April 18, 1950 A. G. ROSA 2,504,353

FOUNTAIN PEN

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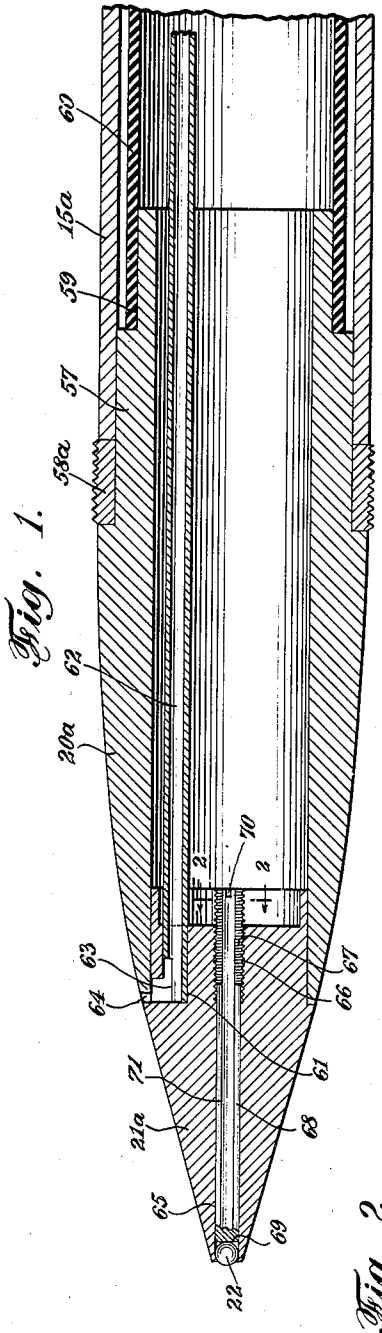


Fig. 1.



Fig. 2.

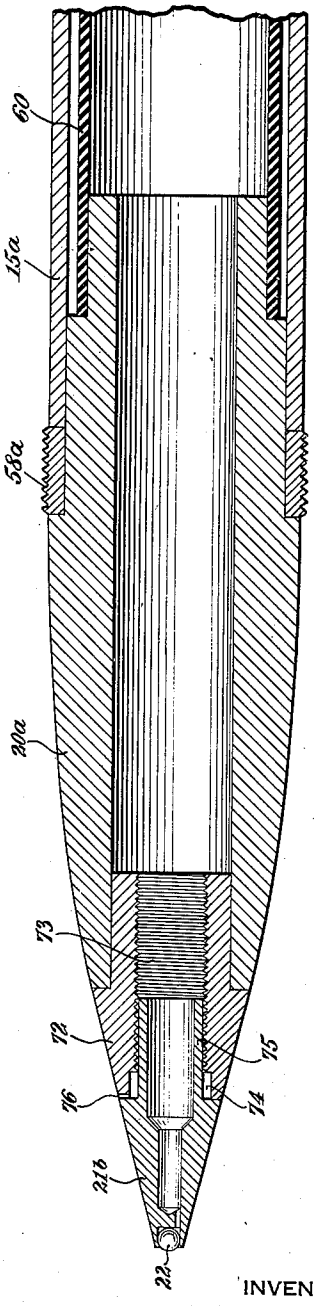


Fig. 3.

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FOUNTAIN PEN

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1 Claim. (Cl. 120—42.4)

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This invention relates to new and useful improvements in fountain pens, and more especially to those known as being of the ball point type.

Thus, one of the objects on my invention is to make my improved fountain pen adaptable to the use of bulk ink as well as ordinary fluid ink.

Another object of the invention is to provide a cap which is subject to manipulation, but which at the same time will remain secured to the pen in either open or closed position.

A further object of my invention is to provide specific means for seating a ball point and to provide adjustment for the latter, especially when said ball point becomes worn.

With the above and other objects in view, this invention consists of the novel features of construction, combination and arrangement of parts, hereinafter fully described, claimed and illustrated in the accompanying drawings forming part of this application, and in which similar characters of reference indicate corresponding parts in all views, and in which—

Figure 1 is a fragmentary sectional view of a fountain pen; showing a construction especially adapted to the use of fluid ink, and also adjusting means relative to the ball point.

Figure 2 is a sectional view taken on the line 2—2 of Figure 1; while

Figure 3 is a view similar to Figure 1, showing a modification adaptable to the use of fluid ink.

In Figure 1 is shown a construction especially adapted for the use of liquid ink. The feed member 20*a* is here shown having a reduced portion 57 made to receive the barrel 15*a* and having interposed between said barrel and the feed member a threaded ring 58*a* for securing the cap (not shown) thereto. A further reduced portion 59 of the feed member 20*a* is made to receive the sack 60.

The ball insert tip 21*a* is herein provided with a bore 61 to receive a tubing 62, one end of which is extending into the sack 60 while the other end is provided with a cut-away portion 63 to communicate with an opening 64 formed between the feed member 20*a* and the ball insert tip 21*a*.

It may be clearly seen that by compressing the sack member 60 in the conventional manner, and afterwards releasing the latter the ink will be drawn through the opening 64 and the tubing 62 into the sack.

If this arrangement is adapted in the use of bulk ink the opening 64 and tubing 62 will serve

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to prevent the formation of air pockets within the ink chamber.

The ball insert tip 21*a* is herein provided with the bore 65 which at its inner end is threaded as at 66 to receive a correspondingly threaded portion 67 of a pin 68, the latter extending into the bore 65 and engages the ball 22 by means of a shoulder 69, a screw slot 70 is provided at the threaded end of the pin 68 by means of which the proper adjustment for ball clearance may be made.

This will occasionally be necessary due to the wear and tear of the ball 22 and seat 69.

The pin 68 is provided with grooves 71 to form a passage-way from the feed section 20*a* to the ball 22.

In Figure 3 is shown a modification of the disclosure in Figure 1; thus, in Figure 3 the feed member 20*a* is provided with an intermediate member 72, the latter is formed with a threaded opening 73 extending into an enlarged recess 74. The ball insert tip 21*b* is provided with a reduced portion 75 which latter is adapted to engage the inside diameter of the threaded portion 73; the member 72 is provided with an opening 76 by means of which ink may be drawn through the recess 74 and the threaded opening 73 into the sack 60 in any conventional manner.

It is obvious that changes may be made in the form, construction and arrangement of the several parts, as shown, within the scope of the appended claim, without departing from the spirit of the invention, and I do not, therefore, wish to limit myself to the exact construction shown and described herein.

What I claim as new and desire to secure by Letters Patent of the United States is:

In a device of the class described, in combination, a feed member, a barrel and a sack mounted upon the feed member, a ball insert tip portion mounted in the feed member, said tip portion and feed member being on one side formed with an opening therebetween, the tip portion having a bore on one side thereof, a tubing arranged in said bore, said tubing having one end extending into the sack and the other end provided with a cut-away portion adapted to communicate with the opening between the tip portion and feed member, whereby to draw ink into the sack, the tip portion having a central bore threaded at its inner end, a pin mounted in said bore, said pin having a shoulder at one end adapted to engage a ball, the other end of said pin being threaded in the inner end of the central bore, said pin having a slot in the

threaded end thereof whereby to adjust said pin, the latter being formed with grooves, whereby to feed ink to the ball.

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