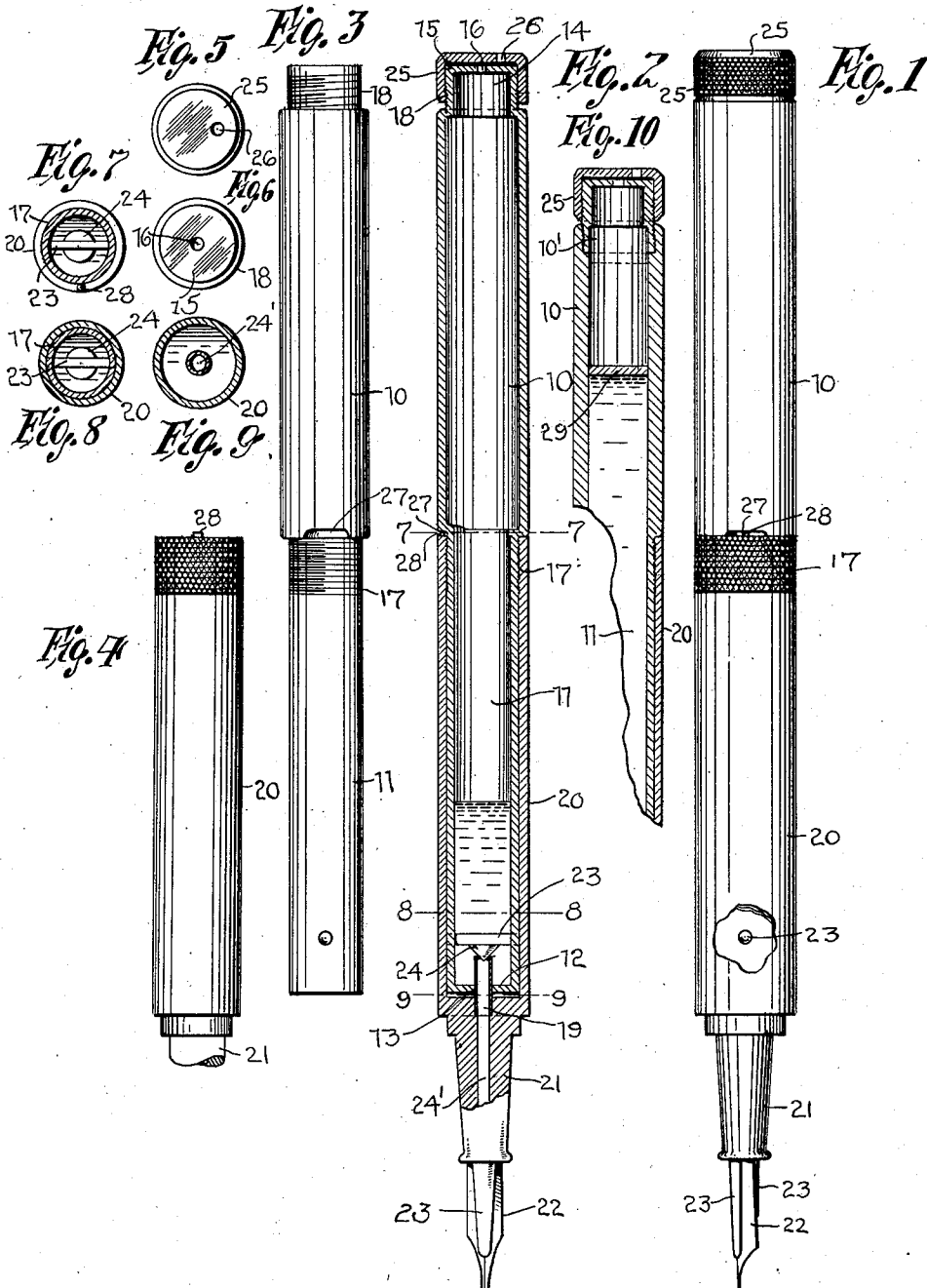


J. HENDRIE.
 SELF FILLING FOUNTAIN PEN.
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1,021,673.

Patented Mar. 26, 1912.



WITNESSES
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JOHN HENDRIE, OF RACINE, WISCONSIN.

SELF-FILLING FOUNTAIN-PEN.

1,021,673.

Specification of Letters Patent.

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Application filed September 12, 1911. Serial No. 648,872.

To all whom it may concern:

Be it known that I, JOHN HENDRIE, citizen of the United States, residing at Racine, in the county of Racine and State of Wisconsin, have invented certain new and useful Improvements in Self-Filling Fountain-Pens, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to fountain pens, and has special reference to a fountain pen of the type which is filled by drawing ink through the nib-holder.

The principal object of the invention is to improve and simplify the general construction of devices of this character.

Another object of the invention is to provide a pen wherein the flow of ink may be regulated by means of a suitable needle valve.

With the above and other objects in view, the invention consists in general of certain novel details of construction and combinations of parts hereinafter fully described, illustrated in the accompanying drawings, and specifically claimed.

In the accompanying drawings, like characters of reference indicate like parts in the several views, and Figure 1 is a side elevation of a pen constructed in accordance with this invention, a portion of the casing being broken away to show the interior. Fig. 2 is a longitudinal median section through such pen, the nib portion and parts adjacent being shown in elevation. Fig. 3 is a side elevation of the staff with the remaining portions removed therefrom. Fig. 4 is a side elevation of a certain sleeve used in connection with this pen. Fig. 5 is an end view of the pen from the butt end thereof. Fig. 6 is an end view of the staff with the cap hereinafter described removed. Fig. 7 is a section on the line 7—7 of Fig. 2. Fig. 8 is a section on the line 8—8 of Fig. 2. Fig. 9 is a section on the line 9—9 of Fig. 2. Fig. 10 is a view of a modified form of the pen.

In the preferred embodiment of this pen there is provided a hollow staff 10, having a reduced lower end 11 which is closed at the bottom by a diaphragm 12 provided with a centrally disposed opening 13. The upper end of the staff is likewise reduced, as at 14, and is provided with a closure 15 having a centrally disposed opening 16. The staff is

threaded, as at 17, just below the shoulder formed between the portions 10 and 11, and is also threaded as at 18 on the portion 14. Within the opening 13 is held a short tube 19 which is movable in the opening, but fits closely therein to prevent the flow of ink around the sides. On the lower end of the staff is held a sleeve 20 which is provided with interior screw-threads to engage the threads 17. This sleeve is provided with an extension 21 for the purpose of carrying a pen 22, and has the usual ink-feeding fingers 23 and delivery opening 24'. The sleeve 19 is secured within the upper end of the delivery opening so that as the sleeve 20 is screwed on or off of the staff the tube 19 will move in or out of the chamber formed by the hollow staff. Just above the upper end of the tube 19 the staff is provided with a cross-bar 23 having a conical projection 24 extending downward therefrom. The apex of this conical projection fits within the upper end of the tube 19 so that as the tube is moved a greater or less degree of opening is afforded around the apex of the cone. The cone and tube thus constitute a needle valve to regulate the flow of ink from the pen to the point.

Upon the threaded portion 18 there is fitted a cap 25 which has in its end an opening 26, this opening being eccentrically disposed with reference to the opening 16. This cap is so arranged that it may be screwed down tightly so that the cap will close the opening 16, and the closure 15 will close the opening 26, thus preventing the entrance of air within the hollow staff, and in like manner preventing the escape of ink therefrom.

It should be noted that at the shoulder between the portions 10 and 11 the staff is provided with a recess 27, which is preferably about one-eighth of the circumference in length. After the sleeve 20 has been screwed in position, a pin 28 is placed on the edge of the sleeve and fits within the recess 27, so that the sleeve can only be moved about one-eighth of the circumference.

In the operation of using the pen, the same is carried with all parts screwed up tightly. When it is desired to write, the sleeve 20 is turned as far as may be, which opens the upper end of the tube 19 and permits the flow of ink to the nib. When it is desired to refill the pen, both the sleeve 20 and the cap 25 are turned to open the tube 19 and

afford communication between the openings 16 and 26. The pen point is then put in an ink well or other receptacle filled with ink and the mouth applied to the upper end. Then
5 by drawing on the upper end, suction is produced within the chamber and ink will be drawn into the pen. When sufficient ink has been drawn in the sleeve 20 is closed and the mouth removed. The cap 25 may then be
10 screwed down and the pen will be ready for use.

In the form shown in Fig. 10, a piston 29 is employed and the top is closed by a cap 10'. The operation of this form is the same
15 as that in the other, the piston serving to prevent ink being drawn in the mouth and being blown to the bottom prior to the suction being exerted.

It is obvious that many minor changes
20 may be made in the form of construction of this invention without departing from the material principles thereof. It is not, therefore, desired to confine the invention to the exact form herein shown and described, but
25 it is wished to include all such as properly come within the scope claimed.

Having thus described the invention, what is claimed as new, is:—

In a pen of the class described, a staff provided with a chamber for the reception of
30 ink, a diaphragm at the lower end of said staff provided with a centrally disposed opening, a closure for the upper end of said
35 staff provided with an opening there-through; a cap screwed on said upper end having an opening therein eccentric to the
40 opening in the closure, a bar extending across the lower end of said staff and provided with a downwardly extending conical projection, a sleeve screwed on the lower end of
45 said staff and provided with pen-point carrying means, and a tube secured within said sleeve and passing through the opening in said diaphragm, said conical projection having its apex normally within the upper end
of said tube.

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

JOHN HENDRIE.

Witnesses:

A. CARY JUDD,
CHARLES J. JUDD.