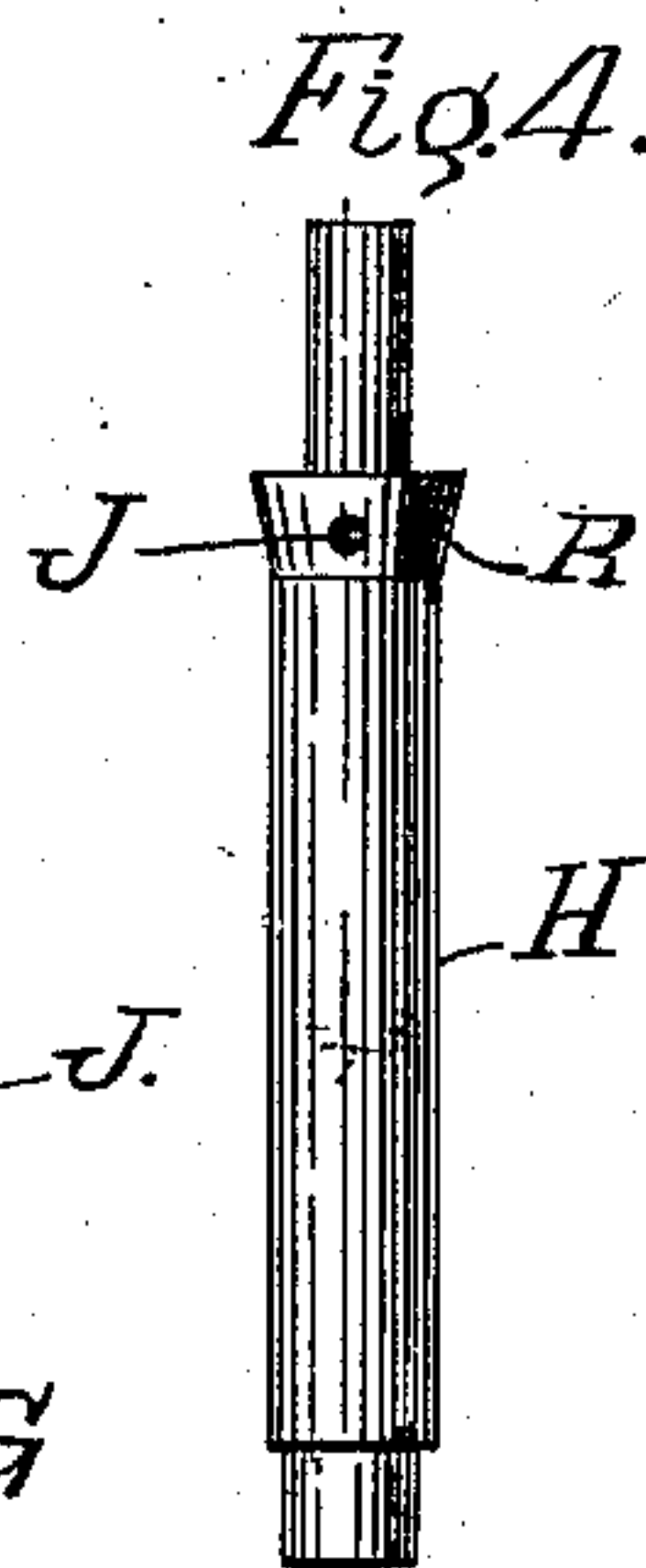
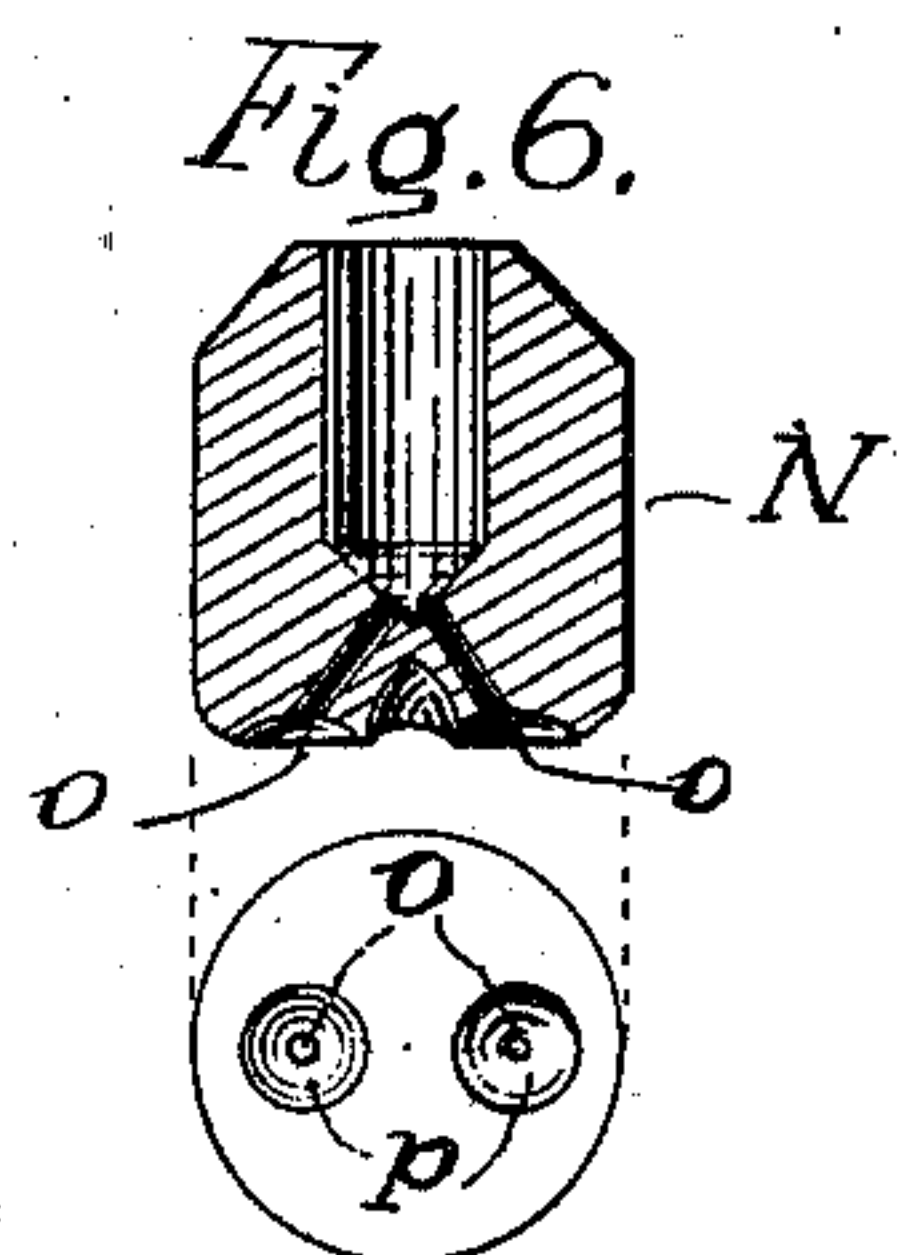
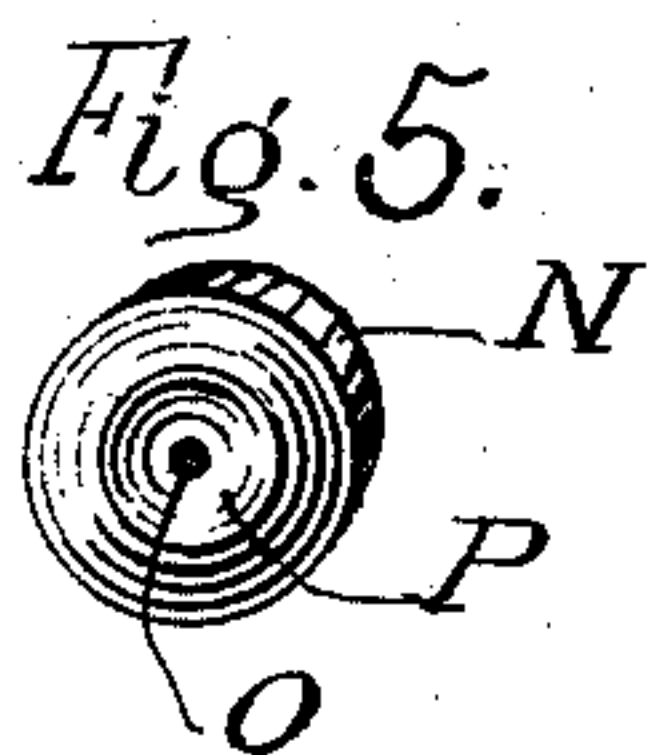
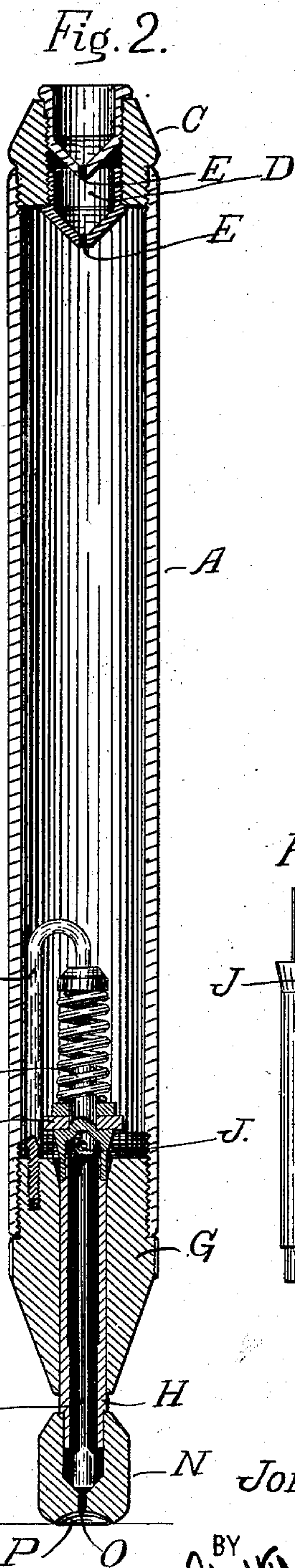
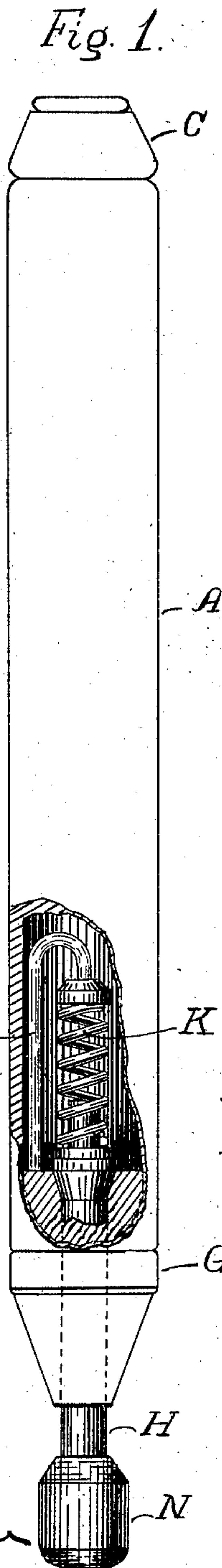
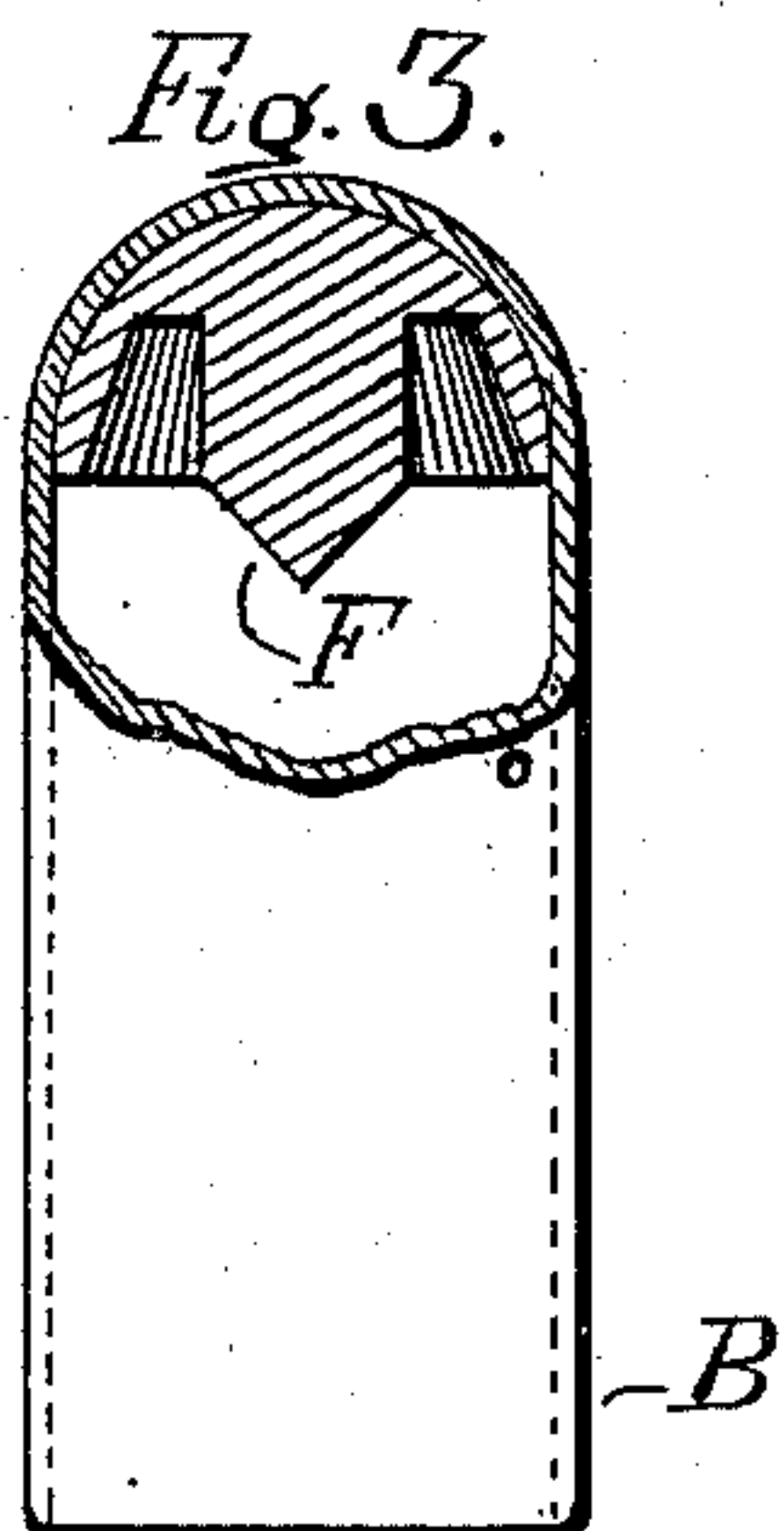


J. BERG.
FOUNTAIN MARKING PEN.
APPLICATION FILED JUNE 17, 1903.

NO MODEL.



WITNESSES:

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UNITED STATES PATENT OFFICE.

JOHN BERG, OF NEW YORK, N. Y.

FOUNTAIN MARKING-PEN.

SPECIFICATION forming part of Letters Patent No. 743,430, dated November 10, 1903.

Application filed June 17, 1903. Serial No. 161,779. (No model.)

To all whom it may concern:

Be it known that I, JOHN BERG, a citizen of the United States, and a resident of the borough of Manhattan, in the city, county, and State of New York, have invented certain new and useful Improvements in Fountain Marking-Pens, of which the following is a specification.

My invention relates to fountain-pens, and more particularly to that class thereof designed for employment in marking boxes, barrels, or other packages or articles; and it consists in the construction and combination of parts now to be described in the specification with reference to the drawings and as finally pointed out in the claims.

In the drawings, Figure 1 is a perspective view of my pen, partly broken away to show interior features. Fig. 2 is a longitudinal section thereof. Fig. 3 is a perspective view of the cap, partly broken away. Fig. 4 is a detached detail view of the supply-tube. Fig. 5 is a perspective view of the point or pen proper. Fig. 6 is a detail showing a section and an end view of a modified form of point.

The main body of the pen consists of the usual cylinder A, within which the ink or other writing fluid is contained. The upper part of the cylinder A is provided with a detachable plug C, which is removable, so that the cylinder may be filled when desired. This plug C is provided with a chamber D, formed with parallel conical walls, as shown in Fig. 2, and having air-holes E E at the apices of the cones. The holes E E give access to the air to permit of the proper feeding of the writing fluid when the pen is being used. The chamber D is formed in the manner described to prevent the leakage of the writing fluid when the pen is not held in upright position. It will be seen that if the pen is not held in this position, and therefore some of the writing fluid should pass into the chamber D through the lower air-hole E, it will nevertheless be retained within the chamber D, and when the pen is again held in upright position it will be returned to the cylinder A, which function of the chamber D is due to the peculiar shape thereof, as previously described. A cap B (see Fig 3) is provided for

the upper end of the pen and is formed inwardly with the projection F, of rubber or other suitable material, and shaped to enter the plug C and close the air-inlets when the cap is placed thereover.

The lower end of the pen is provided with a nipple or plug G, detachably connected to the cylinder A, which plug G is longitudinally bored to receive and hold the supply-tube H, which is capable of longitudinal and circumferential movement therein, but fits with sufficient tightness to prevent the passage of the writing fluid around it. The tube H is normally held in its lowermost position within the plug G by the spring K, interposed between the upper portion of the tube H and the post L, mounted on the plug G. Between the spring K and the tube H a washer M of suitable shape and material is interposed in such manner that when the tube H is in its lowermost or inoperative position the washer M will be forced against the upper side of the plug G, as shown in Fig. 1, so as to prevent the escape of the writing fluid. The tube H is closed at the top and near its upper end is provided with a feeding hole or outlet J. (See Figs. 2 and 4.) The outlet J is formed, preferably, in a tapered or flared portion R of the tube, which flared portion R fits within a correspondingly tapered or flared part of the bore in plug G, this construction and arrangement constituting a species of valve which governs the supply of the writing fluid in the manner now to be described. When the tube H is in its lower or inoperative position, as shown in Fig. 1, the outlet J is held against the inner wall of the plug G in such manner as to close the hole and prevent the passage of the writing fluid therethrough. When, however, the tube H is in its upper or operative position, as shown in Fig. 2, the outlet J will be out of contact with the inner wall of the plug G and in position to permit the feed of the writing fluid.

The pen proper or point N is suitably formed on or secured to the lower end of the tube H, the operation of the parts being substantially as follows: When the pen is being used, the pressure of the point N upon the surface being marked, as indicated in Fig. 2,

causes the elevation of the tube H against the pressure of the spring K and permits the feed of the writing fluid. When the pen is removed from the surface, as indicated in Fig. 1, the pressure of the spring K restores the tube H to its lowermost or inoperative position and closes the outlet J. The capacity for circumferential movement of the tube H within the plug G prevents binding and insures perfect freedom of movement for the point N while the pen is being used. In connection with the tube H, I prefer to employ a pin or tube Q, of smaller diameter than the bore of the tube H and located therein. The pin or tube Q controls and regulates the feed of the writing fluid through the supply-tube H and also serves to prevent the stoppage of the tube H by the writing fluid hardening therein. If for any reason the writing fluid collects or solidifies, the bore of the tube may be readily cleared by the manipulation of the pin Q.

An important feature of my invention is the construction and formation of the writing-point N, which is provided with an outlet O for the ink or writing fluid and a countersunk or counterbored portion P, formed on the outside of the point N and surrounding the outlet O. (See Figs. 2 and 5.) The function of the countersunk portion P, surrounding the outlet O, is to provide a small or secondary reservoir within which the ink collects when the pen is used, and thus to insure an adequate and copious supply upon the surface being marked, thus obviating the objections frequently arising in the use of this class of fountain-pen because of the insufficiency of the ink-supply at the marking-point.

In Fig. 6 I have shown a modified form of the writing-point N, it being provided with two outlets O and corresponding countersunk portions P, thus permitting the writing fluid to escape at two different portions of the writing-point and enabling a double line to be formed for ornamental effects or other purposes. If desired, the pen-point N can be formed with three or any convenient number of ink-outlets in similar manner.

While I have described herein a preferred form of reducing my invention to practice, it will be obvious that many alterations in form and construction may be made without departing from the spirit of my invention.

Having thus described my invention, its construction, and mode of operation, what I claim, and desire to secure by Letters Patent of the United States, is as follows:

1. A fountain-pen provided with a reservoir and a chamber distinct therefrom to permit the ingress of air and prevent leakage of the writing fluid.

2. A fountain-pen provided with a reservoir and a conical chamber distinct therefrom to permit the ingress of air and prevent leakage of the writing fluid.

3. A fountain-pen provided with a reservoir and a chamber distinct therefrom to permit the ingress of air and to prevent leakage of the writing fluid, the said chamber being formed with parallel conical walls, each of the said walls having an air-inlet at its apex.

4. In a fountain-pen, the combination with the body of the pen of a movable supply-tube mounted therein, in such manner that the movement of the tube permits the feed of the writing fluid.

5. In a fountain-pen, the combination with the body of the pen of a movable supply-tube and means for holding the supply-tube in inoperative position, in such manner that the movement of the supply-tube to operative position permits the feed of the writing fluid.

6. In a fountain-pen, the combination with the body of the pen of a supply-tube mounted therein and provided with a feeding-hole, arranged in such manner that when the tube is in operative position the feeding-hole will be so located as to permit the feed of the writing fluid.

7. In a fountain-pen, the combination with the body of the pen of a supply-tube mounted longitudinally within the body of the pen and provided with a feeding-hole, the whole arranged so that when the tube is in operative position the feeding-hole will be closed by the body of the pen, and when in operative position the hole will be so located as to permit the feed of the writing fluid.

8. In a fountain-pen, the combination of the body of the pen with a supply-tube mounted longitudinally therein and a spring for maintaining the supply-tube in inoperative position, and so arranged that when the supply-tube is moved against the force of the spring the writing fluid may be fed therethrough.

9. In a fountain-pen, the combination of the body of the pen with a supply-tube mounted longitudinally therein and provided with a feeding-hole and a spring for normally holding the supply-tube in inoperative position to close the feeding-hole, together with a washer interposed between the spring and the supply-tube.

10. In a fountain-pen, the combination of a plug longitudinally bored and a supply-tube mounted therein and provided with a feeding-hole and a spring to hold the supply-tube normally in inoperative position and close the feeding-hole.

11. In a fountain-pen, the combination with the body of the pen of a movable supply-tube mounted therein, the said supply-tube being provided with a tapered or flared portion and an outlet therein to control the feed of the writing fluid.

12. In a fountain-pen, the combination with the body of the pen of a supply-tube mounted therein, the said supply-tube being movable circumferentially.

13. In a fountain-pen, a pen-point provided

with an ink-outlet and an exterior counter-sunk portion surrounding the ink-outlet.

14. In a fountain-pen, the combination of the body of the pen, a movable supply-tube
5 mounted therein, and a controlling-pin mounted in the supply-tube.

In testimony whereof I have signed my

name to this specification in the presence of two subscribing witnesses.

JOHN BERG.

In presence of—

HARRY L. DOYLE,

WILLIAM J. CLEARY.