No. 711,988. Patented Oct. 28, 1902.

G. W. MABIE.

FOUNTAIN PENHOLDER.

(Application filed Apr. 18, 1902.)

(No Model.)

Fig. 1.

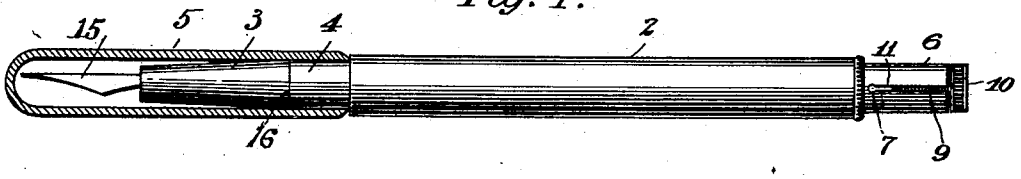


Fig. 2.

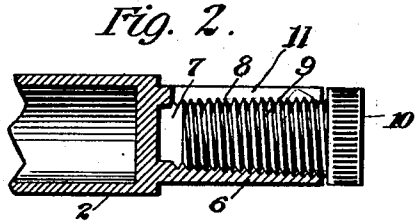


Fig. 3.

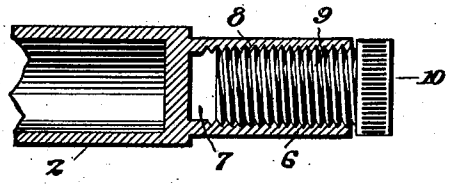


Fig. 4.

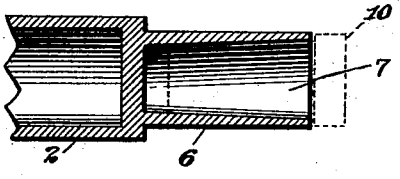


Fig. 5.

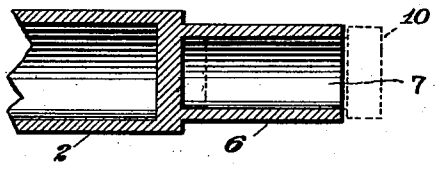


Fig. 6.

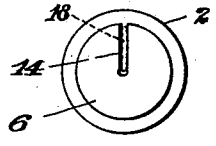


Fig. 7.

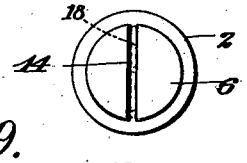


Fig. 8.

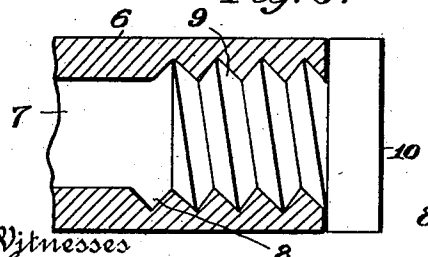
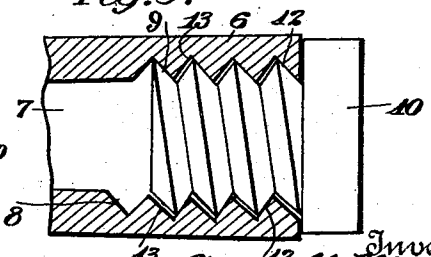


Fig. 9.



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UNITED STATES PATENT OFFICE.

GEORGE W. MABIE, OF BROOKLYN, NEW YORK.

FOUNTAIN-PENHOLDER.

SPECIFICATION forming part of Letters Patent No. 711,988, dated October 28, 1902.

Application filed April 18, 1902. Serial No. 103,553. (No model.)

To all whom it may concern:

Be it known that I, GEORGE W. MABIE, a citizen of the United States, residing at Brooklyn, county of Kings, and State of New York, have invented certain new and useful Improvements in Fountain-Penholders, of which the following is such a full, clear, and exact description as will enable any one skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, forming part of this specification.

One of the difficulties occurring in the use of fountain-pens is that of the protecting-cap gradually becoming so expanded by usage that it does not fit upon the cap-attaching part at the rear of the holder, where the cap is placed when the pen is in use, with sufficient tightness to be retained thereon. While the cap has thus become too big for a proper fit with the rear-end cap-attaching part, it still fits the forward attaching part over the nozzle with sufficient tightness, so that if the cap be then contracted to make it properly fit the rear end part it will be too loose for the forward end of the holder. This is a common experience in the use of fountain-pens, and it is in fact a serious drawback to the same and often discourages the use of the article. My present invention seeks to overcome this drawback; and, briefly stated, it consists in an expansible cap-attaching part or rest at the rear end of the holder with adjustable means for expanding or contracting such part in order to compensate for the enlargement of the forward cap-retaining part and the corresponding enlargement of the tubular protecting-cap, whereby the cap may always have as snug a fit with the rear end attaching part or rest as with the forward part, all as hereinafter fully set forth, and then pointed out in the claims.

I have illustrated types of my invention in the accompanying drawings, wherein—

Figure 1 is a side view of an ordinary fountain-pen provided with the usual tubular protecting-cap, which is shown in longitudinal section and having my improvement embodied therein. Fig. 2 is an enlarged view of the expansible cap-attaching part at the rear end of the fountain-pen, as shown in Fig. 1, the view being in central longitudinal section. Figs. 3 to 7, inclusive, are enlarged central sectional views, similar to Fig. 2, of modified forms, respectively, of the expansible cap-attaching part. Figs. 8 and 9 are enlarged views, of a diagrammatic character, showing the expansible cap-attaching part in central longitudinal sections and illustrating the manner in which the adjustable means serves to expand such part, as will be hereinafter explained.

Referring to the drawings, in which like numbers of reference designate like parts throughout, 2 is an ordinary tubular holder for the ink and which is closed at the rear end and open at its forward end, which is provided with a nozzle 3, in which the usual writing-pen and its feeder 15 are mounted. The forward end or nozzle of the holder is formed with a cylindrical part 4, designed to receive and snugly fit the open end of the cylindrical tubular protecting-cap 5 to cover and house the writing-pen and feeder when the pen is not in use. These described parts are well known in this art, and it is the general practice to form the rear end of the holder with a solid cylindrical projection of the same circumference as the cap-attaching part 4 at the forward end of the holder, which rear part is adapted to be inserted in the open end of the cap 5 when the pen is in use for the purpose of resting or keeping the cap in a convenient place and avoid liability of mislaying it. When such a fountain-pen as this goes into use, the mouth of the cap 5 soon becomes permanently expanded and enlarged to such a degree that while it fits the forward cap-retaining part 4 sufficiently tight to keep it on it fits the rear end of the holder so loosely that it will not remain thereon. I have by experiment found that this permanent enlargement of the mouth of the cap is caused by the enlargement or expansion of the cap-retaining part 4 at the forward end, which change in size is due to the following facts: The nozzle 3 is fitted in the open end of the holder 2 by means of a screw-threaded joint, the two parts, which are made usually of hard rubber, coming together on the line 16, as indicated in Fig. 1. In using the fountain-pen the heat of the hand and body causes the mouth of the barrel at its end 4 to expand, which action often lets the ink leak at this

joint, and the user to stop such leakage screws the nozzle farther into the barrel to tighten the joint, and this results in holding the part 4 in its expanded condition, the inserted part of the nozzle also enlarging under the influence of heat from the person. When this part 4 has thus become enlarged, the mouth of the cap 5 then becomes stretched and permanently enlarged by reason of its being forced over the enlarged part 4 and the effect of the heat thereon at the same time. Under this condition the mouth of the cap is too large to properly fit the cap-retaining part at the rear end of the holder, and the fountain-pen is defective to that extent. This defect cannot, of course, be cured by shrinking the mouth of the cap or making it smaller, for it would then be too small to fit the part 4 at the front end of the holder. After many tests and experiments I have found that this defect can be remedied by providing the rear cap-retaining part of the holder with means for varying or changing its size, so that it may be readily enlarged or expanded to accommodate the enlarged mouth of the cap. I show several ways of accomplishing this.

In Figs. 1 and 2 the rear end 6 of the holder 2 is bored out or formed with an axial recess or socket 7, shown as inwardly tapering and provided with an internal screw-thread 8 and with a slit 11, formed in the side thereof and extending from the edge of the socket inwardly substantially the length thereof. Into this socket or recess 7 is fitted a tapering plug or wedge 10, having an external screw-thread 9, fitting that of the socket and provided with a milled head, by which it may be readily turned with the fingers to screw the plug in or out of the socket to adjust it axially therein. In this form when the screw-plug 10 is screwed in slightly it causes the slit 11 to spring open slightly, and the part 6 is thereby enlarged.

In the form shown in Fig. 3 the socket 7 is cylindrical instead of conical and is provided with an internal screw-thread 8, but the slit is omitted in the side of the socket.

In Figs. 4 and 5 I show forms in which there is a conical socket 7 and a cylindrical socket, respectively, in each of which the screw-thread and slit are omitted, and a smooth-sided plug 10 of a corresponding shape to the socket is inserted therein, as shown in dotted lines.

In Fig. 6 the cap-retaining part 6 is solid, with a slot or cut 14 formed in one side and opening upon the outer end thereof, where there is inserted an adjustable wedge-piece 18 (shown in dotted lines) for forcing open the cut to expand and enlarge the part 6 in a manner that is evident.

In Fig. 7 the slot or cut 14 extends diametrically through the cylindrical part 6, and the wedge 18 (shown in dotted lines) is set in the end thereof for forcing the slot open and enlarging the part 6.

In Figs. 8 and 9 I show in a somewhat diagrammatic way the manner in which the part 6 is caused to become enlarged or expanded by the screw-threaded plug 10 coacting with the thread 8 in the socket 7. In Fig. 8 the plug is in what may be considered a normal position, where the sides of the thread 9 fit alike against the sides of the thread 8 of the socket. By screwing in the plug 10 until it tightens the inner face or side 13 of the thread 9 moves away from the side of the thread 8, while the outer face 12 of thread 9 bears with increased pressure against thread 8, and this action expands the wall of the socket, and thus the circumference of part 6 is enlarged in a corresponding manner.

In all the forms shown herewith the part 6 and its expanding means are so proportioned in size and relative adjustment that when the fountain-pen is finished ready for the market the cap-attaching part 6 has the same circumference as part 4 when the expanding plug or wedge is not pushed all the way home in order that it may be further adjusted inwardly when it becomes necessary to enlarge its part 6, and for such reason the range of adjustment of the plug should always be amply sufficient to compensate for any likely enlargement of the mouth of the protecting-cap.

I wish to be understood as not limiting my invention to the precise forms of construction herein set forth, as various modifications may be made in the different parts thereof without, however, departing from the spirit of my invention.

Having thus described my invention, what I claim is—

1. A fountain-penholder having the forward end or nozzle and the rear end thereof each provided with a suitable cap-attaching part for receiving and sustaining the protecting-cap thereon and being substantially of the same cross-sectional area as each other and as the interior of the cap, a protecting-cap fitting said attaching parts and adapted to be placed over the one to protect the writing-pen and over the other when the fountain-pen is in use, the said cap-attaching part at the rear end of the holder being expansible and provided with adjustable means for varying its size to compensate for the expansion of said forward cap-attaching part and said cap that results from usage, substantially as and for the purpose set forth.

2. A fountain-penholder having the forward end or nozzle and the rear end thereof each provided with a suitable cap-attaching part for receiving and sustaining the protecting-cap thereon and being substantially of the same cross-sectional area as each other and as the interior of the cap, a protecting-cap fitting said attaching parts and adapted to be placed over the one to protect the writing-pen and over the other when the fountain-pen is in use, the said cap-attaching part at the rear end of the holder being provided with a recess or socket, and a plug or wedge adapted to be inserted and adjusted in said recess or

socket to vary the size of said cap-retaining end, substantially as and for the purpose set forth.

3. A fountain-penholder having the forward end or nozzle and the rear end thereof each provided with a suitable cap-attaching part for receiving and sustaining the protecting-cap thereon and being substantially of the same cross-sectional area as each other and as the interior of the cap, a protecting-cap fitting said attaching parts and adapted to be placed over the one to protect the writing-pen and over the other when the fountain-pen is in use, the said cap-attaching part at the rear end of the holder being provided with a recess or socket formed with an internal screw-thread, and a plug having an external screw-thread adapted to take in the recess or socket and being adjustable on such screw-thread to vary the size of the cap-retaining end, substantially as and for the purpose set forth.

4. A fountain-penholder having the forward end or nozzle and the rear end thereof each provided with a suitable cap-attaching part for receiving and sustaining the protecting-cap thereon and being substantially of the same cross-sectional area as each other and as the interior of the cap, a protecting-cap fitting said attaching parts and adapted to be placed over the one to protect the writing-pen and over the other when the fountain-pen is in use, the said cap-attaching part at the rear end of the holder being provided with an inwardly-tapering recess or socket in its outer end, and a plug having a corresponding taper adapted to enter said recess or socket and adjustable therein to vary the size of said cap-attaching end, substantially as and for the purpose set forth.

5. A fountain-penholder having the forward end or nozzle and the rear end thereof each provided with a suitable cap-attaching part for receiving and sustaining the protecting-cap thereon and being substantially of the same cross-sectional area as each other and as the interior of the cap, a protecting-cap fitting said attaching parts and adapted to be placed over the one to protect the writing-pen and over the other when the fountain-pen is in use, the said cap-attaching part at the rear end of the holder being provided with a recess or socket having a slit in the side thereof, and a plug or wedge adapted to be inserted and adjusted in said recess or socket to vary the size of said cap-retaining end, substantially as and for the purpose set forth.

In testimony whereof I have hereunto set my hand in the presence of the two subscribing witnesses.

GEORGE W. MABIE.

Witnesses:
E. BAYLER,
WILLIS FOWLER.