

May 6, 1941.

J. N. LANDAU

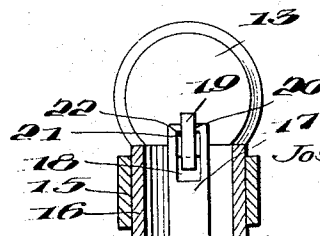
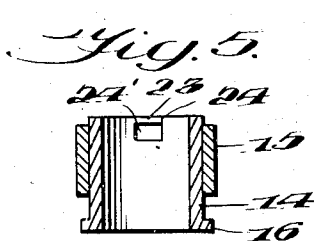
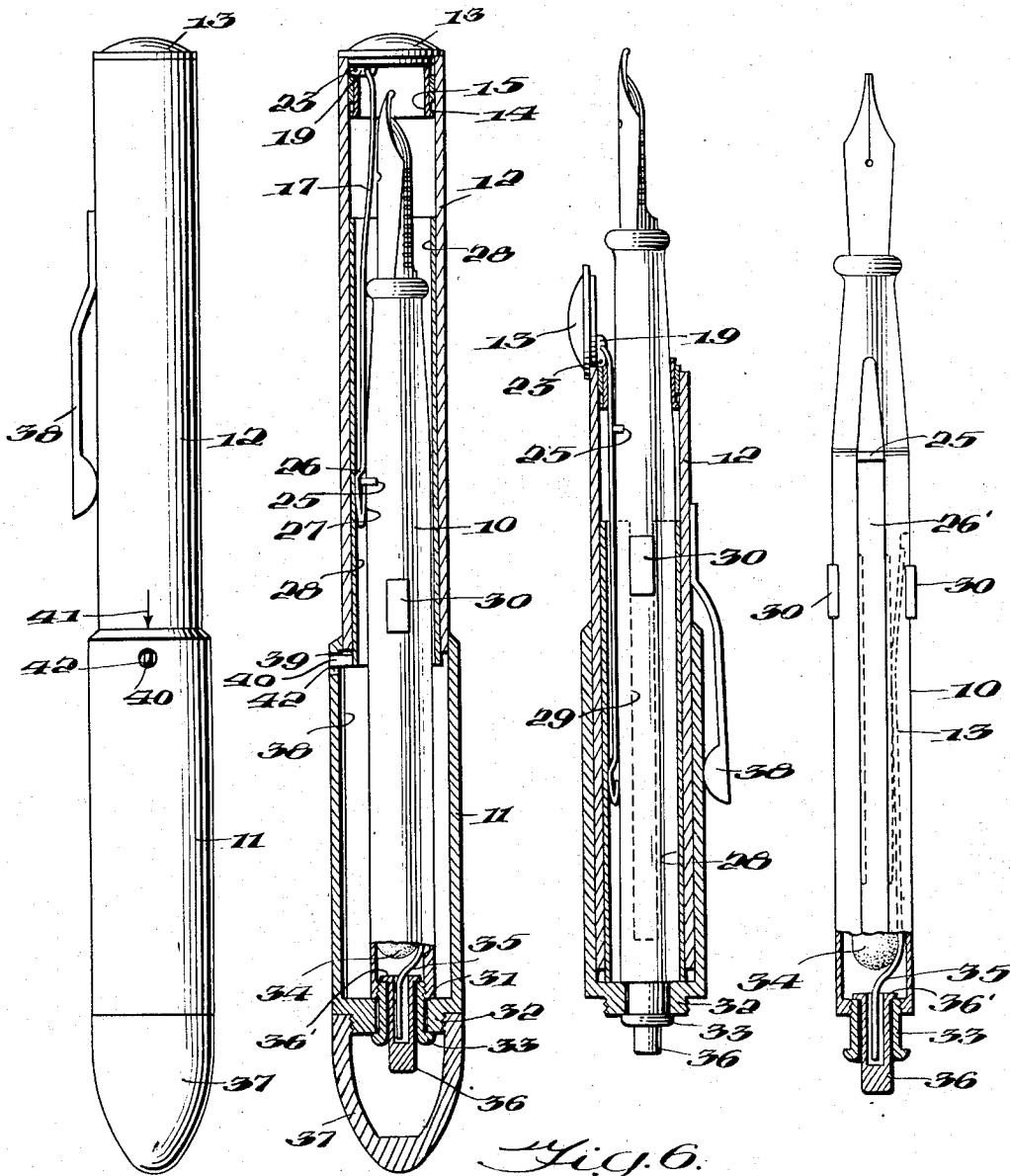
2,240,992

FOUNTAIN PEN

Filed July 12, 1940

2 Sheets-Sheet 1

Fig. 1. Fig. 2. Fig. 3. Fig. 4.



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Fig. 7. Fig. 8.

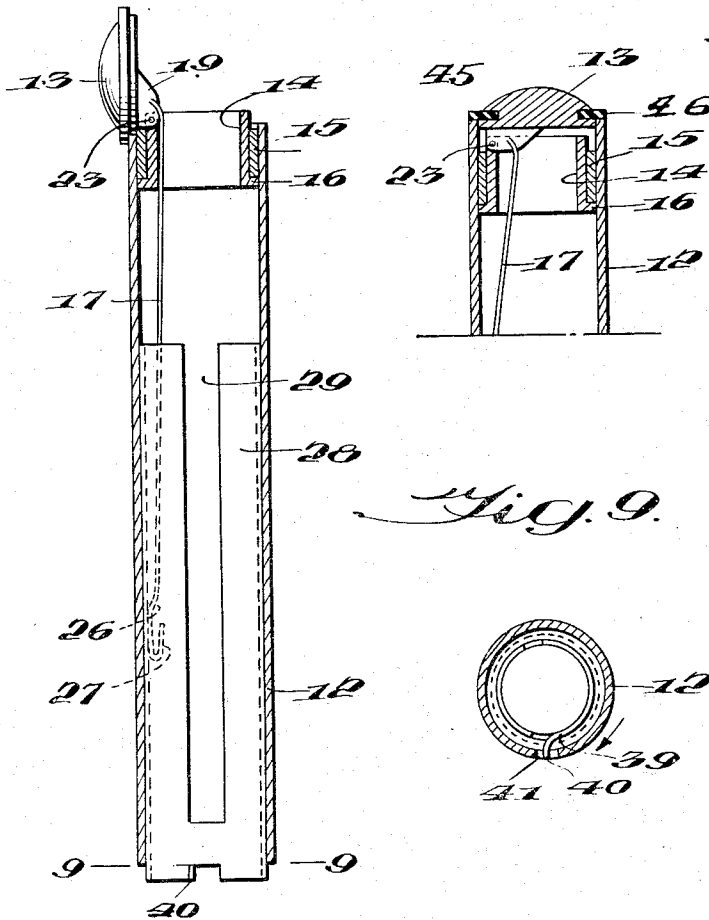
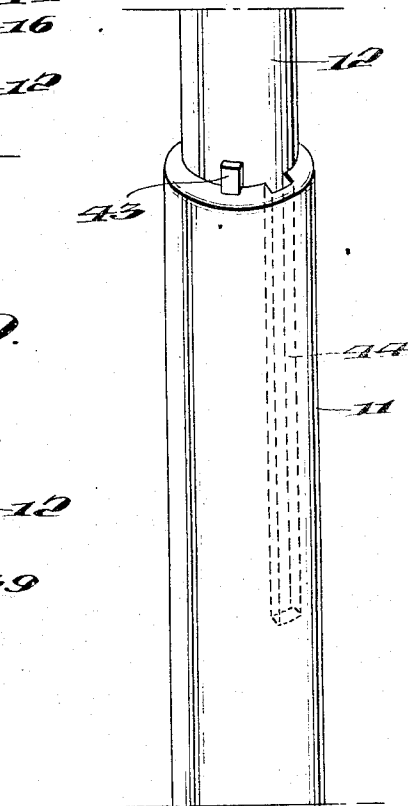


Fig. 10.



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UNITED STATES PATENT OFFICE

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FOUNTAIN PEN

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9 Claims. (Cl. 120—49)

My invention relates to fountain pens and more particularly to fountain pens in which the pen point is protected by a retractible sleeve slidably mounted upon the pen body or barrel.

One object of my invention is to provide a novel form of protective sleeve for the fountain pen which shall include a shutter for closing the open end of the sleeve.

Another object of the invention is to provide a protective sleeve of the character designated in which the shutter shall be positively operated to prevent any interference with the operation of the pen.

Another object of the invention is to provide a protective sleeve of the character designated in which the shutter or cap and operator therefor shall be of novel construction so that these parts may be more conveniently assembled.

Another object of the invention is to provide a fountain pen attachment which shall be adapted to the usual and standard fountain pen dimensions.

Another object of the invention is to provide a fountain pen of the character designated which shall be simple in operation and rugged in construction and more reliable in operation than similar devices heretofore employed.

A further object of the invention is to provide a fountain pen of the character designated in which the slidable casing parts may be locked when in the closed position.

These and other objects of the invention will be more apparent from the following specification and drawings and particularly set forth in the claims.

In the drawings—

Fig. 1 is a plan view of a fountain pen embodying the present invention;

Fig. 2 is a view partially in section of the fountain pen;

Fig. 3 is a fragmentary view partially in section showing the closure cap open;

Fig. 4 is a plan view partially in section of the fountain pen barrel;

Fig. 5 is an enlarged sectional view of the closure cap operator bushing;

Fig. 6 is an enlarged detail view showing the cap in open position;

Fig. 7 is an enlarged sectional view of the retractible casing sleeve shown in Fig. 2;

Fig. 8 is a fragmentary sectional view of the closure cap shown in Fig. 7;

Fig. 9 is a sectional view of the pen locking device on line 9—9 Fig. 7; and

Fig. 10 is a perspective view of a modification of the locking device.

Referring to Figs. 1 and 2 of the drawings, there is shown an assembly view of a novel form of fountain pen constructed and arranged in accordance with the present invention. In this illustrated embodiment, the numeral 10 indicates a fountain pen barrel fixedly connected to a casing cap member 11. This member is slidably connected to a movable casing sleeve 12. The movable sleeve 12 is provided with a novel form of shutter or closure cap member 13 which is opened and closed by the longitudinal movement of the casing sleeve 12 relative to the cap sleeve 11 and the pen barrel 10 as hereinafter more fully described.

One of the important features of the present invention is the construction and arrangement of the operating mechanism for the closure cap 13. This cap is hingedly connected to a slidable bushing 14 which is mounted in a bushing 15 fixed to the inside open end of the casing 12 as shown in Figs. 2 and 3. The range of movement of the bushing 14 is regulated by the flange 16 at the lower extremity thereof, as this flange engages the lower edge of the bushing 15 when the pen point is projected forward and the cap 13 opened to permit its exit. This sliding arrangement of the cap operator and the bushing member is shown in Figs. 5, 6, and 7.

The cap 13 is operated by a longitudinally disposed lever member 17 having a curved top end portion provided with an eye member 18 which forms a pivotal connection with the cap 13. The extreme end portion of the lever 17 provides a pivotal bearing member 20 for engagement with a transverse opening 21 provided in a connection cap member 19 secured on the under side thereof and forming an integral part of the cap as shown in Figs. 7 and 8.

This pivot member 20 is formed in the end of the member 17 by opening one side of the eye 18 on a diagonal line as indicated by the numeral 22. After the parts are assembled, this line 22 may be closed by soldering or brazing, if desired, so that these parts shall be held in integral fixed relation, and thereby permit opening and closing of the cap with a minimum amount of lost motion.

The cap connection member 19 is pivotally connected to one side of the tubular inner bushing 14 by means of a pivot connection 23 provided at the upper edge of the bushing. This pivot member is formed by cutting the edge of the bushing on line 24 adjacent an opening 24'

so that a free pivot connection is provided. This pivot member 23 may be displaced when assembling the cap member 19 thereto and closed as shown in Fig. 2. After the parts are assembled, the line 24 may be soldered to provide a durable and integral structure in a manner similar to the pivot connection 22 for the lever operator 17.

It will be obvious that this construction provides an assemblage which may be easily effected, and when made and soldered as indicated above, provides a most durable integral connection for these parts.

The lever 17 is operated by the longitudinal movement of the sleeve 12 relative to the pen barrel 10. The barrel 10 is provided with a lug projection 25 extending from a flattened surface 26' located on one side of the pen barrel and extending longitudinally thereof, as shown in Figs. 3 and 4. The lower extremity of the lever 17 is provided with a spring hook member formed by bending the metallic strip into an offset cam portion 26 and a downwardly and upwardly extending spring portion 27 having its end terminating a spaced distance from the offset portion 26 and also bearing and riding against the flat portion 26' of the pen barrel.

This construction provides a notch at the lower extremity of the spring member 17 for receiving the projection 25, as illustrated in Fig. 2, when the pen barrel is in retracted position and the cap 13 is closed. The open position of the cap is shown in Figs. 3 and 7 and illustrates the movement of the spring hook 26 along the flattened surface 26' of the pen barrel.

The barrel 10 is guided and retained in the slidable sleeve 12 by means of a metallic tubular bushing indicated by the numeral 28 and fixed to the member 12. This bushing is provided with diametrically opposite longitudinal slots 29—29, provided on opposite sides thereof as indicated by dotted lines in Fig. 3. The barrel 10 is provided with lug projections 30—30 which cooperate with and guided by the slots 29. The pen barrel 10 is connected at its rear end to the cap 11 by means of a flanged portion 31, reduced threaded portion 32, and a clamping nut member 33 which holds these parts in rigid assembled relation. Also located in the hollow end of the barrel 10 is the usual ink sack 34 and spring-depressor member 35 for filling the sack when desired. The spring 35 is depressed by a tubular friction cap member 36 retained in the end of the barrel 10 by a flange 36' cooperating with the clamp nut 33.

Another important feature of the present construction is that a friction clip 38 is attached near the open end of the pen barrel 12, so that the larger part of the pen, or cap portion 11 is held downward and therefore better balanced and suspended by the clip when secured in the pocket or to a garment.

Another important feature of the novel pen construction is the locking device between the two cooperating sleeve members 11 and 12. This mechanism includes a segmental metal spring member 39 formed at the lower projecting end of the metallic sleeve insert 28. The free end of the spring is provided with a projection 40 which fits into a recess hole 42 in the outer surface of the sleeve member 11 as shown in Figs. 1 and 9. For convenience an indicator mark 41 is provided on the barrel 12 adjacent to and in align with the hole 42 so that the parts may be readily aligned for locking position. This arrangement provides a positive locking engagement between

the slidable parts 11 and 12 which shall prevent any accidental opening or relative movement of the pen parts when the fountain pen is carried by the clip member 38. It will be noted that the spring projection 40 is curved so that when the barrel is turned clockwise as indicated by the arrow, the projection 40 cams out of the opening 41 to release the parts but when turned in the reverse direction, movement is presented and thus indicates that the parts are locked together.

A modification of the locking mechanism is shown in Fig. 10. In this case the lower portion of the barrel 12 is provided with a stop projection 43 adjacent to the upper end of the part 11. The part 11 is provided with a longitudinal slot 44 to receive the projection 43. It will thus be noted that when the projection rests on the end of the cap 11 as shown, relative movement of the parts is prevented. To release the parts for closing the pen, the parts 11 and 12 are turned angularly to bring the projection 43 into alignment with slot 44 and the parts then moved longitudinally to closed position.

Another important feature of the present invention is the provision of the sealing gasket for the closure cap 13. This cap is preferably a one piece construction in which there is provided a peripheral groove 45 adapted to accommodate a yieldable sealing member such as a rubber gasket 46 as shown in Fig. 8. This gasket forms a cushion action in closing the cap 13 as well as effectively sealing the end of the barrel 12 and prevents any accidental leakage of ink.

The sealing action is effected by the engagement of the stop 25 with the spring clip 26—27 on the rod 17, thus drawing the gasket 46 on the lid or cap 13, into the desired sealing relation with the end of the slidable pen casing 12.

Having thus described a preferred embodiment of a fountain pen constructed and arranged in accordance with the present invention, it is obvious that various changes may be made therein without departing from the invention as specifically set forth in the claims.

What I claim is:

1. In a fountain pen, the combination of a slidable casing, a closure cap member for the open end of said casing, means for operating the cap including a tubular bushing mounted in the slidable sleeve casing and adjacent to the end thereof, a tubular bushing slidably mounted on said bushing, a flange member formed on the lower end of said bushing for limiting the movement thereof, a hinge connecting the slidable bushing directly with one side of said cap member, and a cap operator lever pivotally connected to the cap member and adjacent to said hinge member.

2. Apparatus of the character designated in claim 1, in which a hinge pivot member is formed in the top edge wall of the slidable tubular bushing for receiving a projection member on said cap member.

3. Apparatus of the character described in claim 1, in which the cap member is provided with a radially disposed block member secured to the under side thereof, transverse openings provided in said block member, one of said openings adapted to receive the hinge pivot member formed in the rim of said tubular bushing, and the other opening adapted to receive a cap operating lever pivotally connected thereto.

4. In a fountain pen, the combination of a slidable casing sleeve having an open end, a pen barrel slidably mounted in said casing, a sleeve

cap connected to said pen barrel for moving the barrel relative to the slidable casing, and means for locking the sleeve cap to the casing when the pen barrel is retracted within the casing.

5. Apparatus of the character designated in claim 4 which includes means on the outside of the casing for indicating the locking engagements of the parts on the inside of the casing.

6. Apparatus of the character designated in claim 4, in which the locking means comprises a spring clip carried by the slidable casing sleeve, said clip having a projection which engages a notch on the upper outer peripheral surface of the sleeve cap.

7. Apparatus of the character designated in claim 4, in which the locking means includes a spring clip projection member carried by the slidable casing and normally passing against the inside of said sleeve cap, an aperture formed in the sleeve cap adjacent the lower outer peripheral edge near the upper end thereof and in the path of movement of said clip, whereby said aperture may be entered by said clip by relative rotation of the two sleeve members.

8. In a fountain pen, the combination of a pen barrel, a sleeve over said barrel and slidably connected therewith, a cap for said pen barrel including a sleeve longitudinally slidable over said barrel from a position of covering the pen to a rearward position to uncover said pen, a collar held to said cap within its terminal, a lid hinged to said collar to open and close the cap, a bar hinged to said cap lying longitudinally between the cap and barrel and frictionally engaging the cap and barrel, and frictional engagement of the bar causing it to open said lid upon initial rearward movement of said cap and to close said lid upon termination of the forward movement of the cap, and said collar being longitudinally slidable in said terminal to facilitate the opening and closing action of said lid.

9. Apparatus of the character designated in claim 8, in which the lid is provided with a peripheral groove, and a gasket member in said groove for sealing engagement with the end of the slidable pen barrel sleeve.

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