Aug. 16, 1949. Y. SANBONMATSU 2,479,414

CLOSURE FOR FOUNTAIN PENS

Filed March 13, 1947 2 Sheets-Sheet 1

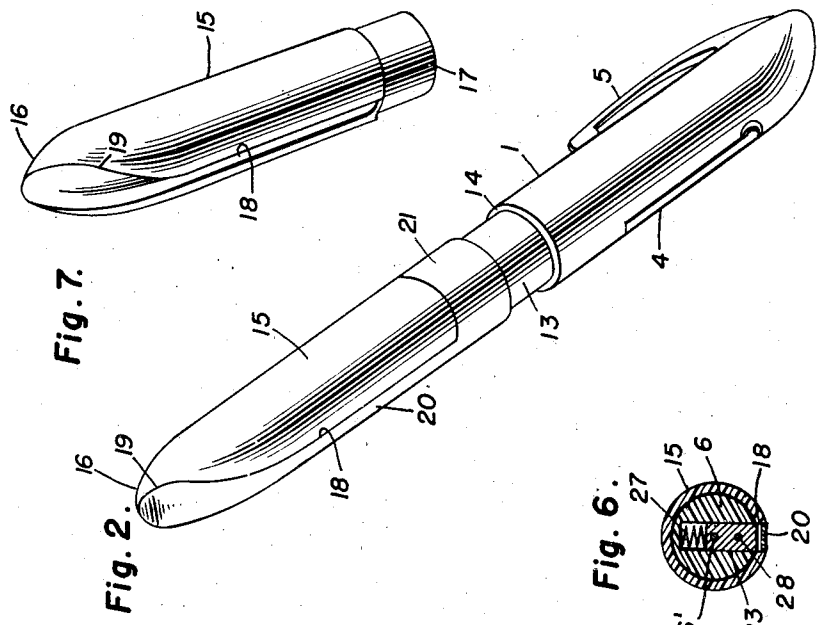


Fig. 7.

Fig. 2.

Fig. 6.

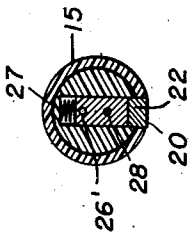


Fig. 5.

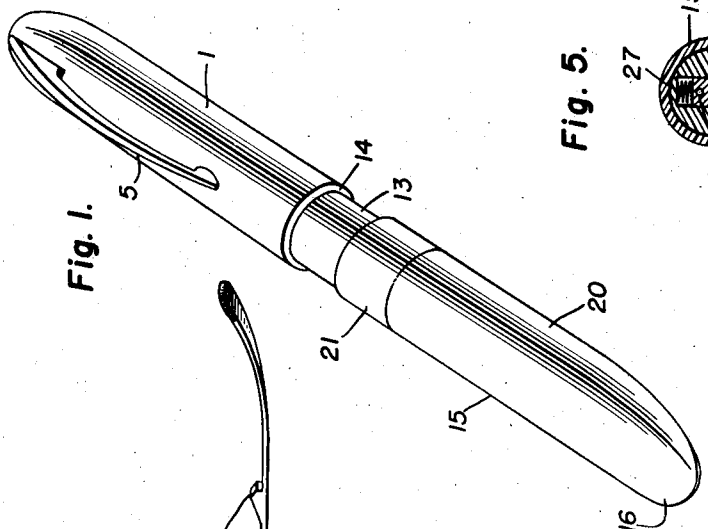


Fig. 1.

Fig. 8.

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CLOSURE FOR FOUNTAIN PENS

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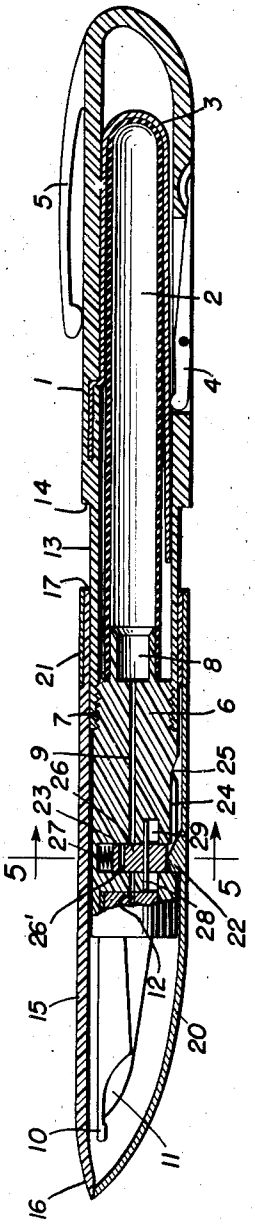


Fig. 3.

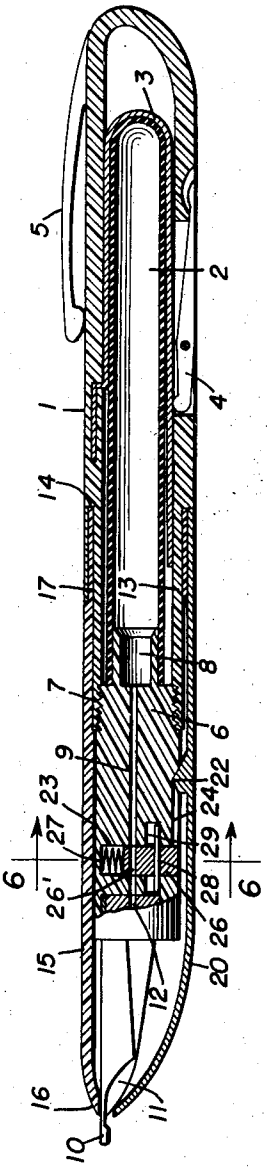


Fig. 4.

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Patented Aug. 16, 1949

2,479,414

UNITED STATES PATENT OFFICE

2,479,414

CLOSURE FOR FOUNTAIN PENS

Yoshiro Sanbonmatsu, Holtville, Calif.

Application March 13, 1947, Serial No. 734,514

2 Claims. (Cl. 120—42.03)

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My invention relates to improvements in closures for fountain pens, the primary object in view being to eliminate in such pens the usual point covering and enclosing cap, which must be removed and replaced, while at the same time providing for protectively closing the pen point end of the pen when not in use.

Another object is to provide a fountain pen which may be carried in the pocket in writing position and which when so carried is proof against leaking and damaging the clothes.

Still another object is to provide for accomplishing the above without increasing the cost of manufacture of such pens or rendering the same complicated.

Other and subordinate objects, also comprehended by my invention, together with the precise nature of my improvements, and the advantages thereof will be readily understood when the succeeding description and claims are read with reference to the drawings accompanying and forming part of this specification.

In said drawings:

Figure 1 is a view in perspective of a fountain pen embodying my improvements in a preferred form thereof, and looking at the top side of the pen;

Figure 2 is a similar view looking at the bottom side of the pen;

Figure 3 is a view in longitudinal section drawn to a larger scale and showing the sheath in pen closing position;

Figure 4 is a similar view showing the sheath in pen opening position;

Figure 5 is a view in transverse section taken on the line 5—5 of Figure 3;

Figure 6 is a similar view taken on the line 6—6 of Figure 4;

Figure 7 is a view in perspective of the sheath removed and with the tongue detached therefrom;

Figure 8 is a view in perspective of the tongue detached.

Referring now to the drawings by numerals, my invention, as illustrated, has been shown embodied in a fountain pen in which the barrel 1 may be formed in the usual manner, with the exception presently noted, to contain the usual ink sac 2 adapted to be compressed for filling by the usual deformable member 3 against which pressure may be exerted by the usual filler lever 4. The numeral 5 designates the usual rear end clip for fastening the pen in the pocket. An ink feeder plug 6 is threaded at the rear end thereof, as at 7, into the front end of the barrel 1 with the

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usual reduced rear end nipple 8 thereon on which the ink sac 2 is fastened, said plug having an axial ink discharge duct 9 extending there through. The pen point 10 and ink feeder bar 11 are socketed in the front end of the ink feeder plug 6 with an ink feeder duct 12 in said bar communicating with the front end of the ink discharge duct 9.

According to my invention, the barrel 1 is provided with a reduced front end portion 13 slightly larger in diameter than the ink feeder plug 6 and which forms a circumferential shoulder 14 on the barrel 1 at a substantial distance from the front end of said portion 13.

A sheath 15 is fitted on said front end portion 13 for endwise sliding thereon in surrounding relation to the ink feeder plug 6, pen point 10, and ink feeder bar 11 and which is of a length to extend from said shoulder 14 to the tip of the ink feeder bar 11 and is frictionally fitted on said portion 13 for removal therefrom at will. The sheath 15 has a tapered front end 16, a reduced rear end cuff 17, and a bottom longitudinal slot 18 therein extending from the cuff 17 to said front end 16 and which flares laterally at said front end 16, as at 19, to permit the pen point 10 to protrude out of the same a sufficient distance for writing purposes in a manner presently described. The sheath 15 embodies a flexible bottom tongue 20 extending forwardly from a collar 21 fitted on the cuff 17 frictionally for detachment therefrom, said tongue conforming in size and shape to the slot 18 and normally entering into and conformably fitting said slot 18 to close the same when the sheath 15 is shoved forwardly from a pen opening position into a pen closing position as will presently more clearly appear. A lug 22 on the inner face of the tongue 20 is provided for seating with a snap action, under reaction of the tongue 22, into the bottom end of a diametrical bore 23 in the ink feeder plug 6 and whereby the forward pen closing position of the sheath 15 is established. The lug 22 is slidable in a guide slot 24 extending along the bottom of the ink feeder plug 6 and to prevent the sheath 15 from turning on the barrel 1, and said lug is adapted to snap into a rear end notch 25 in said guide slot 24 to maintain the sheath 15 in a rearwardly slid pen opening position in which the cuff 17 abuts the shoulder 14 and establishes said pen opening position of said sheath.

A sliding valve plug 26 in the bore 23 with a transverse duct 26' therein is urged by a coil spring 27, in said bore 23 downwardly to align the duct 26 with the ink discharge duct 9 to

open said duct 9. The lug 22 is constructed and arranged so that when it snaps into the bottom end of the bore 23, said lug lifts said plug 26, in opposition to the coil spring 27, and thereby moves the duct 26 out of alignment with the ink discharge duct 9 to close said duct 9 in the pen closing position of the sheath 15. A cross pin 28 in the valve plug 26 playing in a recess 29 in the ink feeder plug 6 retains the valve plug 26 in the bore 23.

As will now be seen, when the sheath 15 is slid into the described pen closing position thereof, as shown in Figures 1, 2 and 3, the slot 18 is closed by the tongue 20 and the front end of the sheath 15 covers the pen point 10 and encloses the same together with the ink feeder bar 11 to close the pen, and the ink discharge duct 9 is also closed by the plug valve 26 so that the pen cannot leak. When the sheath 15 is slid into the described pen opening position, shown in Figure 4, the tongue 20 is flexed rearwardly by the ink feeder bar 11 to open the slot 18 at the front end 16 of said sheath, so that the lips of the pen point 10 protrude from the front end 16 of said sheath 15 for use for writing purposes. In this position of the sheath 15, the ink discharge duct 9 is opened, in the manner already described. To fill the pen it is merely necessary to pull the sheath 15 off the front end portion 13 of the barrel 1 after which the pen may be filled in the usual manner.

The foregoing will, it is believed, suffice to impart a clear understanding of my invention, without further explanation.

Manifestly, modifications in the invention, as described, may be resorted to without departing from the inventive concept, and right is herein reserved to such modifications as fall within the scope of the appended claims.

What I claim is:

1. In a fountain pen including a barrel, a pen point, and an ink feeder plug having an ink discharge duct therein, a closure sheath for said pen slidable forwardly and rearwardly on said barrel into pen-closing and pen-opening positions, respectively, and having a longitudinal slot therein through which the pen point is adapted to protrude in the pen-opening position of said sheath, said sheath including a resilient tongue normally reacting to close said slot in the pen-closing position of said sheath, coacting camming devices on said plug and tongue, respectively, whereby when said sheath is slid into pen-opening position said tongue is flexed to open said slot, and a spring tensioned valve in said plug held closed by the camming device on said tongue in the pen-closing position of said sheath to close said duct, said valve being operative by said spring to open said duct under control of the camming device on said tongue when said sheath is slid from pen-closing position toward pen-opening position.

2. In a fountain pen including a barrel, a pen point, and an ink feeder plug having an ink discharge duct therein, a closure sheath for said pen slidable forwardly and rearwardly on said barrel into pen-closing and pen-opening positions, respectively, and having a longitudinal slot therein through which the pen point is adapted to protrude in the pen-opening position of said sheath, said sheath including a resilient tongue normally reacting to close said slot in the pen-closing position of said sheath, coacting camming devices on said plug and tongue, respectively, whereby when said sheath is slid into pen-opening position said tongue is flexed to open said slot, and a spring tensioned valve in said plug held closed by the camming device on said tongue in the pen-closing position of said sheath to close said duct, said valve being operative by said spring to open said duct under control of the camming device on said tongue when said sheath is slid from pen-closing position toward pen-opening position, said valve comprising a spring pressed valve member slidable in said plug and against which the camming device on the tongue presses in the pen closing position of said sheath.

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The following references are of record in the file of this patent:

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