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D. KAHN

2,750,927

FOUNTAIN PENS

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FIG. 1

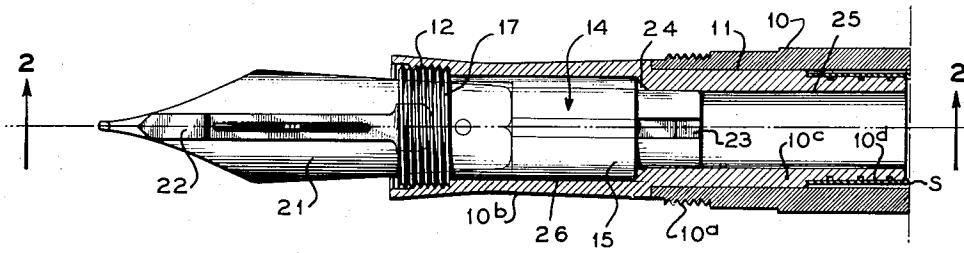


FIG. 2

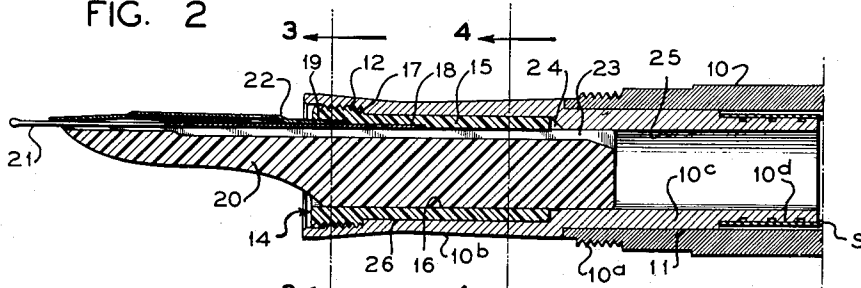


FIG. 6

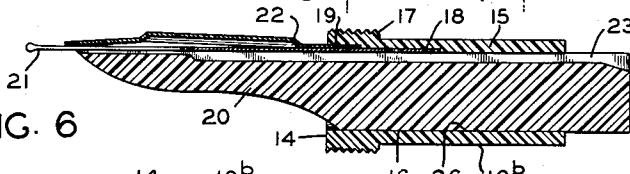


FIG. 4

FIG. 3

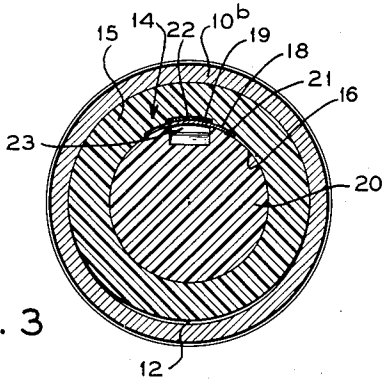
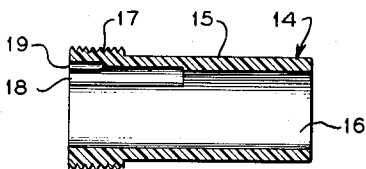


FIG. 5



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FOUNTAIN PENS

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1 Claim. (Cl. 120—52)

This invention relates to a fountain pen, and more particularly to a locking section bushing for a fountain pen.

The object of the invention is to provide a locking section bushing for a fountain pen which is constructed in such a manner as to insure that the pen point is locked firmly in place or maintained immobile when the pen point unit is being removed or replaced.

Another object of the invention is to provide a fountain pen locking section bushing which is shaped so that it includes a pair of recesses or cutouts of different sizes, the larger recess adapted to receive and hold the pen point, and the smaller recess being adapted to receive and hold the pen guard, the bushing also serving to maintain the feed bar in its correct, aligned position, so that when the pen point unit is removed from or replaced in the barrel, the feed bar, pen guard and pen point will remain in their correct relative positions, whereby leakage of ink due to changed positions of the pen point will be prevented.

Still another object of the invention is to provide a locking section bushing which includes a recess for snugly receiving a pen point, whereby bulging and distortion will be prevented, and wherein the pen point unit can be easily removed or replaced, the bushing being readily threaded into or removed from the fountain pen barrel.

A still further object of the invention is to provide a bushing which is constructed so that the pen point and pen guard will not be accidentally moved out of alignment, the ink feeder bar being simultaneously received within the bushing with the pen point guard, so that when it is desired to replace the pen point, the entire unit can be removed from the barrel and another substituted quickly and easily.

A further object of the invention is to provide a fountain pen locking section bushing which is extremely simple and inexpensive to manufacture.

Other objects and advantages will be apparent during the course of the following description.

In the accompanying drawings forming a part of this application, and in which like numerals are used to designate like parts throughout the same:

Figure 1 is a plan view of a portion of the fountain pen, with parts of the barrel shown in section;

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

Figure 3 is a sectional view taken on the line 3—3 of Figure 2;

Figure 4 is a sectional view taken on the line 4—4 of Figure 2;

Figure 5 is a longitudinal sectional view taken through the bushing, with the bushing detached from the barrel, and

Figure 6 is a longitudinal sectional view taken through the pen point assembly.

Referring in detail to the drawing, the numeral 10 indicates a portion of a fountain pen barrel of conventional conformation, formed from any suitable material,

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such, for example, as plastic. Preferably the barrel 10 is provided with an externally threaded portion 10a, at the open extremity thereof, intended for the reception of the usual fountain pen cap, not shown. The barrel 10 is hollow, or is provided with a space 11 so that the usual ink holding sac S may be received therein.

Desirably a pen point holding and sac retaining sleeve 10b is provided, having a reduced portion 10c designed for frictional, force-fit engagement within the pen barrel. As will be apparent from an examination of Figures 1 and 2 of the drawing, the retaining sleeve 10b has a further reduced portion 10d at the inner extremity thereof, the open end of the ink sac frictionally engaging this reduced portion 10d, as is well known in this art. The outer extremity of the sleeve 10b is provided with an internally threaded portion 12 for a purpose to be described more fully hereinafter.

The present invention is directed to a locking section bushing which is indicated by the numeral 14, and the bushing 14 may be made of any suitable material, such as plastic. The bushing 14 includes a tubular body 15 that is provided with a longitudinally extending bore 16 for a purpose to be later described.

A portion of the exterior of the body 15 is threaded, as at 17, and the threaded portion 17 extends from one end of the body 15, Figure 5. Arranged interiorly of the body 15 is a first recess 18 which extends inwardly from one end of the body 15. Arranged intermediate the end of the recess 18 is a second recess or cutout 19 which communicates with the recess 18.

Extending through the bore 16 in the body 15 is a feeder bar 20, and positioned contiguous to the feeder bar 20 is a pen point 21. The pen point 21 has its inner end seated in the larger recess 18. Mounted contiguous to the pen point 21 is a pen point guard 22 which is adapted to seat in the smaller recess or cutout 19. The feeder bar 20 is provided with the usual channel 23 for the passage therethrough of ink.

In use, the feeder bar 20 is inserted in the body 15 of the bushing 14, and the pen point 21 and pen guard 22 are seated in the recesses 18 and 19, respectively. This entire unit is then inserted into the open end of the sleeve 10b and rotated, so that the threaded portion 17 engages the threaded portion 12 of the sleeve 10b, whereby the unit will be maintained immobile in the barrel. Thus, the pen point 21 will remain locked firmly in place and will not be disturbed when the unit is being removed or replaced. The bushing 14 is provided with the pair of previously described recesses 18 and 19, the larger recess 18 holding the pen point 21 in place, and the smaller recess 19 serving to receive and lock the pen guard 22 in place. The bushing 14 also serves to maintain the feeder bar 20 in its correct, aligned position, so that when the entire unit is screwed into or out of the sleeve 10b, none of these parts will be turned or moved from their correct position. This construction prevents leakage, since the position of the pen point is not changed.

The pen point 21 fits snugly within the recess 18, so that bulging or distortion of the pen point is eliminated. Also, the entire unit can be easily removed and replaced. Normally, a certain amount of corrosion occurs on the pen point after it has been used for a while. However, in the present invention the metal parts are not exposed at the threaded connections, so that corrosion will not hinder removal and replacement of the pen point unit.

The unit, including the feeder bar, pen point and pen guard, can be readily threaded into and removed from the sleeve 10b, and the parts are positioned so that the possibility of misalignment is eliminated. The ink feeder bar 20 extends through the bushing 14, so that when it is desired to replace the pen point 21, the entire unit can be readily removed from the barrel. In prior fountain

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pen constructions, it has been necessary to remove the pen point from its mounting structure separately, so that there is no positive assurance that the pen point and feeder bar will be properly aligned after they are replaced.

While the locking section bushing has been indicated as being provided with exterior threads 17 which cooperate with the interior threads 12 of the sleeve 10b, it is to be understood that other means may be provided for detachably connecting the locking section bushing to the lower end of the fountain pen barrel.

There has been provided in accordance with the present invention, as a new article of manufacture, a unit adapted to be detachably connected to the lower open end of the fountain pen barrel, said unit comprising a locking section bushing 14 for the fountain pen, said bushing defining a tubular body 15 having a recess 18 disposed in the interior of the body and extending inwardly from one end of the body, the interior of said body being provided with a cutout portion 19 disposed intermediate the ends of said recess and communicating with said recess. An ink feeder bar 20 extends through the tubular body and a pen point 21 is disposed in the recess. A pen point guard 22 overlies the pen point and is disposed in the cutout portion. As stated, means are provided for detachably connecting said unit to the lower end of the fountain pen barrel.

The invention resides not only in this new unit as a new article of manufacture, but also in the locking section bushing itself; in the combination of the locking section bushing with the lower open end of the fountain pen barrel; and the combination of the unit with the fountain pen.

It is seen that the locking section bushing 14 of the present invention is not placed directly into the barrel 10. The locking bushing assembly includes the pen point guard 22, the feeder bar 20 and the sleeve 10b, the sleeve 10b having the rubber sac S attached thereto. This assembly is held in the barrel 10 by a force fit, Figs. 1 and 2. The sleeve 10b is provided with a longitudinally extending bore including a first portion 26 and a smaller hole or portion 25, there being a tapered shoulder 24 extending between the portions 25 and 26 in the sleeve 10b. The rear portion of the feeder bar 20 extends beyond the rear end of the locking section bushing 14 and fits snugly in the smaller portion 25 in the sleeve 10b

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to thereby align the pen point 21 and feeder bar 20 with the sleeve 10b. Next, the locking bushing 14 having the pen point 21 and feeder bar 20 therein, is screwed into the sleeve 10b whereby the rear portion of the feeder bar 20 fits in the smaller portion 25 in the sleeve 10b. This arrangement prevents the ink supply from leaking through and around the locking section bushing assembly.

Referring to Fig. 6, there is shown a longitudinal sectional view taken through the locking bushing assembly, this assembly including the feeder bar 20, pen point guard 22, pen point 21, and bushing 14. The entire assembly shown in Fig. 6 is removed and replaced as a unit from the fountain pen so that the possibility of misalignment of these parts is eliminated. This construction also prevents leakage because the snug fit of the pen point is not disturbed. The locking section bushing having the recesses therein may be readily fabricated as, for example, by an injection molding process.

What is claimed is:

In a unit adapted to be mounted in a fountain pen, a locking section bushing fabricated of a single piece of material and comprising a hollow tubular body, said single piece of material being preformed with a recess arranged in the interior of said body and extending inwardly from one end thereof, said recess being defined by side and end walls, the interior of said recess being provided with a cut-out, said cut-out being defined by side and end walls positioned within the confines of the side and end walls of said recess, said body having its ends open, a feeder bar, a pen point on said feeder bar, said pen point being received within said recess and abutting the side and end walls thereof and a pen point guard on said pen point, said pen point guard being received within said cut-out and abutting the side and end walls thereof.

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