W. A. HASKINS.

FOUNTAIN PEN.

APPLICATION FILED NOV. 14, 1916.

1,307,630. Patented June 24, 1919.

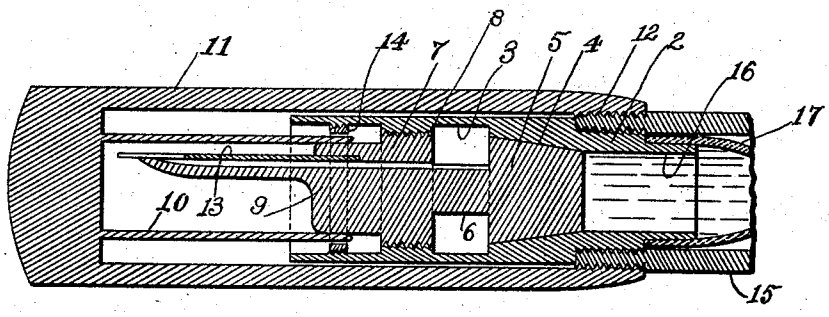

FIG. 1.

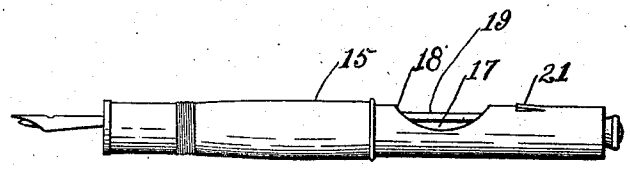

FIG. 3.

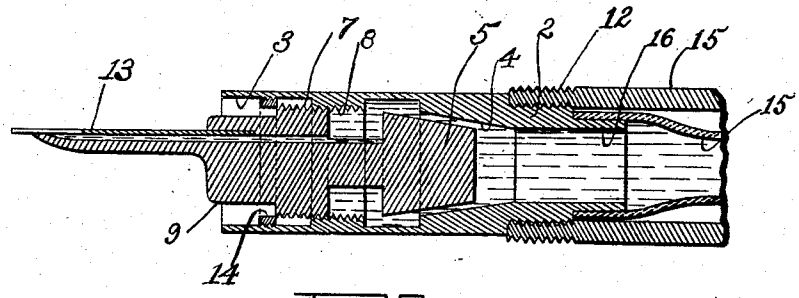

FIG. 2.

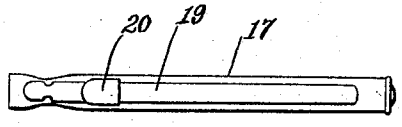

FIG. 4.

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UNITED STATES PATENT OFFICE.

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FOUNTAIN-PEN.

1,307,630. Specification of Letters Patent. Patented June 24, 1919.

Application filed November 14, 1916. Serial No. 131,329.

To all whom it may concern:

Be it known that I, WILLIAM A. HASKINS, a citizen of the United States, residing at West Somerville, county of Middlesex, Commonwealth of Massachusetts, have invented certain new and useful Improvements in Fountain-Pens, of which the following is a specification.

This invention relates to fountain pens, and particularly to a fountain pen of the type wherein the pen bar carries a shut-off adapted to control the flow of ink from the ink reservoir.

In such pens the pen bar has usually a contained position within the barrel when the pen is not ready for use and a projected position beyond the barrel when the pen is ready for writing. The movement of the pen bar seals and unseals the ink reservoir, and this movement may be effected in any desired manner, and is usually effected by rotating it by means of a cap.

The object of my invention is to refine and improve the construction of pens of this type, and particularly to provide an ink-tight control for the ink reservoir so that the pen may be carried in any position within the pocket with assurance that the ink will not leak. Mechanically, my pen involves certain characteristic features of which the most advantageous is perhaps the provision of the seat for the shut-off during the production of the fore part of the barrel itself. According to my invention, the fore part is bored and counterbored to leave a conical or other seat for the shut-off of the pen bar. This insures that the seat will be located in precisely the proper position relative to the pen bar, besides securing a permanently fixed seat the position of which cannot be changed by rough usage of the pen. By this structure I am also able to provide a maximum opening for the free flow of ink by a minimum movement of the valve from its seat. This is a matter of the utmost importance in fountain pens where from the very nature of the article a certain amount of jarring is bound to occur and which jarring in a pen of the type wherein the seat is floating is likely to dislodge the seat from its intended position relative to the pen bar.

The construction and manner of producing my pen is fully described in the specification which follows. In the drawings accompanying that specification I have indicated like numerals to indicate corresponding parts, and in the drawings:

Figures 1 and 2 are enlarged longitudinal sections through the fore part of the barrel in accordance with my invention and showing the pen bar in its carrying and writing positions.

Fig. 3 is an elevation of my pen with the rear part or cover for the barrel removed, and

Fig. 4 is a detail view of the compressible ink reservoir or sack of my pen removed.

I have indicated at 1 the removable fore part of a pen barrel 15. The fore part 1 is reduced and threaded at its upper end as indicated at 2 for adjustment to the barrel 15, and beyond said threads 2 extends as a cylindrical or other engageable portion 16 over which the open end of a compressible ink sack or reservoir 17 of rubber or the like contained within the barrel is adapted to frictionally engage. The barrel 15 is cut out for a portion of its length as indicated at 18 to expose the underlying portion of the ink sack for compression by the thumb in filling the ink sack. To assist in filling and to provide the necessary stiffness for the sack during such compression the sack has a stiffening element in the form of a concaved backing strip 19 which is frictionally retained in position on the sack by inserting it under a retaining lip 20 formed on the sack by slitting the sack transversely at two longitudinally spaced points (see Fig. 4). Beyond the cut-out 18 the barrel 15 is provided with a retaining projection 21 formed by slitting the barrel transversely. The projection 21 is adapted to frictionally engage the rear or cover portion of the barrel, not shown, and prevent said cover from accidentally disengaging from the barrel.

The fore part 1 is formed with an axial bore 3 which is counterbored as indicated at 4 to provide a gradually tapering area forming a conical seat for the similarly shaped shut-off 5 formed on the upper end of a movable pen bar 6. The pen bar 6 has rotative travel in the part 1 whereby to vary the position of the shut-off 5 relative to the seat 4.

In the embodiment shown, this travel is provided for by forming the pen bar 6 with an enlargement 7 in advance of the shut-off 5 which enlargement is threaded externally to engage a series of short threads 8 formed at a predetermined point in the bore 3 of

the fore part 1. Beyond the threaded enlargement 7 the pen bar extends as a cylindrical or slightly tapered portion 9 which is adapted to be engaged by the similarly shaped sleeve 10 of a cap 11. The open end of the cap 11 is threaded to engage a short series of external threads 12 on the barrel 15, whereby to retain the cap in covering position to the pen 13 of the pen bar when the pen bar has moved to its carrying position.

In order to prevent complete withdrawal of the pen bar from the fore part 1 when the pen bar has moved to writing position, I provide an internal stop shoulder 14 near the lower end of the fore part 1 and against which the lowermost thread of the series of threads on the enlargement 7 is adapted to abut, to thereby limit the outward movement of the pen bar. This stop 14 may conveniently be in the form of a ring which is threaded or otherwise secured within the fore part 1 at the proper point therein. The opening of the ring is of course large enough to permit the wrench portion 10 of the cap 11 to clear the ring and engage the similar wrench portion 9 of the pen bar.

From the foregoing, it will be apparent that I provide a rigid immovable seat 4 for the shut-off valve 5 which seat cannot be effected by rough handling of the pen, and is therefore permanently fixed in proper position to coöperate with the shut-off 5 to seal and unseal the ink reservoir. As a manufacturing step this method of providing a seat in the production of the case 1 itself is highly advantageous, obviating as it does the separate production of a seat member and the additional step of properly and accurately assembling such separate member in the pen.

Various modifications in the form and construction of my pen may obviously be resorted to if within the limits of the appended claims.

What I therefore claim and desire to secure by Letters Patent is:

1. In a pen of the class described, a fore part consisting of a tubular member having an axial bore and adapted to be attached at its rear end to a pen barrel, an outwardly facing seat formed on said member intermediate the ends thereof, a pen bar adjustably mounted in said bore and carrying a conical shut-off adapted to find said seat, and an internal ring threaded into said member at its outer end and constituting a stop to limit the adjustment of the pen bar in one direction.

2. In a fountain pen, a tubular member having a valve seat, a pen bar adjustable in said member, a valve movable by said pen bar relative to said seat, and an internal stop ring threaded into said member in advance of said seat and adapted to prevent the adjustment of said pen bar beyond a predetermined limit.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM A. HASKINS.

Witnesses:
VICTORIA LOWDEN,
AGNES V. O'CONNELL.