulb or reservoir formed of soft rubber or other suitable elastic material. The bulb is provided with nipple openings at its opposite ends. At one end it is formed with an outwardly flared mouth or nipple opening 3 of proper size and shape to fit snugly upon, and form an air-tight joint with, the tapered end of a fountain pen indicated at 5. The opposite end of the bulb 1 is formed with a nipple opening or mouth 4 which fits snugly upon the outer end of a filling barrel or tube 10.

The filling barrel or tube 10 has a central longitudinal bore 11 extending from one end nearly to the other and communicating with the transverse ports or openings 12. Annular ribs or shoulders 13 and 14 are formed upon the exterior of the barrel or tube 10, and a stopple 15 of rubber or other suitable material formed with a central longitudinal bore is snugly fitted upon the filling barrel or tube 10, and confined between the ribs or shoulders 13 and 14. The stopple 15 is designed to fit and close the mouth of an ordinary ink bottle indicated at 20 and to support the filling barrel or tube 10 with its inner end immersed in the ink contained in said bottle.

The nipple mouth 4 of the bulb 1 is designed to be moved longitudinally upon the barrel or tube 10 to open up free communication between the ports 12 and interior of the bulb when in its innermost position as indicated in Fig. 1, and to close up communication through said ports when in its outer position as indicated in Fig. 2. An enlargement or head 10^a upon the end of the filling barrel or tube 10 constitutes a stopple to form a tight fit with nipple mouth 4 and limit the outward movement of the bulb upon the barrel or tube and prevent the accidental withdrawal of the barrel or tube from the bulb. The annular rib or shoulder 13 limits the relative movement of the barrel or tube and bulb in the other direction.

The filling barrel or tube 10 may be formed of glass, hard rubber or any other suitable material.

The operation of the device will be clear from the following explanation: The filling device may be carried as a separate filling attachment, or it may be retained in position in a bottle of ink. For filling a fountain pen, the filling barrel or tube 10 is inserted in the mouth of the ink bottle 20 and supported therein by the stopple 15. With the bulb 1 in inner position upon the filling barrel or tube 10, and the fountain pen 5 inserted in the nipple mouth 3 of the bulb, as shown in Fig. 1, ink is sucked up into the bulb 1 by compressing and expanding it and the device is then removed from the ink bottle by withdrawing the stopple 15 and inverted to the position shown in Fig. 2, the filling barrel or tube 10 being moved outwardly in the mouth 4 of bulb 1 to close the ports 12 by the elastic wall of said mouth 4. With the device inverted, the pen is then filled by

compressing and expanding the bulb 1 in the manner well understood and explained in my above named patent, all danger of soiling the fingers being avoided. If preferred the device can be used without withdrawing it from the ink bottle in which case it will be necessary to invert the bottle with the device. The sliding engagement of the mouth 4 of bulb 1 with the headed end of the filling barrel or tube is in effect a valve for opening and closing communication between the bulb and filling barrel or tube.

What I claim is:

1. A device for filling fountain pens comprising a compressible ink containing bulb or reservoir having open mouths at its opposite ends, one of said mouths being adapted to be closed by the insertion of a pen to be filled, a filling barrel or tube fitting the other mouth of said bulb, and a valve controlling communication between the bulb and said filling barrel or tube.

2. A device for filling fountain pens comprising a compressible ink containing bulb or reservoir having open mouths at its opposite ends, one of said mouths being adapted to be closed by the insertion of a pen to be filled, a filling barrel or tube fitting the other mouth of said bulb, and formed with a longitudinal bore and a lateral port, said bulb being movable longitudinally upon the filling barrel or tube to open or close said port.

3. A device for filling fountain pens comprising a compressible ink containing bulb or reservoir having open mouths at its opposite ends, one of said mouths being adapted to be closed by the insertion of a pen to be filled, a filling barrel or tube fitting the other mouth of said bulb, and formed with an enlargement or head within the bulb and a longitudinal bore and a lateral port, said bulb being movable longitudinally upon the filling barrel or tube to open or close said port.

4. A device for filling fountain pens comprising a compressible ink containing bulb or reservoir having open mouths at its opposite ends, one of said mouths being adapted to be closed by the insertion of a pen to be filled, a filling barrel or tube fitting the other mouth of said bulb, and formed with a longitudinal bore and a lateral port, and with enlargements to engage the bulb mouth and limit the relative movement of the bulb and barrel or tube in both directions, said bulb being movable longitudinally upon the filling barrel or tube to open or close said port.

5. A device for filling fountain pens comprising a compressible ink containing bulb or reservoir having nipple openings at its opposite ends, one of said openings being adapted to be closed by the insertion of a pen to be filled, a filling barrel or tube fitting the other opening and formed with annular ribs or shoulders, a bottle closing stopple surrounding the filling barrel or tube and confined between said ribs or shoulders, and a valve controlling communication between the bulb and said filling barrel or tube.

HAROLD N. CARPENTER.

Witnesses:
WM. E. KNIGHT,
M. G. CRAWFORD.