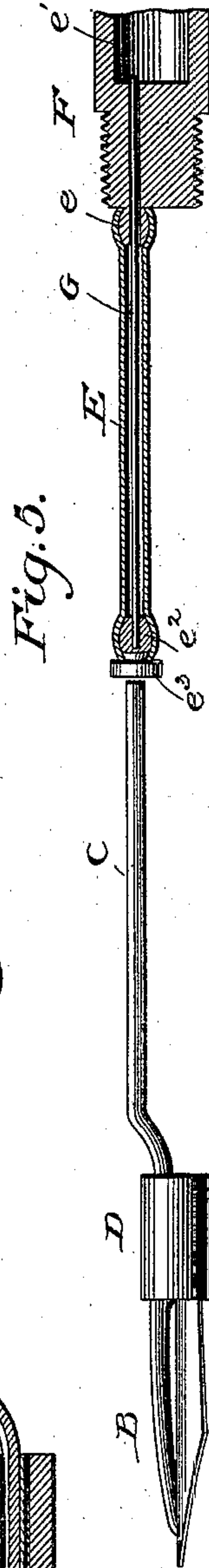
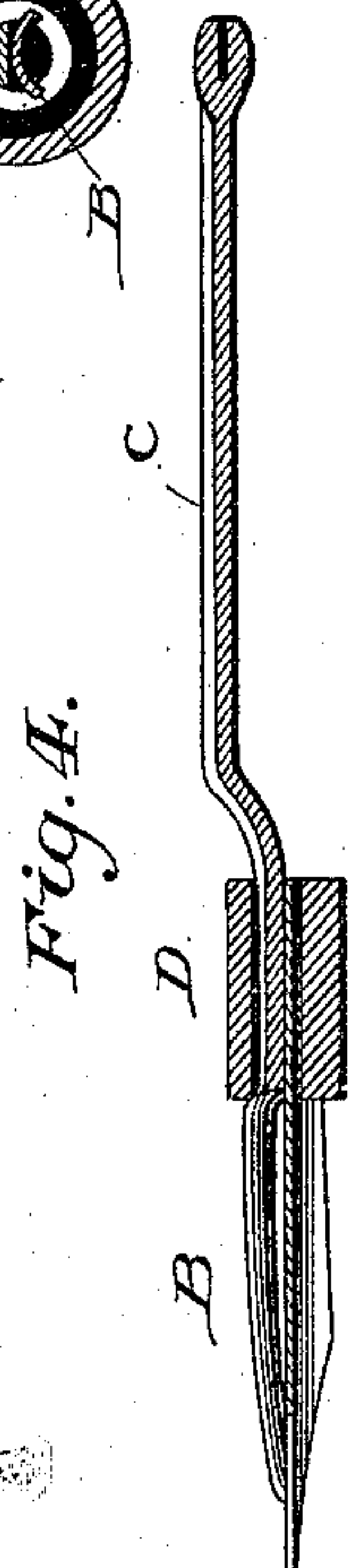
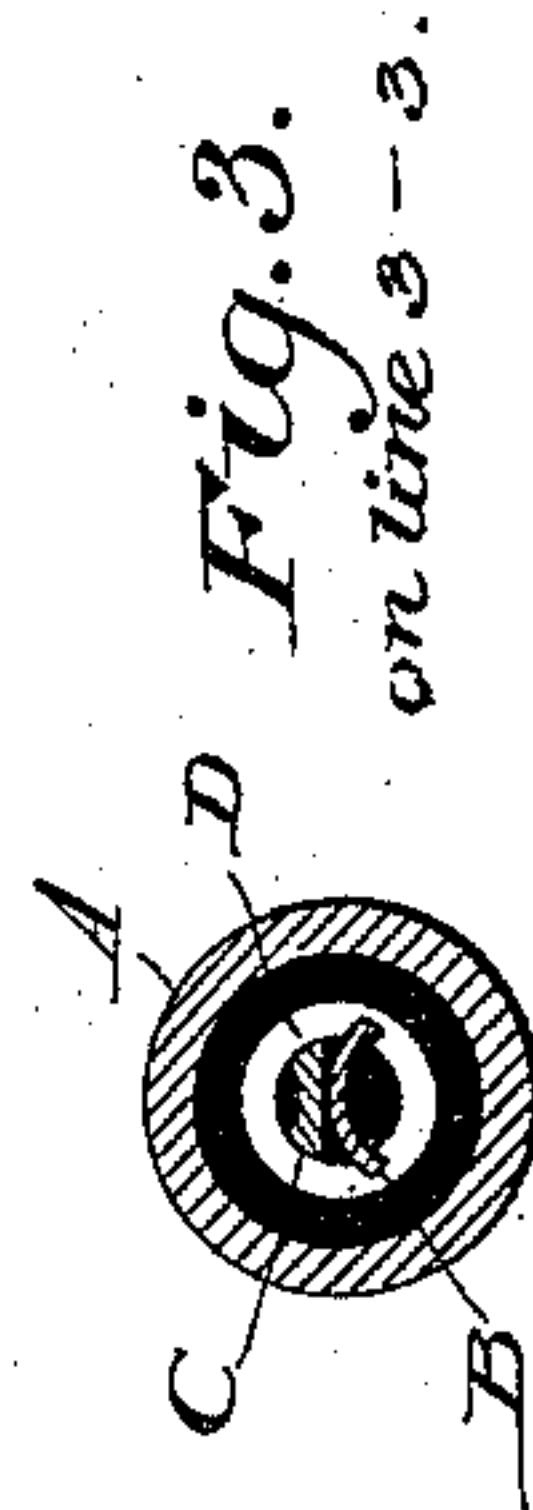
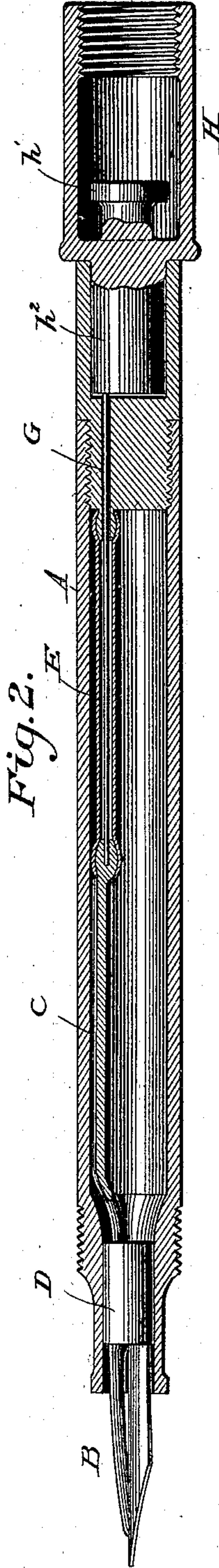
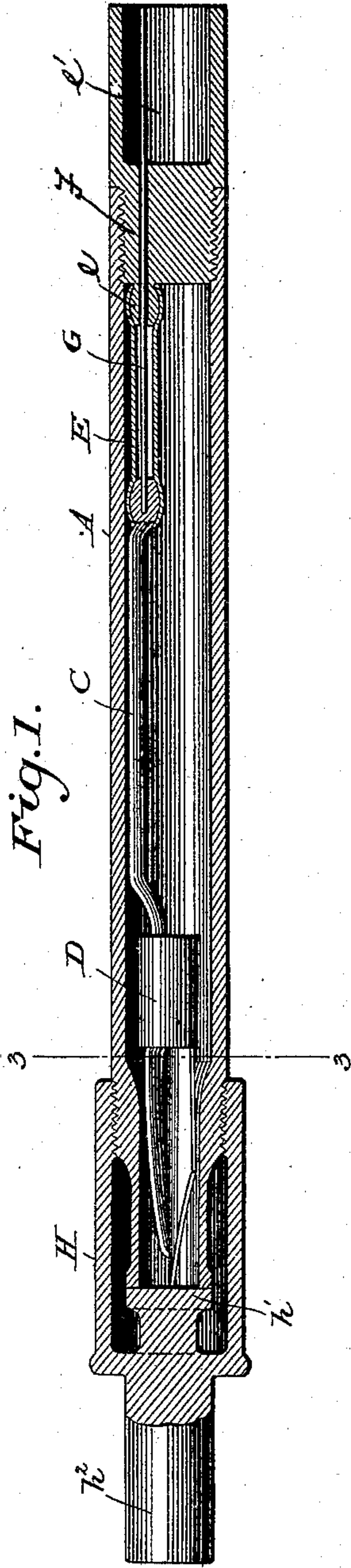


(No Model.)

P. E. WIRT.  
FOUNTAIN PEN.

No. 526,425.

Patented Sept. 25, 1894.



Witnesses  
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# UNITED STATES PATENT OFFICE.

PAUL E. WIRT, OF BLOOMSBURG, PENNSYLVANIA.

## FOUNTAIN-PEN.

SPECIFICATION forming part of Letters Patent No. 526,425, dated September 25, 1894.

Application filed August 26, 1893. Serial No. 484,106. (No model.)

*To all whom it may concern:*

Be it known that I, PAUL E. WIRT, of Bloomsburg, county of Columbia, and State of Pennsylvania, have invented a new and useful Improvement in Fountain-Pens, of which the following is a specification.

In the use of fountain pens much trouble and annoyance are caused by reason of the ink leaking and running from the pen when it is carried in the pocket in an inverted position. It is also found that the pen will become dry when not in use on account of the evaporation of ink from its point, so that when an attempt is made to write, some little time will elapse before the ink will again flow to the pen, its dry condition preventing the immediate supply of ink. To overcome these objectionable features and others which have developed in practice, is the aim of my invention, which consists primarily in so constructing the reservoir and pen point that when not in use the latter will be contained within the reservoir surrounded by the ink, and may be moved therefrom to an operative position when the pen is to be used, the point in this way being kept moist and supplied with ink so that when applied to the paper, ink will be supplied at once and writing permitted without delay.

The invention also consists in providing for the effectual sealing of the forward end of the reservoir when the pen is not in use so that in the event of its being carried in an inverted position there will be no liability of the ink leaking therefrom.

The invention also consists in the details of construction and combination of parts hereinafter described and claimed.

In the accompanying drawings—Figure 1 is a longitudinal section through a fountain pen embodying my invention, the parts being in the position occupied when the pen is not in use. Fig. 2 is a similar view showing the parts in the position they will occupy when the pen is in use. Fig. 3 is a cross section on the line 3—3 of Fig. 1. Fig. 4 is a longitudinal section through the pen point and the adjacent parts. Fig. 5 is a view of a modification.

Referring to the drawings—A represents a tube, which may be made of hard rubber or

other appropriate material, and constituting a reservoir for the ink.

B represents the pen point, and C the conductor stem, the said parts being constructed and sustained in a manner more fully described hereinafter, so that when not in use the pen point may be held within the reservoir and may be projected beyond the same to an operative position when the pen is to be used.

At its forward end the interior diameter of the reservoir is reduced and is adapted to receive a cylindrical plug D, which fits snugly therein so that it may be removed at pleasure. This plug is provided with a central longitudinal opening to receive the conductor C, and at opposite sides of the opening are formed downwardly curved slots communicating with the opening and adapted to receive the edges of the pen which is held therein beneath the conductor.

When it passes through the plug the conductor is depressed or bent downward and extends forward beyond and overlies the point of the pen in the usual and customary manner. From the rear end of the plug the conductor is extended upward and then rearward within the reservoir adjacent to its side, so that when the plug is in position in the reservoir, a slight space will be left between the conductor and the side of the reservoir, which space acts by capillary attraction to facilitate the flow of ink to the pen. The location of the conductor at the side of the reservoir is of advantage also when it is desired to replenish the ink, for the reason that a comparatively unobstructed space is left for the entrance of ink. At its rear end the conductor proper is enlarged and fits within the forward end of a rubber or other expansible elastic tube E. The rear end of this tube fits tightly over a protuberance *e* formed on an exteriorly threaded plug F which is screwed into the rear end of the reservoir as shown. The end of this plug beyond the reservoir is hollow forming a chamber *e'*. The protuberance on this plug is provided with a central opening communicating with a passage through the threaded plug, through which opening and passage extends a rod G, which is connected at its forward end to the rear



end of the conductor. From this it will be seen that the elastic tube in its normal contracted condition will maintain the conductor near the rear of the reservoir, in which position the rod will terminate a short distance from the end of the chamber  $e'$ , as shown in Fig. 1. When the parts are in this position, the plug carrying the forward end of the conductor and the pen will be withdrawn from the contracted end of the reservoir and the pen will be located within the same surrounded by ink. When it is desired, therefore, to use the pen, the rod is pushed forward which action will cause the rubber tube to be stretched, the plug to be seated within the forward end of the reservoir and the pen to be projected beyond the same to an operative position.

In order that the forward end of the reservoir may be effectually sealed to prevent the leakage of ink therefrom, I provide a cap H. This cap is formed with an interior thread adapted to engage an exterior thread adjacent to the end of the reservoir, and is further provided with a flat raised surface  $h'$ , adapted when the cap is in place to fit over the extreme forward end of the reservoir. This cap is so formed that an annular space or chamber extends around the raised surface, thus separating it from the interior sides of the cap. As a result of this construction any ink remaining on the raised portion will be prevented from passing to the interior of the cap, thence outside of the reservoir and soiling the fingers. On its end the cap is formed with a cylindrical projection  $h^2$  of a diameter corresponding to the interior diameter of chamber  $e'$  in the plug F. This projection is adapted to enter snugly within the chamber when the pen is to be used, the result being that the rod is pushed before the projection and the pen is projected to an operative position.

It is to be noted that when not in use the cap effectually closes the forward end of the reservoir so that there will be no liability of the ink escaping therefrom in the event of the pen being held in an inverted position and also that there can be no escape of the ink from the lower end of the reservoir as the ends of the tube are cemented to the rear end of the conductor and the protuberance on the stopper respectively, there being thus no communication between the reservoir and its rear end and the exterior. It is also to be noted that when the pen is to be filled it is but necessary to remove the cap and introduce the ink within the front of the reservoir, thus avoiding the difficulty of unscrewing the pen point which is necessary in pens as heretofore constructed.

In Fig. 5, I have represented a modification of my invention. In this figure it will be seen that instead of connecting the rear end of the conductor to the elastic tube, it is separated therefrom, the tube having its end fitted over a knob  $e^2$  formed on a disk  $e^3$ ,

and the rear end of the conductor terminating in advance of the disk. As a result of this arrangement the pen and its conductor may be removed bodily from the forward end of the reservoir, so that it may be readily cleaned or refilled as desired. In this form the elastic tube will not, like in the first instance, return the pen within the reservoir in the removal of the cap from the chamber at its rear end, but the return of the pen is effected by the pressure of the raised surface  $h'$  against the point of the pen when the cap is placed over the front end of the reservoir.

Having thus described my invention, what I claim is—

1. The combination with the reservoir open at its two ends, a longitudinally movable pen and conductor, an extensible tube located within the reservoir with its rear end surrounding the opening in the rear end of the reservoir, and its front end closed, and means for extending said tube to project the conductor and pen forward for use.

2. The combination of the reservoir open at its two ends, a longitudinally movable pen and conductor, an extensible tube located within the reservoir with its front end closed and its rear end surrounding the opening in the end of the reservoir, and the rod for extending the tube, said rod located within the tube with its rear end exposed.

3. The combination of the reservoir open at its two ends, a longitudinally movable pen and conductor therein, and a projecting mechanism for moving the pen forward for use, said mechanism comprising an extensible tube located within the reservoir with its front end closed and its rear end surrounding the opening in the rear end of the reservoir, and means for extending the tube within the reservoir.

4. In a fountain pen, the combination of the reservoir, the pen, the rearwardly-extending conductor attached thereto, the stopper at the rear end of the reservoir provided with an opening, the elastic tube connected at its ends respectively to the conductor and the stopper and surrounding the opening in the latter, and the rod having its forward end connected to the rear end of the conductor and extending through the tube and stopper to the exterior.

5. In a fountain pen, the combination with the reservoir reduced in internal diameter at its forward end, of the plug adapted to fit within the reduced portion of the reservoir, the pen carried by the plug, the conductor also carried by the plug above the pen and extended laterally at the rear of the plug and then rearwardly within the reservoir.

6. The combination of the reservoir open at its two ends, the longitudinally movable pen and conductor, an extensible tube located within the reservoir with its front end closed and connected to the conductor, and its rear end surrounding the opening in the reservoir, and a rod located within the tube and having



its forward end connected to the conductor and rear end exposed.

7. The combination with the reservoir open at its forward end, of the movable pen adapted when not in use to be located within the reservoir, the plug closing the rear end of the reservoir and formed with a chamber at its rear end, mechanism extending through the plug for projecting the pen beyond the reservoir, and a cap for closing the forward end of the reservoir, said cap provided with a projection adapted to enter the chamber in rear of the stopper.

8. The combination of the reservoir open at its forward end, the movable pen adapted when not in use to be located within the reservoir, the rearwardly-extending conductor connected with the pen, the stopper located within the rear end of the reservoir and formed at its end with a chamber, mechanism extending through the stopper for projecting the pen forward, means for automatically returning the pen within the reservoir, and a cap for closing the forward end of the reservoir, said cap provided with a projection adapted to enter the chamber in the stopper.

9. In a fountain pen the combination of the reservoir open at its forward end, the movable pen adapted when not in use to be located within the reservoir, and the cap adapted to fit over the open forward end thereof and pro-

vided internally with a flat surface to abut against and close the same; whereby the pen point when not in use is located within the reservoir surrounded by the ink, and the flat surface within the cap serves as a seal to prevent the escape of ink therefrom.

10. The combination with the reservoir open at its forward end, of the cap adapted to fit over the end of the reservoir and provided with a raised surface separated from the interior sides of the cap and adapted to abut against and close the end of the reservoir.

11. In a fountain pen the combination with the reservoir reduced in internal diameter at its forward end, of the longitudinally movable plug adapted when the pen is to be used to fit within the reduced end of the reservoir and the pen and conductor carried by said plug said parts adapted to be located within the reservoir when the pen is not in use; whereby the ink will have free access to the pen and keep the same moist when located in the reservoir.

In testimony whereof I hereunto set my hand, this 25th day of July, 1893, in the presence of two attesting witnesses.

PAUL E. WIRT.

Witnesses:

CHAS. H. ALBERT,  
S. F. PEACOCK.