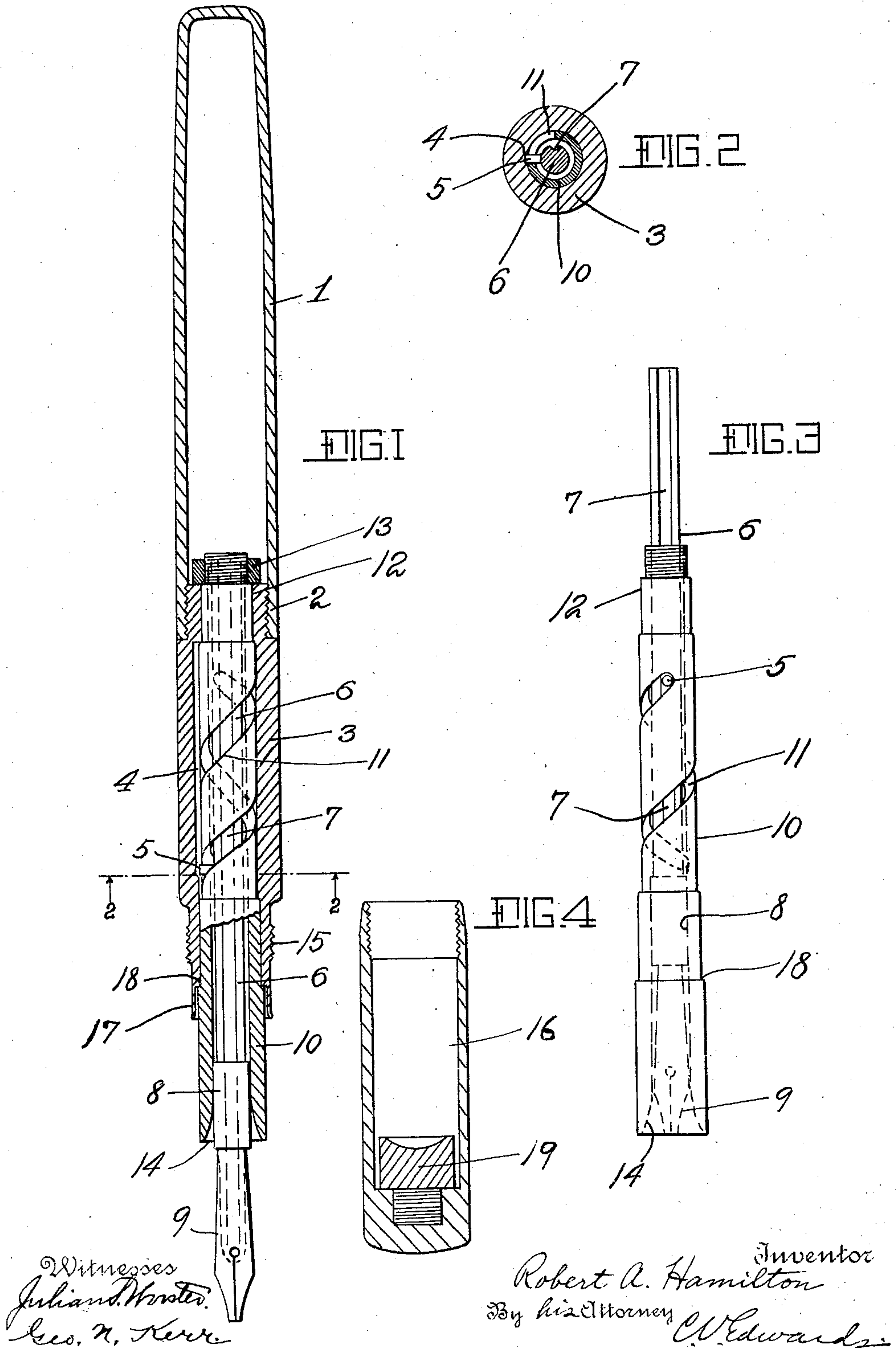


No. 897,892.

PATENTED SEPT. 8, 1908.

R. A. HAMILTON.
FOUNTAIN PEN.

APPLICATION FILED DEC. 27, 1906.



UNITED STATES PATENT OFFICE.

ROBERT A. HAMILTON, OF NEW YORK, N. Y.

FOUNTAIN-PEN.

No. 897,892.

Specification of Letters Patent.

Patented Sept. 8, 1908.

Application filed December 27, 1906. Serial No. 349,623.

To all whom it may concern:

Be it known that I, ROBERT A. HAMILTON, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Fountain-Pens, of which the following is a full, clear, and exact specification.

This invention relates to fountain pens, and more particularly has reference to fountain pens of the safety type, wherein the pen point may be withdrawn into the barrel and the end closed when the pen is not in use.

The objects of the invention are to provide improvements in this class of pens, whereby reciprocation of the pen is prevented, when the pen is closed by the end cap, and also to provide improvements whereby leakage will be prevented, and the capacity of the reservoir increased.

A further object of the invention is to avoid the necessity of filling the reservoir through the pen end and thereby overcome the liability to leakage present in the safety pens commonly used because of being filled through the pen end when the pen is withdrawn.

The invention is shown in the accompanying drawing, wherein

Figure 1 is a section of a fountain pen embodying the invention; Fig. 2 is a section through the line 2—2 of Fig. 1; Fig. 3 is a detail showing the mounting of the actuating parts, and Fig. 4 is a section of the end cap.

1 represents the barrel or reservoir having the screw threaded end 2 to which the front end of the barrel carrying the point and the reciprocating plunger, is attached. The front end comprises a tube 3 having a slot 4 in which a pin 5 carried by the feed 6 reciprocates. The feed 6 is provided with the usual ink duct 7, and is attached at its lower end to a plug or plunger 8, to which the pen point 9 is fastened in the usual manner. The plug 8 has a sliding fit within a rotary tube 10 which latter has a spiral slot 11 through which the pin 5 passes.

When the tube 10 is rotated, as by turning the lower end, the feed, together with the pen, will be reciprocated in and out of the tube 10, the plug 8 in all positions preventing passage of ink. In addition to the bearing of shoulder 18 of tube 10 at the lower end of tube 3, there is a bearing at the upper end 12, which latter is as shown, reduced and thread-

ed to receive a nut 13, holding the parts together against the interior shoulder of tube 3. By removing the nut, the tube 10, together with the feed 6 and the pen point can be removed by pulling through the lower end of tube 3. The lower end of tube 10 is flared, as at 14, and 13 is a screw thread on the lower barrel 3 for engaging the cap 16, though it will be understood that the cap may be frictionally engaged, as is the common custom. The cap is provided with a valve plug 19 which, when the cap is on the pen, engages the flared end 14 of the lower barrel, forming an ink tight closure, and preventing any escape of ink while the cap is on and the pen withdrawn. It will be seen that the cap cannot be put on until the pen is withdrawn, and that while the cap is on, the pen cannot be forced out. In pens of this class heretofore devised, it has been possible to reciprocate the pen while the cap is on, and thus damage the pen point. In this construction, the pen is absolutely protected when the cap is on. Furthermore, in this invention, all the working parts are in the front end of the pen, and overcoming the bad effects of leaking found in all other pens of this class. In this pen, the ink must always pass through the feed to get out of the reservoir, whether the pen point be in one position or the other, and the end of the reservoir is not opened by withdrawing the pen, since the reservoir does not have to be filled through the pen end.

The lower end of the tube 3 has a tubular extension 17, overlying the rotary tube 10, and separated therefrom to form a cylindrical air space just beyond the ink joint formed by the shoulder 18 of the tube 10, which, as before stated, is pulled against a cooperating shoulder on the inside of tube 10 by the nut 13. This tubular extension thus prevents contact of the fingers with the ink joint, and the space is sufficient to prevent any passage of ink by capillary attraction. Also it will be seen that immediately above this ink joint formed by these shoulders, is the lower bearings of the rotary tube 10, and by this construction, passage of ink is entirely prevented. At the same time, the reservoir is left free of operating parts, and has consequently a much larger capacity, than in those pens operated from the rear end and having various parts passing through the reservoir.

From the foregoing description, the nature

of the invention will be understood and I do not limit myself to the precise construction shown and described.

Having thus described my invention, I declare that what I claim as new and desire to secure by Letters Patent, is,—

1. A fountain pen comprising a holder having a pen point and feed mounted at the front end to reciprocate therein, a reservoir detachably carried by said barrel, said pen and feed having a fastening extending within the detachable reservoir and separable from the holder only when the reservoir is detached.

2. An ink joint between two relatively movable parts of a fountain pen comprising a tubular extension carried by one part and surrounding the other to form a cylindrical air space, said parts having abutting bearing shoulders.

3. An ink joint between two relatively movable parts of a fountain pen comprising a tubular extension on one part and surrounding the other part to form a cylindrical air space, abutting bearing shoulders, and means for securing the parts together, substantially as described.

4. An ink joint between two relatively movable parts of a fountain pen comprising a tubular extension on the barrel and a feed fitting within and separated from the tubular extension, abutting bearing shoulders, and means for separably securing the barrel and the feed together.

5. A fountain pen comprising a barrel and a sleeve rotatably mounted thereon, a tubular extension on one part extending beyond the end of the other part and surrounding it to form an air space, said parts having bearing surfaces contiguous to one end of said air space.

6. A fountain pen comprising a holder, a tube rotatably mounted therein, a pen carrying plug mounted to reciprocate within the tube and at all times closing the tube, a pen feed passing through the plug, and a reservoir detachably secured to the rear end of the holder.

7. A fountain pen comprising a holder, a tube rotatably mounted in the holder and

projecting therefrom at the front end, a plug mounted to reciprocate in the tube and carrying a pen point, a feed for the pen passing through the plug, means at the rear end of the holder for separably securing the tube thereto, and a reservoir detachably secured to the rear end of the holder and inclosing said securing means.

8. A fountain pen comprising a holder, a reservoir separably secured thereto at one end, separated bearings in said holder, a tube rotatably mounted in said holder in said bearings, said tube being secured at one end of said holder and withdrawable through the other end, and a reciprocatory pen carrying member mounted in said tube and means operable by rotation thereof to reciprocate the pen carrying member.

9. A fountain pen comprising a holder, a reservoir separably secured thereto at the rear end, separated bearings in said holder, a tube rotatably mounted in said holder in said bearings, said tube having a fastening at the rear end of the holder and withdrawable through the other end, said holder and said tube being separated adjacent the front end of the holder to form a non-capillary air space around the tube, and a reciprocatory pen carrying member mounted in said tube and means operable by rotation thereof to reciprocate the pen carrying member.

10. A fountain pen comprising a holder, a tube rotatably mounted therein in separated bearings, a pen carrying member mounted to reciprocate in the tube when the latter is rotated, means operated by rotation of said tube to reciprocate said pen carrying member, said pen carrying member including a plug and a channeled feed carried thereby and extending through the holder, and a reservoir detachably carried by the rear end of the holder and communicating directly with said feed.

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

ROBERT A. HAMILTON.

Witnesses:

GEORGE N. KERR,
GEO. A. HOFFMAN.