

Jan. 22, 1935.

E. J. SONN

1,988,878

FOUNTAIN PEN

Filed Nov. 13, 1933

Fig. 1

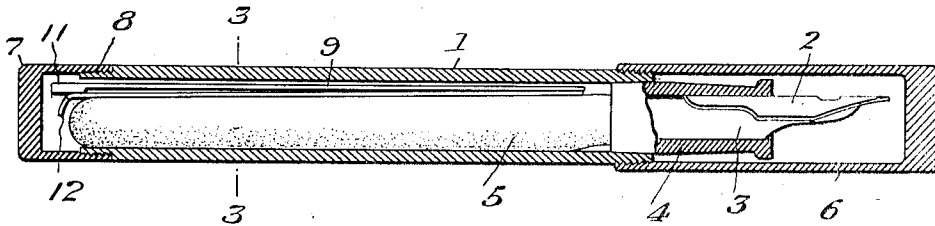


Fig. 2.

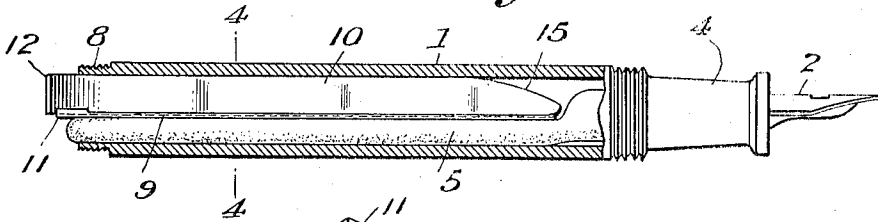


Fig. 5.

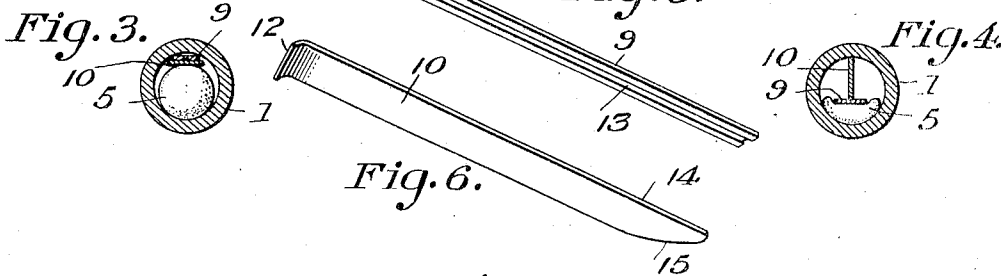


Fig. 3.

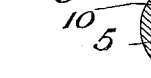


Fig. 4.



Fig. 6.

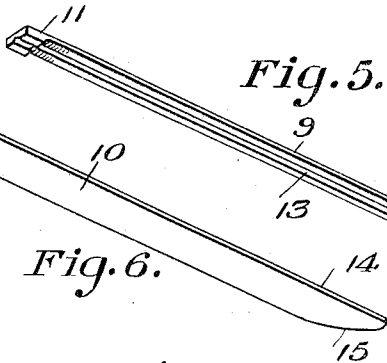


Fig. 7.

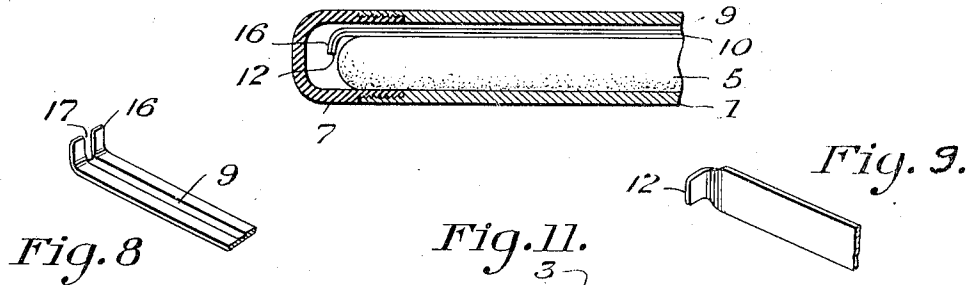


Fig. 8.

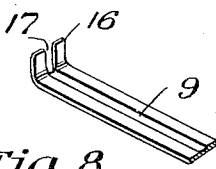


Fig. 9.

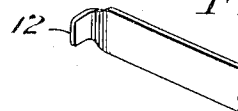


Fig. 11.

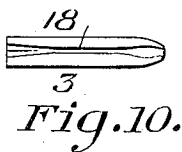


Fig. 10.

Emanuel J. Sonn

INVENTOR

BY Victor J. Evans & Co.

ATTORNEY

UNITED STATES PATENT OFFICE

1,988,878

FOUNTAIN PEN

Emanuel J. Sonn, Brooklyn, N. Y.

Application November 13, 1933, Serial No. 697,823

3 Claims. (Cl. 120—46)

My invention relates to fountain pens and more particularly to improvements in filler devices for the same.

The principal object of my invention is to provide simply constructed and efficient devices for insertion into the barrel of fountain pens, of the type having a collapsible ink reservoir or tube within the barrel, and operative from the upper end of the pen to collapse said reservoir and to subsequently permit it to expand progressively throughout its length and from its open end.

Other and subordinate objects are also comprehended by my invention, as will appear when the following description and claims are read with reference to the drawing accompanying and forming a part of this specification.

In said drawing:

Fig. 1 is a longitudinal sectional view, parts showing in elevation, of a fountain pen equipped according to my invention.

Fig. 2 is a similar view illustrating the operation of collapsing the ink reservoir.

Fig. 3 is a transverse section taken on the line 3—3 of Fig. 1.

Fig. 4 is a similar view taken on the line 4—4 of Fig. 2.

Fig. 5 is a perspective view of a guide bar forming a part of my invention.

Fig. 6 is a perspective view of a plunger bar adapted to cooperate with said guide bar.

Fig. 7 is a fragmentary longitudinal section of a modified form of guide and plunger bars.

Fig. 8 is a fragmentary perspective view of a portion of one end of the modified guide bar.

Fig. 9 is a similar view of one end of the modified plunger bar.

Fig. 10 is a top plan view of a feeder plug; and Fig. 11 is a sectional view of another form of feeder plug.

Referring to the drawing by numeral, 1 designates the barrel of a fountain pen having the usual pen point 2 and feeder plug 3 at its lower end, both secured in a well known manner in a sleeve 4 inserted in the lower end of the barrel 1 and from which the collapsible rubber ink reservoir or tube 5 extends. 6 and 7 designate the usual closure caps for the lower and upper end of the pen, respectively, the latter in this instance being threaded onto the barrel as at 8.

According to my invention I provide a pair of flat guide and plunger bars 9 and 10, respectively, preferably of celluloid, coextensive in length, at least with the length of the reservoir 5 and adapted to be inserted within the barrel 1 thru the open upper end thereof for location interme-

diating the reservoir 5 and said barrel. The ends of the guide bar 9 and plunger bar 10 occupying a position adjacent the open end of the barrel 1, are provided the one with an enlargement 11 and the other with a right angular portion 12 serving as finger grips for manipulating said bars. The guide bar 9 is grooved longitudinally and centrally as at 13 and the plunger bar is provided with a straight edge 14 and a bevelled end 15 at the end thereof opposite the portion 12 for a purpose to be explained.

Under normal conditions, when the reservoir 5 is filled, said bars 9 and 10 are located as in Fig. 1 with the bar 9 next to the barrel, the groove 13 being innermost and the plunger bar 10 intermediate the bar 9 and the reservoir 5 with one flat side thereof engaging the bar 9. When it is desired to fill the reservoir 5, the cap 7 being first removed, the guide and plunger bars 9 and 10 are withdrawn thru the open upper end of the barrel 1, the guide bar is then thrust into the barrel 1 with its groove 13 uppermost and resting on an ink reservoir 5 and the plunger bar is thrust into the barrel with its straight edge 14 engaging the groove 13 in the bar 9, its bevelled end 15 being foremost and its other edge engaging the bore of the barrel 1. Obviously this operation depresses the bar 9 against the reservoir 5 and progressively collapses the reservoir 5 beginning with the closed end thereof to expell the air from said reservoir. The pen is next inserted in an ink containing receptacle and the plunger bar 10 is withdrawn, whereupon the reservoir 5 is permitted to expand progressively beginning with its open end. Obviously such progressive expansion in the direction noted facilitates the filling operation.

While I have described the guide and plunger bars 9 and 10 as preferably formed of celluloid, other material may be utilized, such as thin flat metal, as shown in Figs. 7 to 9, and the guide bar 9 may be formed with an angular finger piece 16 instead of the enlargement 11 illustrated in Fig. 1. In this latter case said finger piece is slotted as at 17 in line with the groove 9 to permit engagement of the plunger bar 10 with said groove. By turning the finger grips 11 and 12, or 12 and 16, as the case may be, inwardly of the pen barrel, they are out of interfering relation with a closure cap 7 secured to the barrel 1 by either external or internal threads on the latter.

The feeder plug 3 may have either an external ink feeding channel 18, as shown in Fig. 10, or an internal channel 19, as shown in Fig. 11. In

either case said channels are wider at their ends than throughout their intermediate portions to prevent the ink from flowing too freely.

What is claimed as new is:

5 1. In a fountain pen having a barrel and a collapsible ink reservoir, a pair of flat guide and plunger bars, respectively, adapted to be inserted in said barrel and removed therefrom at will, said guide having a longitudinal groove therein, and said plunger bar being slidable along said
10 guide with its opposite edges engaging said groove and reservoir, respectively.

2. In a fountain pen having a barrel and a collapsible ink reservoir, a pair of flat guide and plunger bars, respectively, adapted to be in-
15 serted in said barrel and removed therefrom at

will, said guide having a longitudinal groove therein, said plunger bar being slidable along said guide with its opposite edges engaging said groove and reservoir, and having a bevelled reservoir en-
5 gaging end.

3. In a fountain pen having a barrel and a collapsible ink reservoir therein, a plunger bar substantially equal to said reservoir in length and of uniform width substantially throughout its
10 length and adapted to collapse the reservoir by insertion endwise into said barrel with its side edges between the inner surface of the latter and the reservoir, said plunger bar being unat-
15 tached and free to be withdrawn from, and inserted into, said barrel.

EMANUEL J. SONN.