Sept. 23, 1930. H. GARABEDIAN 1,776,384

FOUNTAIN PEN

Filed June 25, 1929

Fig. 1.

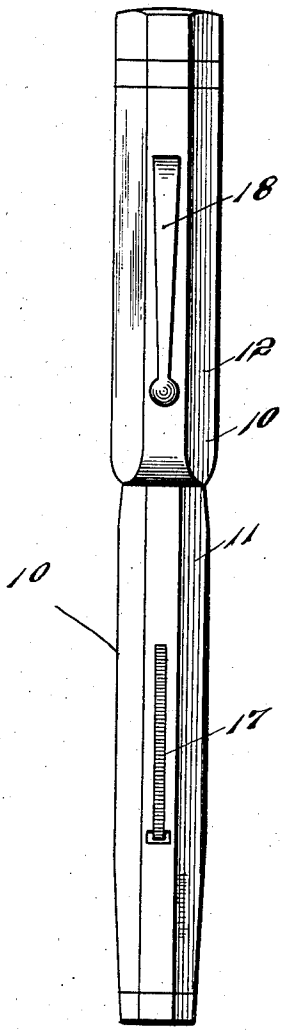


Fig. 2.

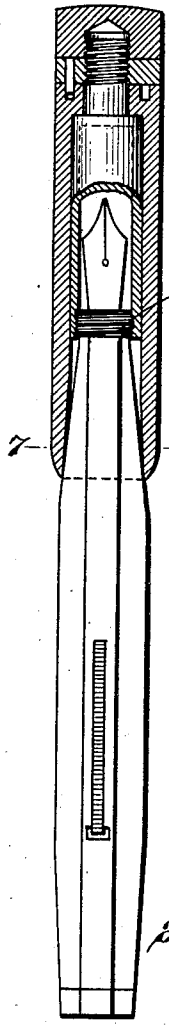


Fig. 3.

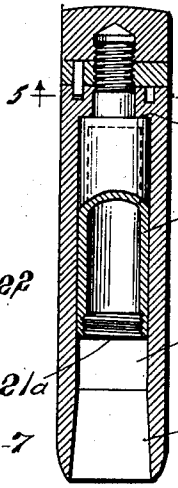


Fig. 4.

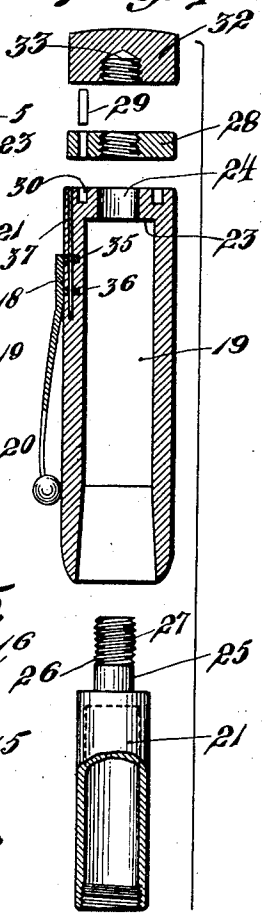


Fig. 5.

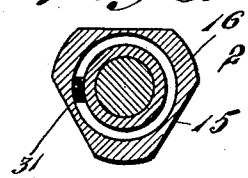


Fig. 6.

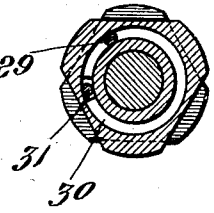
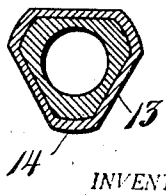


Fig. 7.



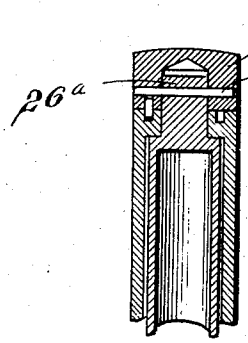


Fig. 8.

INVENTOR.

Harry Garabedian

BY Bailey & Bailey

ATTORNEYS.

Patented Sept. 23, 1930

1,776,384

UNITED STATES PATENT OFFICE

HARRY GARABEDIAN, OF PROVIDENCE, RHODE ISLAND, ASSIGNOR, BY MESNE ASSIGNMENTS, TO TRIPEN MANUFACTURING CO., INC., OF PROVIDENCE, RHODE ISLAND, A CORPORATION OF RHODE ISLAND

FOUNTAIN PEN

Application filed June 25, 1929. Serial No. 373,517.

My present invention relates to fountain pens, and has particular reference to fountain pens having a noncircular contour in cross section.

One object of the invention is to provide a structure in a pen of this type, for positively retaining the barrel within the cap.

Another object is to provide a locking structure which is positively stopped in either locked or unlocked position.

A further object is to provide a fountain pen having a barrel and a cap of polygonal cross-section, the plane surfaces of the barrel and cap being in alignment when in locked position.

Other objects and advantageous features will be readily apparent from the detailed description following, in conjunction with the accompanying drawings, and will be particularly pointed out in the appended claims.

In the drawings:

Fig. 1 is an elevation of the improved pen;

Fig. 2 is a view similar to Fig. 1, with the cap partly in section;

Fig. 3 is a median view of the cap, partly in section;

Fig. 4 is a similar view to Fig. 3, with the parts separated;

Figs. 5 and 6 are sectional views on the line 5—5 of Fig. 3, showing the relative position of the cap head and cap body at locked position and during unlocking movement;

Fig. 7 is a section of the pen on the line 7—7 of Fig. 2; and

Fig. 8 is a section of a modified form of construction for the cap.

In fountain pens of the usual circular cross-section, the barrel screw-threadedly engages the interior of the cap by a relative rotation of these parts; but this relative rotation is not possible when the interengaging parts of both the cap and the barrel are of other than circular cross-section and fit snugly together. To accomplish the locking together of non-circular members, I have devised a simple and effective construction for securing the barrel snugly in the cap by positioning a rotatable bushing in the cap which screw-threadedly engages the correspondingly screw-threaded tip of the barrel to longitudinally move the barrel upwardly into the cap and lock the barrel therein; and the following is a detailed description of structural arrangements embodying the principles of my invention.

Referring to the drawings, 10 designates the improved fountain pen as a whole, the barrel portion 11 and the cap portion 12 having non-circular cross-sections, in the illustrated embodiment triangular, the barrel having flat sides 13 and rounded apices 14 and the cap having corresponding flat sides 15 and rounded apices 16; the barrel has the usual filling clip 17 on one apex thereof, and the cap has the usual pocket clip 18 on a corresponding apex.

The circular bore 19 of the cap, tapered slightly and of triangular section at the mouth 20 to receive the barrel tip, houses a rotatable bushing 21, interiorly screw threaded at 21ª to engage with threads 22 formed on the cylindrical tip portion of the barrel. The bore 19 terminates in shoulders 23, a central opening 24 receiving the cylindrical portion 25 of the reduced bushing stem 26, which is screw threaded at the upper end 27 thereof.

A lock nut 28, of cross-section corresponding to that of the cap, screw-threadedly engages the stem 26, and has a pin 29 downwardly extending into an annular groove 30 in the end of the cap body, an upwardly extending pin 31 in the groove engaging the pin 29 to limit the rotation of the bushing 21.

A cap portion 32, having a central screw-threaded recess 33, is mounted on the end of the bushing stem 26, and is in tight frictional engagement with the lock nut 28 to be locked in position to form the cap head; if desired, the pin 29 may be passed thru the cap section, thus permanently locking the bushing, lock nut and cap section on the cap body.

To insure proper alignment of the sections of cap, the pin 31 is positioned in a laterally elongated recess twice the width of the pin, so that the contacting of pins 29 and 31 always occurs on the same plane, whether in locking or unlocking position.

In certain instances, it is preferable to use a modified construction, as shown in Fig. 8, the stem 26ª being cylindrical, and the cap section 32ª being secured thereto by a transverse pin or the like 34.

A novel clip mounting has been devised, the clip 18 having two laterally extending flanges or portions 35, 36, as shown in Figure 4, extending within the body of the cap 19, a pin 37 passing through aligned openings in the flanges to lock the clip rigidly within the cap. The lower flange, if desired, may be struck up from the clip body.

The operation of my improved construction is as follows:

The barrel is inserted into the cap, the flat sides thereof fitting into the corresponding sides of the mouth 20, until the threads 22 contact with the interior bushing threads 21ª. The cap head is then turned, thus rotating the bushing 21, and engaging the threads 21ª and 22 to draw the barrel into the cap until the pin 29 contacts the pin 31, as shown in Fig. 5, to lock the barrel in the cap, with the flat sides in alignment. To unlock, the cap head is turned in the opposite direction, until pin 29 contacts with the other side of pin 31, thus unlocking the parts and permitting removal of the barrel.

While I have described specific constructional features of my invention, desirable structural arrangements and other changes may obviously be made, within the scope of the invention as defined in the appended claims.

Having thus described my invention, I claim:

1. In a fountain pen, a barrel having peripherially a polygonal outline and a screw-threaded circular tip, a cap having a bore of corresponding cross section, a rotatable tubular bushing within said cap bore having a screw-threaded bore engageable with said barrel tip, and means for stopping the rotation of the bushing at fully locked and fully unlocked positions.

2. In a fountain pen, a cap body having a non-circular periphery, a tubular bushing rotatably mounted in said cap body, barrel engaging means on said bushing, a stem on said bushing extending through an opening in the cap body, and means for locking said bushing to said cap body.

3. In a fountain pen, a cap body having a polygonal bore merging into a circular bore, a tubular bushing mounted in said circular bore, barrel engaging means on said bushing, said cap body having an opening in alignment with said bores, a stem on said bushing extending through said opening, and a cap head locked to said stem and rotatable on said cap body.

4. In a fountain pen, a cap body having a non-circular bore merging into a circular bore, a tubular bushing mounted in said circular bore, barrel engaging means on said bushing, said cap body having an opening in alignment with said bores, a stem on said bushing extending through said opening, a cap head locked to said stem and rotatable on said cap body, and means limiting the rotation of said cap head.

5. In a fountain pen, a cap body having a polygonal bore merging into a circular bore, a tubular internally threaded bushing mounted in said circular bore, said cap body having an opening in alignment with said bores, a stem on said bushing extending through said opening and having a screw-threaded outer portion, a nut screw threaded on said stem and engaging the top of said cap body, and a cap section having a screw-threaded recess mounted on the top of said stem and engaging said nut.

6. In a fountain pen, a cap body having a polygonal bore merging into a circular bore, a tubular internally threaded bushing mounted in said circuluar bore, said cap body having an opening in alignment with said bores, a stem on said bushing extending through said opening and having a screw-threaded outer portion, a nut screw threaded on said stem and engaging the top of said cap body, a cap section having a screw-threaded recess on the top of said stem and engaging said nut, and means for limiting the rotation of said cap section and nut on said cap body.

7. In a fountain pen, a barrel peripherially of non-circular outline, a cap having a corresponding non-circular bore for closely fitting said barrel, securing means wholly within the cap located along the overlapping portions of said cap and barrel for locking said barrel in said cap, and manually operable means for said securing means axially removed from said securing means.

8. In a fountain pen, a barrel peripherally of polygonal outline, a cap internally of corresponding outline for closely fitting said barrel, securing means on the overlapping portions of said cap and barrel including interengaging portions for locking said barrel in said cap, and manually operable means axially removed from said overlapping portions for operating said securing means.

9. In a fountain pen, a barrel peripherally of triangular outline, a cap internally of corresponding outline for closely fitting said barrel, securing means on the overlapping portions of said cap and barrel including interengaging portions for locking said barrel in said cap, and manually operable means axially removed from said overlapping portions for operating said securing means.

10. In a fountain pen, a cap having a non-circular bore adjacent the mouth end thereof, a tubular bushing rotatably mounted in said cap barrel engaging means on said bushing and a finger piece secured to said bush-

ing located to be manually operated from without said cap for rotating the bushing therein.

11. In a fountain pen, a cap having a polygonal bore adjacent the mouth end thereof, a tubular bushing rotatably mounted in said cap having a screw-threaded end adapted to engage with a correspondingly screw threaded barrel and a finger piece secured to said bushing located to be manually operated from without said cap for rotating the bushing therein.

12. In a fountain pen, a cap body having a non-circular outer periphery and having an opening in its upper end, a tubular internally threaded bushing rotatably mounted in said cap body, a stem on said bushing extending through said opening, a cap head locked to said stem and rotatable on said cap body, and cooperating elements on said cap body and cap head engageable to limit rotation of said cap head with respect to said cap body.

13. In a fountain pen, a cap body having a non-circular outer periphery and having an opening in its upper end, a tubular internally threaded bushing rotatably mounted in said cap body, a stem on said bushing extending through said opening, a cap head locked to said stem and rotatable on said cap body, the upper surface of said cap body having a groove, a stop pin in said groove, and a pin in the lower surface of said cap head movable in said groove upon rotation of said cap head to engage with said stop pin.

14. In a fountain pen, a cap body having a non-circular outer periphery and having an opening in its upper end, a tubular internally threaded bushing rotatably mounted in said cap body, a stem on said bushing extending through said opening, a cap head locked to said stem and rotatable on said cap body, the upper surface of said cap body having a groove, a stop pin in said groove slightly displaceable in the direction of the groove, and a pin in the lower surface of said cap head movable in said groove upon rotation of said cap head to engage with said stop pin.

In testimony whereof I affix my signature.

HARRY GARABEDIAN.