

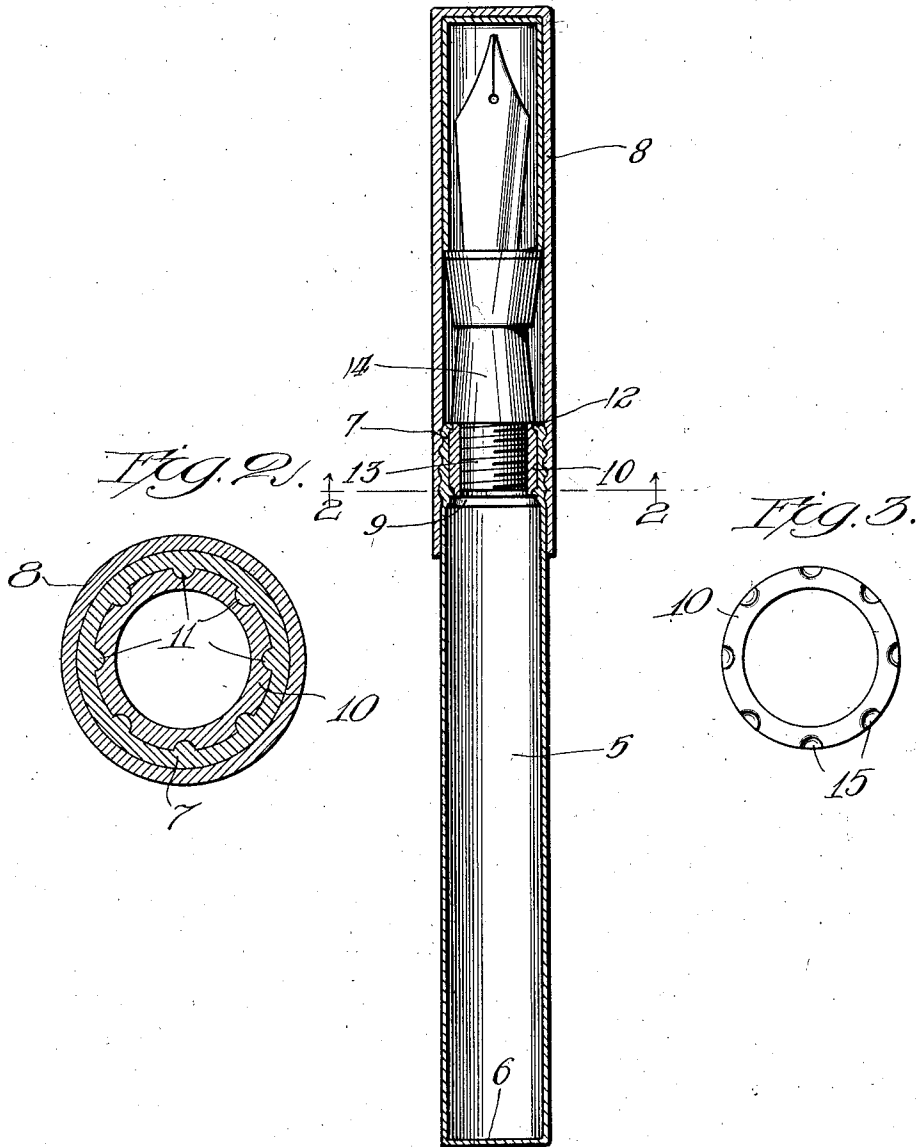
C. R. KEERAN.
FOUNTAIN PEN.

APPLICATION FILED JAN. 13, 1919.

1,360,647.

Patented Nov. 30, 1920.

FIG. 1.



Witness:

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UNITED STATES PATENT OFFICE.

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FOUNTAIN-PEN.

1,360,647.

Specification of Letters Patent. Patented Nov. 30, 1920.

Original application filed May 2, 1918, Serial No. 232,052. Divided and this application filed January 13, 1919. Serial No. 270,855.

To all whom it may concern:

Be it known that I, CHARLES R. KEERAN, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Fountain-Pens, of which the following is a specification.

This invention relates to fountain pens, and more particularly to certain improvements which are designed to increase the capacity of the ink reservoir in the barrel, this application being concerned with certain features that have been divided out of the subject matter contained in my prior application Serial No. 232,052, from which has issued Letters Patent No. 1,301,057, under date of April 15, 1919.

According to the constructions which are now in common use, the barrel of the fountain pen is formed of hard rubber of a substantial thickness to insure the requisite strength. The outside diameter of such a barrel is necessarily limited by considerations of convenience in handling and the desire to keep the proportions symmetrical. It follows, consequently, that the interior diameter of the barrel is much less than the outside diameter because of the thickness of the walls.

In some styles of pens now made, the rubber barrel is incased within a metallic sheathing, usually of gold or silver, but in such cases the capacity of the ink reservoir remains unchanged. For these reasons the cubical space available as an ink reservoir can only be a fraction of the cubical space occupied by the exterior of the barrel.

The primary object of this invention, therefore, is to devise a fountain pen whose barrel is formed of a comparatively thin material so as to provide an ink reservoir therewithin of the maximum capacity. As the volume of a cylindrical body varies as the square of its diameter, it is obvious that only a small increase in the inside diameter of the barrel is necessary to double the capacity of the ink reservoir.

With the end in view of providing a construction which will afford a considerably greater capacity for ink, and which will provide an ink-tight joint between the barrel and pen section, the present invention has

been devised. Other objects and uses will also appear from the description to follow, wherein reference is made to the accompanying drawing which illustrates a suggestive embodiment of my invention, Figure 1 being a longitudinal section; Fig. 2 an enlarged transverse section therethrough on line 2-2; and Fig. 3 an enlarged bottom plan view of the bushing.

The fountain pen may comprise a metallic barrel 5 of the usual cylindrical form having a closed end 6, the opposite end 7 being open. Any suitable metal, such as gold or silver, may be used for the barrel, the walls whereof are relatively thin, being preferably exteriorly threaded near the open end 7 to engage with a cap 8 as shown.

Near its open end the barrel is formed interiorly with a shoulder 9 against which may rest the inner end of a bushing 10, preferably made of hard rubber.

Means are provided for engaging with the inner end of the bushing to prevent its rotation within the barrel, and for this purpose, I have shown a series of elements 11 in the nature of studs or buttons projecting into the interior of the barrel in a manner to engage with notches 15 formed at the bottom end of the bushing. This bushing may be secured in place within the barrel by a drive or friction fit sufficiently tight to prevent any leakage of ink, and to prevent any relative movement between these parts. If desired, the extremity of the barrel may be crimped or turned in as at 12 to slightly over the proximate end of the bushing, thereby preventing the bushing from working out. Interiorly the bushing is threaded to receive the threaded stem 13 of a pen section 14 which is preferably made of material similar to that composing the bushing, which carries the usual nib and feeder member.

In the construction described, it is obvious that the use of the metallic barrel dispenses with the customary rubber shell which ordinarily constitutes the reservoir, and adds greatly to the capacity of the pen. The well known difficulties in providing an ink-tight joint between a pen section and any metallic part has prevented the use of metallic barrels for such pens. However, by utilizing a bushing with which the pen sec-

tion may engage to form an ink-tight joint, and which may be fitted into the end of the barrel in a manner to prevent the leakage of ink, I am enabled to overcome the obstacles mentioned and to provide a construction in which a much greater capacity for ink is provided. The operations of refilling the pen which require the pen section to be temporarily removed from the barrel are in no wise affected by the present construction, since the pen section is removable from the bushing with the same ease as has been formerly the case where the pen section has been screwed directly into the upper end of a rubber barrel. When replaced, the joint will be as free from leakage as though the entire barrel were made of hard rubber in the usual manner.

I claim:

1. In a fountain pen, the combination of a barrel, a bushing frictionally held within the barrel at its open end, means acting positively to prevent rotation of the bushing within the barrel, and a pen section in which is mounted a nib and feeder member removably fitted to the bushing, substantially as described.

2. In a fountain pen, the combination of a barrel, a bushing arranged within the barrel at its open end, means acting positively for preventing removal of the bushing from the barrel, and a pen section in which is mounted a nib and feeder member removably fitted to the bushing, substantially as described.

3. In a fountain pen, the combination of a barrel, an internally threaded bushing arranged within the barrel at its open end and held therein by frictional engagement there-within, means on the bushing, and means on the barrel cooperating therewith for preventing rotation of the bushing within the barrel, and a pen section threaded into the bushing, substantially as described.

4. In a fountain pen, the combination of a barrel, a bushing arranged within the barrel at its open end, means acting positively to prevent rotation of the bushing within the barrel, other means acting positively to prevent removal of the bushing from the barrel,

and a pen section removably fitted to the bushing, substantially as described.

5. In a fountain pen, the combination of a barrel, a bushing arranged within the barrel at its open end, means acting positively for holding the bushing against longitudinal movement within the barrel, means on the bushing, and other means on the barrel cooperating therewith for preventing rotation of the bushing within the barrel, and a pen section removably fitted to the bushing, substantially as described.

6. In a fountain pen, the combination of a barrel, a bushing within the barrel, the barrel end having an inturned flange overlying the adjacent end of the bushing whereby removal of the bushing from the barrel is prevented, means for preventing rotation of the bushing within the barrel, and a pen section removably fitted to the bushing, substantially as described.

7. In a fountain pen, the combination of a barrel, a bushing within the barrel, the barrel being crimped near its end to engage the adjacent end of the bushing, whereby removal of the bushing from the barrel is prevented, and a pen section removably fitted to the bushing, substantially as described.

8. In a fountain pen, the combination of a barrel, a bushing within the barrel, the barrel end being crimped to engage the adjacent end of the bushing, and the barrel body being crimped to engage the other end of the bushing, whereby the bushing is held against longitudinal movement within the barrel, and a pen section removably fitted to the bushing, substantially as described.

9. In a fountain pen, the combination of a barrel, a bushing fitted into the open end of the barrel, means within the barrel for preventing movement of the bushing therein beyond a predetermined point, said means acting as well to lock the bushing against rotation within the barrel, and a pen section threaded into the bushing, substantially as described.

CHARLES R. KEERAN.

Witness:

EPHRAIM BANNING.