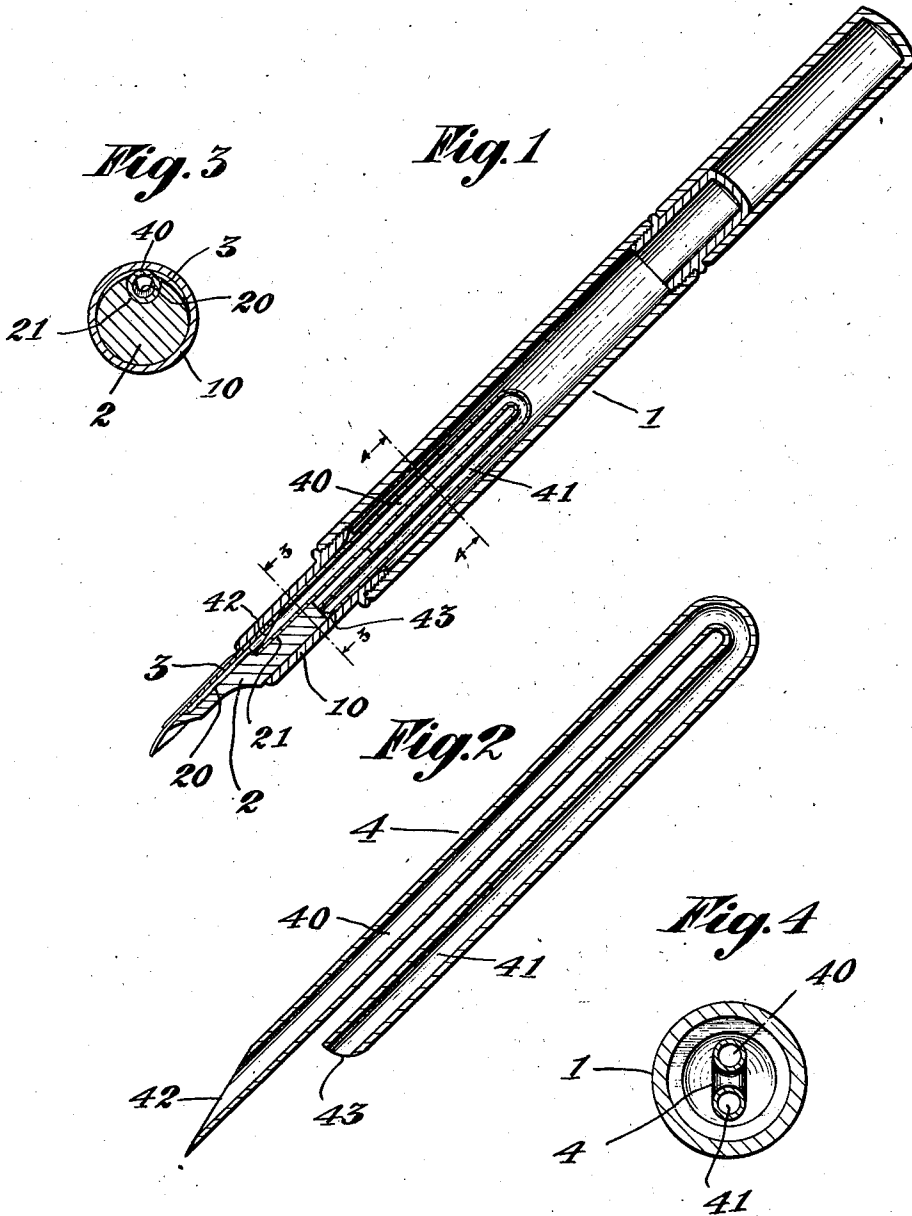


J. O. FOSTER.
 FOUNTAIN PEN.
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1,179,086.

Patented Apr. 11, 1916.



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FOUNTAIN-PEN.

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Specification of Letters Patent.

Patented Apr. 11, 1916.

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To all whom it may concern:

Be it known that I, JOHN O. FOSTER, a citizen of the United States of America, and a resident of the city of Seattle, in the county of King and State of Washington, have invented certain new and useful Improvements in Fountain-Pens, of which the following is a specification.

My invention relates to fountain pens and consists of an improved ink feeding mechanism which controls and regulates the delivery of the ink to the pen.

The object of my invention is to provide an ink delivering mechanism which will be consistently reliable in its operation, which will maintain regularity in the ink feeding action until the ink supply is entirely consumed, which is of a simple and cheap construction and one which is capable of application to pens of a variety of construction, either at the time of their manufacture or after and to otherwise improve the pen and its operation.

The particular features of construction which comprise my invention will be hereinafter described in the specification and particularly pointed out in the claims.

In the accompanying drawings I have shown my invention in the form which is now preferred by me, being at the same time aware that the proportions of parts and the design of the pen may be varied without affecting the principles of my invention, particularly in respect to the construction of the parts of the pen which are not directly associated with my special feed mechanism.

Figure 1 is a longitudinal section through a pen having my invention incorporated therein. Fig. 2 is a longitudinal section through the siphonic ink-feeding tube which constitutes the chief feature of my invention. Fig. 3 is a section on the line 3, 3, of Fig. 1. Fig. 4 is a section on the line 4, 4, of Fig. 1.

In the illustration of my invention I have shown a pen which comprises a barrel, or ink reservoir, 1, having one end closed by a screw connected tip 10, into which fits a plug 2, between which plug and the inner wall of the tip is placed the butt end of the pen 3. The plug 2 has an ink feeding channel 20 lying next the under surface of the pen and connecting, through an enlarged extension, 21, with the ink reservoir formed by the chamber in the barrel 1.

The above features, except for the en-

larged character of the extension 21, are common in various makes of fountain pens and are not characteristic of the novel parts of my invention and may be widely varied. They are herein shown only as typical of the general type of pen in combination with which my invention is intended to be applied.

The special feed controlling element of my invention is shown separately in Fig. 2 and consists of a capillary tube disposed to form a siphon when placed in proper position. I have shown this as made of a tube 4 in which the two arms 40 and 41 are separated, although it is obvious that the separation or joining together of these arms is immaterial. One arm 40, is intended for insertion within the enlarged extension 21, of the ink feeding channel which extends along the upper side of the plug 2. The other end should open close to the inner end of the plug 2, that is, at the extreme end of the ink reservoir chamber, so that the tube may drain the chamber dry. To secure this result, the opening 43 at the end of the ink receiving arm of the siphonic tube, should be placed so as to be at the lower side of the ink reservoir 1.

I prefer that the discharging end of the siphonic tube be cut somewhat on a bevel, as shown at 42, or otherwise constructed so that there is a full and free opening into the ink feeding channel 20, under the pen. I also prefer that the ink receiving end of the siphonic tube be cut, either on a bevel or slightly rounded, as shown, so that it will fit rather closely down into the lower corner of the ink reservoir. Such a shape to this end permits a more complete emptying of the reservoir.

The length of the arms of the tube 4, may vary considerably. The length which I have shown is believed to be as much as will ever be required. This length may be materially cut down. The diameter of the bore in this tube should be regulated so as to obtain a sufficiently free flow of ink, together with a capillary action which will draw the last drop of ink out of the reservoir and yet prevent discharge at the pen except under action of the pen in writing.

Experience with a pen constructed as herein shown has shown that it will not "sweat" when carried in the pocket, will not flow freely enough to produce blots when in use while freely furnishing all the ink required

for writing, will furnish an even flow from first filling until the last drop has been discharged, and will completely empty the ink reservoir.

5 What I claim and desire to secure by Letters Patent is;

1. A fountain pen comprising, in combination, an ink reservoir, a removable closure for one end thereof adapted to receive
10 the pen, an ink supplying channel in said closure, said channel being enlarged at its inner end, a capillary tube fitting in said enlargement at the inner end of the ink-supplying channel, the tube being bent intermediate its ends, and terminating just inward
15 of said closure.

2. A fountain pen comprising, in combination, an ink reservoir, a removable closure for one end thereof adapted to receive the
20 pen, an ink supplying channel in said closure, said channel being enlarged at its inner end, a capillary tube fitting in said enlargement at the inner end of the ink-supplying channel, this end of the tube being beveled
25 to permit free flowing of the ink therefrom, the tube being bent intermediate its ends, and terminating just inward of said closure.

3. A fountain pen comprising, in combination, an ink reservoir, a removable closure
30 for one end thereof adapted to receive the pen, an ink supplying channel in said closure, a capillary tube communicating with the inner end of said channel to supply ink thereto, the tube being bent intermediate its
35 ends, and terminating just inward of said closure, this latter end of the tube being beveled to permit free intake of the ink.

4. A fountain pen comprising, in combination, an ink reservoir, a removable closure
40 for one end thereof adapted to receive the pen, an ink supplying channel in said closure, said channel being enlarged at its inner end, a capillary tube fitting in said enlargement at the inner end of the ink-supplying
45 channel, this end of the tube being beveled

to permit free flowing of the ink therefrom, the tube being bent intermediate its ends, and terminating just inward of said closure, this latter end of the tube being beveled to permit free intake of the ink.

5. A fountain pen comprising, in combination, a barrel constituting an ink reservoir, a plug fitting one end of said reservoir and provided with means for holding the
50 pen, said plug also having an ink feeding channel extending from its inner end to connection with the pen, the inner end of
55 said channel being enlarged to form a tube receiving socket, a tube bent upon itself and having one arm longer than the other, said
60 longer arm fitting the socket in the inner end of the plug the looped portion of the tube extending within the barrel and the shorter arm of the tube terminating just
65 within the inner end of the plug and beneath the longer arm when the pen is in writing position.

6. A fountain pen comprising, in combination, a barrel constituting an ink reservoir, a closure for one end of the barrel containing an ink feeding channel, a tube bent
70 upon itself and having one arm longer than the other, the longer arm having its end cut upon a bevel and the barrel closure having the inner end of the ink feeding channel
75 formed to receive this end of the tube as a socket, the other end of the tube terminating in the corner formed by the side of the barrel and the inner end of the plug which is lowermost when the pen is in writing position, this end of the tube being cut in an
80 angular manner to fit closely into said corner.

Signed at Seattle, Washington this 24 day of December 1914.

JOHN O. FOSTER.

Witnesses:

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