No. 773,371. PATENTED OCT. 25, 1904.

F. C. BROWN.

FOUNTAIN PEN.

APPLICATION FILED JAN. 11, 1904.

NO MODEL.

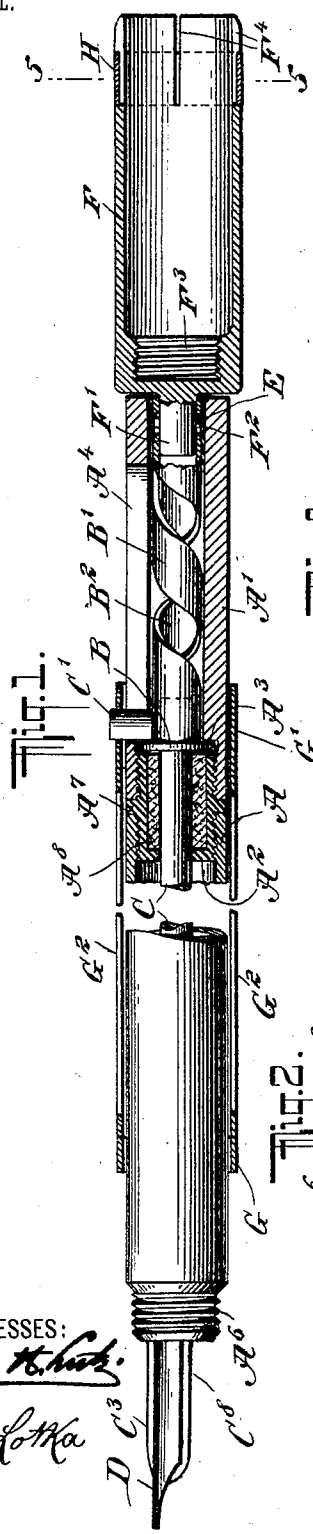

Fig. 1.

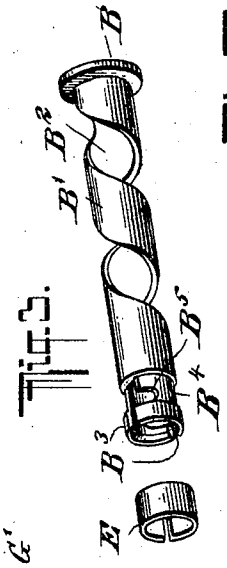

Fig. 3.

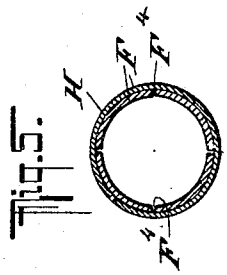

Fig. 5.

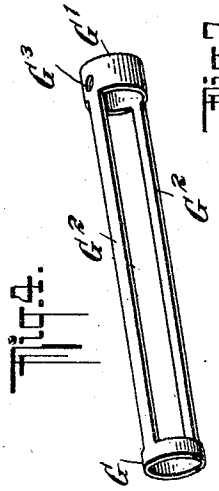

Fig. 4.

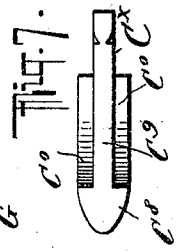

Fig. 7.

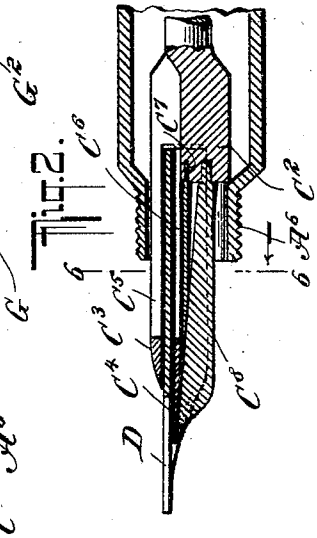

Fig. 2.

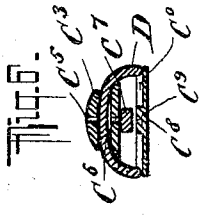

Fig. 6.

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No. 773,371. Patented October 25, 1904.

UNITED STATES PATENT OFFICE.

FRANCIS C. BROWN, OF NEW YORK, N. Y.

FOUNTAIN-PEN.

SPECIFICATION forming part of Letters Patent No. 773,371, dated October 25, 1904.

Application filed January 11, 1904. Serial No. 188,460. (No model.)

To all whom it may concern:

Be it known that I, FRANCIS C. BROWN, a citizen of the United States, and a resident of New Brighton, in the borough and county of Richmond, city and State of New York, have invented certain new and useful Improvements in Fountain-Pens, of which the following is a specification.

My invention relates to fountain-pens, and especially to means for protecting the pen-nib and for projecting and retracting the same.

My invention also has reference to means for securing a steady flow of ink.

In the accompanying drawings I have shown a typical form of my invention, Figure 1 being partly an outside view and partly a longitudinal section of the fountain-pen. Fig. 2 is a sectional elevation of the forward portion of the pen. Fig. 3 is a perspective view showing two of the parts employed for projecting and retracting the pen-nib. Fig. 4 is a perspective view of a stop and guide which I prefer to employ. Fig. 5 is a cross-section of the cap, taken on line 5 5 of Fig. 1. Fig. 6 is a cross-section on line 6 6 of Fig. 2, and Fig. 7 is a plan of the brace forming part of the nib-holder.

The barrel of the pen may be made in any suitable manner—as, for instance, in two sections A A′, which are connected by a screw-threaded plug A^2, having a collar A^7, which is flush with the adjacent ends of the barrel-sections A A′. Between the rear end of this plug and a shoulder A^3 on the barrel-section A′ is received loosely a flange or disk B, capable of rotating within the barrel. The plug A^2 is lined interiorly with a filling A^8 of cork or like material adapted to produce a tight joint. Through the plug A^2 extends movably a feed-bar C, provided at its rear end with a projection C′, adapted to slide lengthwise in a suitable guideway of the section A′—as, for instance, a slot A^4. This projection also extends through a spiral slot B^2 of a sleeve B′, which sleeve is held against longitudinal movement within the barrel that is capable of rotating relatively thereto. In the particular construction shown the disk B is made integral with the sleeve B′, and the shoulder A^3 and plug A^2 hold the sleeve B′ against longitudinal movement, while the plug A^2 and its filling A^8 form a tight joint around the feed-bar C, so that the ink contained in the forward compartment cannot reach the rear compartment containing the feed-sleeve B′. It will be obvious that by rotating the sleeve B′ the feed-bar will be moved longitudinally of the barrel. The forward end of the feed-bar is adapted to carry a nib D. For this purpose said forward end is enlarged, as shown at C^2, to substantially fit the contracted nozzle A^5 on the forward barrel-section A. The nib-holder or ink-feeding device comprises an upper member C^3 and a lower member C^4, between which the nib D is received, each of these members C^3 C^4 being slitted lengthwise, as shown at C^5 C^6, respectively. Underneath the slit C^6 lies a tongue C^7, preferably in close proximity to said slit, and still farther below I arrange an inclined brace C^8, the forward end of which preferably engages the lower member C^4 in advance of the forward end of the tongue C^7. This tongue and the brace serve to hold a certain amount of ink in close proximity to the nib, and thus insure a steady flow of ink. The brace may have a longitudinal rib C^9 and lateral grooves C^9. While I have shown only one tongue between the brace C^8 and the lower member C^4, I might employ a greater number of tongues.

Any suitable device may be employed for rotating the sleeve B, so as to project or retract the nib. I prefer, however, to employ the device shown in Figs. 1 and 3, where the rear end of the sleeve is represented as provided with slits B^3 and a circumferential groove B^4, adapted to receive a split ring E, which by its elasticity tends to contract. The cap F is provided exteriorly at its closed end with a key formed by an axial extension F′, having laterally-projecting pins F^2. As shown in Fig. 1, the extension F′ is adapted to fit into the sleeve B′, and the pins F^2 fit the slits at the end of said sleeve and engage the ring E. These slits are provided with lateral members B^5, so that their shape is that of a bayonet-slot. It will be understood that the split ring

E holds the pins F^2 frictionally with sufficient force to prevent the accidental separation of the cap F from the barrel even if the pen should be pointed upward while the pins F^2 are in the longitudinal slits B^3 of the sleeve B′. The cap when in the position illustrated by Fig. 1 forms a handle for turning the sleeve B′, and thus advancing or retracting the pen-nib D. In order to prevent the nib D from coming in contact with the closed end of the cap F, I may provide the stop shown in Figs. 1 and 4, which stop consists of two collars G G′, arranged to surround the barrel and connected by longitudinal members G^2, although one of them might be sufficient. The rear collar has an aperture G^3, adapted to receive the pin C′ of the feed-bar C. Thus the stop will move in unison with the feed-bar. It will be observed that this stop is not a complete cylinder, but has openings between the bars G^2, so that the user of the pen may hold the barrel-section A between his fingers, and this he could not do if the stop formed a sleeve completely inclosing the barrel. The forward collar G serves as a stop proper for protecting the nib B against injury by contact with the closed end of the cap F. For this purpose the said cap and the stop G G′ G^2 are made of such length that together they are longer than the distance from the pin C′ to the point of the nib, so that the open end of the cap will engage the front edge of the stop—that is, the collar G—before the closed end of the cap can touch the point of the nib. The cap may be fastened to the forward end of the barrel by means of the screw-thread F^3 fitting a screw-thread A^6 of the nozzle A^5, and, if desired, the open end of the cap may be provided with longitudinal slits F^4 and with a split ring H surrounding the split portion and located in a groove of the cap, this structure being somewhat similar to that described with reference to the sleeve B′ and the split ring E. With this construction the cap will be held on the barrel not only by the screw connection, but by a clamp-joint formed by the elastic slitted portion in connection with the split ring G. The screw connection may be omitted.

As shown in Fig. 7, the brace C^8 is reduced at its rear portion $C^\times$ to facilitate the passage of air. Fig. 6 shows that the said brace also forms a cover extending under the edges of the nib D, so as to conceal the lower or concave surface of the nib in its entire width. The point of the nib is of course exposed. (See Figs. 1 and 2.)

What I claim as new, and desire to secure by Letters Patent, is—

1. In a fountain-pen, the combination with the barrel, the pen-carrying feed-bar movable lengthwise of the barrel, and the operating member rotatably mounted in the barrel and connected with the feed-bar to advance or retract the same, said operating member being provided with a slitted tubular rear end and with a split ring surrounding said slitted end, of a cap provided with a key consisting of an extension arranged to fit into said split end of the operating member and a lateral pin arranged to move in said slit.

2. In a fountain-pen, the combination of the barrel, the pen-carrying feed-bar movable lengthwise of the barrel, a rotatably-operating member for advancing or retracting the feed-bar, said operating member having an elastic portion at its rear end, and a cap provided with a key adapted to be clamped by said elastic portion of the operating member.

3. In a fountain-pen, the combination of the barrel having a longitudinal slot and a packing device in front of said slot, a pen-carrying feed-bar movable lengthwise of the barrel and extending through said packing device, a pin carried by said feed-bar and projecting through the said slot of the barrel, and an open-work stop connected with said pin and projecting forwardly therefrom on the outside of the barrel.

4. In a fountain-pen, the combination of the barrel having a longitudinal slot and an ink-tight joint in front of said slot, a pen-carrying feed-bar extending through said ink-tight joint and movable lengthwise of the barrel, a pin carried by said feed-bar and extending through said slot of the barrel, a cap adapted to close the front end of the barrel, and an open-work stop connected with said pin and extending forwardly therefrom on the outside of the barrel to prevent the end of the cap from engaging the point of the pen.

5. A cap for fountain-pens provided with slits at its open end and an elastic ring surrounding the slitted portion.

6. A cap for fountain-pens provided at its open end with slits and with a groove surrounding the slitted portion, and a split ring located in said groove.

7. In a fountain-pen, a nib-holder comprising upper and lower members, between which the nib is adapted to be received, said members being slitted longitudinally, a brace extending from the forward end of the lower member to the body of the nib-holder, and an ink-holding member located between said brace and the lower member.

8. In a fountain-pen, a nib-holder comprising an upper member and a lower member adapted to receive the nib between them and slotted lengthwise, a tongue arranged adjacent to the slit of the lower member, and a brace arranged below said tongue.

9. In a fountain-pen, a nib-holder comprising an upper member and a lower member adapted to receive the nib between them and slitted lengthwise, a tongue arranged adjacent to the slit of the lower member, and a brace arranged below said tongue and engaging the lower member in advance of the front end of the tongue.

10. In a fountain-pen, the combination with the barrel, the pen-carrying feed-bar movable lengthwise of the barrel, and the operating member rotatably mounted in the barrel and connected with the feed-bar to advance or retract the same, said operating member being provided with a spring, of a cap provided with a key arranged to engage said spring and to turn said operating member.

11. In a fountain-pen, the combination with the barrel, the pen-carrying feed-bar movable lengthwise of the barrel, and the operating member rotatably mounted in the barrel and connected with the feed-bar to advance or retract the same, of a cap provided with a key adapted for an elastic engagement with the operating member.

12. In a fountain-pen, a nib-holder provided with a member which forms a cover extending under the edges of the nib so as to conceal the lower or concave surface of the nib in its entire width.

13. In a fountain-pen, a nib-holder provided with a member which forms a brace reduced at its rear portion to facilitate the passage of air.

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Witnesses:
JOHN LOTKA,
EUGENE EBLE.