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G. A. RISK

1,706,751

FOUNTAIN PEN

Filed July 29, 1926

Fig. 1.

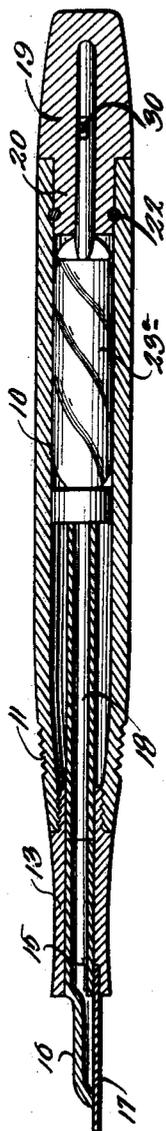


Fig. 2.

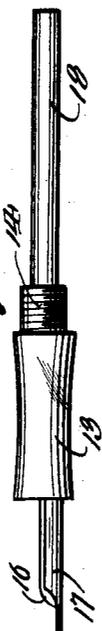


Fig. 3.



Fig. 4.

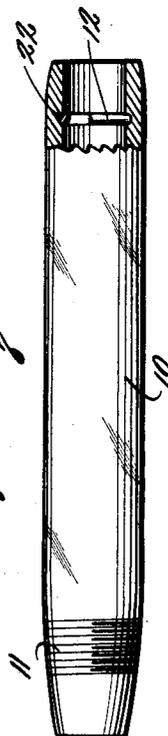
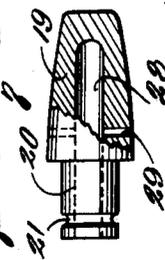


Fig. 5.



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FOUNTAIN PEN.

Application filed July 29, 1926. Serial No. 125,756.

The present invention relates to improvements in writing implements and has particular reference to an improved fountain pen.

5 An important object of the invention resides in the provision of a fountain pen of simple and durable construction and which may be conveniently manipulated for replenishing the supply of writing liquid.

10 A further object of the invention is the provision of a fountain pen of the above character designed so that the filling operation may be effected by rotary movement of an end block mounted thereon.

15 A still further object of the invention is the provision of a fountain pen formed so as to permit convenient re-placement of the reservoir and disconnection for cleaning.

20 Still another object of the invention is the provision of a fountain pen of the above type which will be efficient in operation and which may be manufactured at a relatively low cost.

25 Other objects and advantages of the invention will become apparent as the description progresses.

In the accompanying drawing forming a part of this specification and in which like reference characters are employed to designate corresponding parts throughout the same:

30 Figure 1 is a longitudinal sectional view through a fountain pen constructed in accordance with my invention,

35 Figure 2 is a side elevational view of a detailed structure forming part of the improved pen,

40 Figure 3 is a side elevational view partially broken away to show the interior construction of the filling element of the pen.

Figure 4 is a side elevational view showing the construction of the pen body, and

45 Figure 5 is a similar view of a block member carried by the pen operable for filling the same.

Referring to the drawing wherein for the purpose of illustration is shown the preferred embodiment of my invention, the numeral 10 generally indicates the pen body or barrel which is of hollow cylindrical form tapering slightly at its ends in the customary manner. Formed adjacent the lower or forward end of the barrel are exterior screw threads 11 adapted for threaded engagement with a dust cap. The lower end portion of the barrel

is interiorly screw threaded for connection with a co-acting member as will later appear. Formed adjacent the upper or rear end of the barrel in the interior periphery thereof is an annular groove 12, the purpose of which will become apparent as the description progresses. 60

Formed for connection with the lower end of the barrel is a substantially cylindrical pen section sleeve 13, the outer contour being arranged to symmetrically conform to the tapered formation of the shank 14 exteriorly screw threaded for engagement with the interior threads of the barrel. As is usual, this sleeve is formed with a longitudinal bore in which is tightly fitted a feeder sleeve 15 and on the outer end of which is formed a feeder duct 16. As shown to advantage in Figures 1 and 2, a pen nib 17 is detachably mounted in the lower end of the sleeve in contact with the feeder duct 16 so that the liquid is constantly fed to the pen. 70 75

Rigidly mounted in the lower portion of the pen barrel in a centrally disposed position is a conducting tube 18, the lower end thereof being tightly fitted in the bore of the sleeve to maintain the tube in position. This tube communicates with the feeder sleeve 15 so that the writing fluid may be conducted through the sleeve and duct 16. 80 85

Mounted on the upper or rear end of the barrel 10 for rotatable movement is an end block 19 designed to conform to the contour of the barrel and provided with an inwardly projecting cylindrical shank 20 adapted for slidable engagement with the interior bore of the barrel. This shank is formed with an annular groove 21 adapted to be disposed in co-acting relation with the groove 12 formed in the barrel in operative position. The block is secured against longitudinal displacement by means of a flexible retaining band 22, circular in cross section and inserted for engagement with the co-acting grooves 12 and 21 through a radial bore extending through the wall of the barrel. This will permit convenient rotary movement of the block relative to the barrel but will obviate the possibility of longitudinal displacement of these elements. As illustrated in Figures 1 and 5, the block is formed with a longitudinal bore 23 substantially rectangular in cross section extending through the major portion of the block and communicating with the inner end of the barrel. 90 95 100 105 110

An important characteristic of the present invention resides in the provision of a cylindrical hollow reservoir 23^a preferably formed of rubber or similar material forming a flexible tube or sac and designed to contain writing ink or similar liquid. The lower end of the reservoir 23^a is formed to provide a reduced neck 24 which is securely attached in the bore of a circular ring 25. This ring is formed so as to be tightly fitted within the bore of the barrel 10 and disposed in a central position in the barrel. The upper end of the sac 23^a is closed and of rounded formation. Secured to this rounded end of the sac is a longitudinally projecting arm 26 of rectangular cross section adapted for slidable engagement with the longitudinal bore 23 formed in the block 19. One end of the arm 26 is formed with a substantially semi-circular cap 27 arranged so as to be suitably fitted over the rounded end of the sac and secured thereto by adhesive in any suitable manner. The intermediate portion of the arm 26 is provided with a transversely extending mortise 28 adapted to be disposed in transverse alignment with transverse bores 29 formed in the block. These bores are arranged to slidably receive therein a pin 30 by means of which the arm 26 is secured within the block.

From the foregoing description it will be obvious that the upper end of the conducting tube 18 may be tightly fitted within the bore of the annular ring 25 so that a continuous conduit from the sac 23^a to the pen nib 17 is produced. To fill the sac 23^a and replenish the supply of writing liquid the block 19 is rotated while the barrel 10 is held in stationary position. This action of the block will twist the sac 23^a in spiral form so that the liquid as well as the air therein will be expelled to form a partial vacuum with the sac. The pen nib and feeder duct 16 are immersed in the

writing liquid and the block 19 rotatably actuated to its initial starting position. This will cause the writing liquid to be drawn through the conduit into the sac and substantially fill the same. Thus, the filling operation may be accomplished with facility and convenience. Furthermore, the assembled parts of the pen may be readily disconnected for cleaning or replacement of parts.

It is to be understood that the form of my invention herewith shown and described is to be taken as a preferred example of the same and that various changes as to the shape, size and arrangement of parts may be resorted to without departing from the spirit of the invention or scope of the subjoined claim.

Having thus described my invention, I claim:

A fountain pen of the character described, a hollow pen body, a deformable writing fluid sack within the body having one end open, means for conveying fluid from said open end to one end of the body, a block body rotatably mounted in and closing the other end of said pen body and having a central longitudinally extending recess formed therein and opening into the pen body, an arm member fixed to the closed end of said sack and extending into the recess of said body, means extending through said block body and normally engaging said arm to prevent turning of the same when the body is rotated to bring about deformation of the sack, that portion of said block body extending into the pen body having an annular groove formed therein, and a retaining ring positioned in the inner face of the wall of the pen body designed to engage in said annular groove to permit rotation of the block body but prevent its longitudinal movement with respect to the pen body.

In testimony whereof I affix my signature.

GEORGE A. RISK.