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Patented Oct. 11, 1898.

F. C. BROWN.  
FOUNTAIN PEN.

(Application filed Nov. 23, 1897.)

(No Model.)

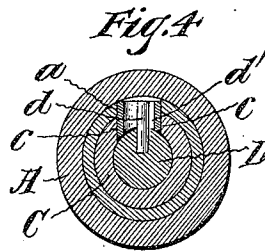
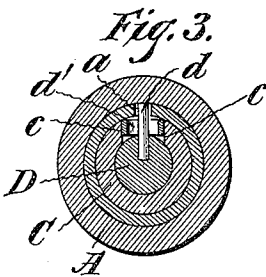
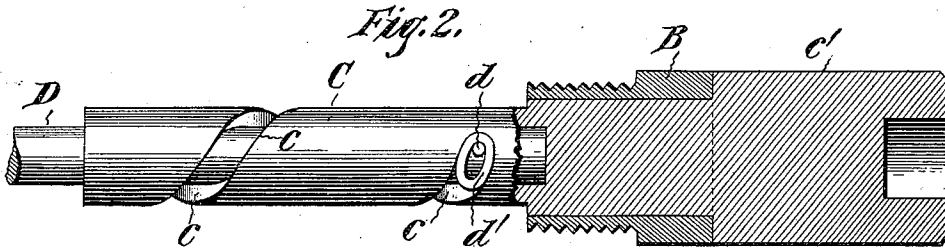
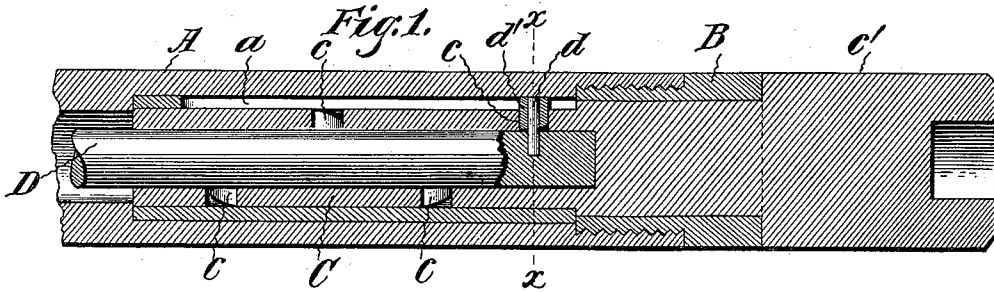


Fig. 5.



Fig. 6.



Witnesses.

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# UNITED STATES PATENT OFFICE.

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

## FOUNTAIN-PEN.

SPECIFICATION forming part of Letters Patent No. 612,013, dated October 11, 1898.

Application filed November 23, 1897. Serial No. 659,623. (No model.)

*To all whom it may concern:*

Be it known that I, FRANCIS CASHEL BROWN, a citizen of the United States, residing at New York, in the State of New York, have invented certain new and useful Improvements in Fountain-Pens; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

My invention has relation to fountain-pens, and more particularly to that class of pens in which the pen-carrier—*i. e.*, the stem that carries the pen-point—receives endwise motion to project said pen-point from or retract it into the holder or fount through the medium of a pin that extends through a spiral slot in a tube or sleeve that is revoluble in a fixed bearing into a straight groove in the holder or fount.

Extensive experience has shown that no matter how carefully the radial pin is constructed it will after a comparatively short time, depending, of course, upon the frequency of use of the pen, cut or irregularly wear the edges of the spiral slot in the revoluble actuating tube or sleeve, so that the pin will hang or become locked against motion when the sleeve is revolved, rendering the pen practically useless until a new sleeve or tube is substituted.

The object of this invention is to avoid the difficulty referred to by providing a rocking bearing for the pin.

That my invention may be fully understood I will describe the same in detail, reference being had to the accompanying drawings, in which—

Figure 1 is a longitudinal section of so much of a fountain-pen as is necessary to illustrate my invention. Fig. 2 is a detached longitudinal sectional view of a portion of the carrier for the pen-point and its actuating device. Figs. 3 and 4 are cross-sections on or about on line *xx* of Fig. 1, and Figs. 5 and 6 show the rocking or friction collar or bearing in perspective.

The above figures of drawings are drawn to

an enlarged scale to better illustrate the invention.

A indicates a portion of the holder or fount of a fountain-pen, B the fixed sleeve screwed thereto at one end, and C the sleeve or tube that extends through and is adapted to be revolved in the fixed sleeve B, said tube being provided with a milled head *c'* and with a spiral slot *c*. The stem D, that carries or supports the pen-point, has sliding motion in the tube C and is provided with a radial stud or pin *d*, which projects through said spiral slot *c* into a straight or longitudinal groove *a*, formed in the inner periphery of the holder or fount A.

The construction so far described is a well-known one, and to obviate the disadvantages referred to I mount on the radial pin *d* of the stem D a collar or sleeve *d'*, that as the pin travels along the spiral slot *c* of the tube C is caused to rock along the edges of said slot, thus preventing their being cut or worn irregularly, said sleeve *d'* forming a friction-bearing for the pin, as shown. The collar or sleeve *d'* is of oblong form, with rounded ends, or of ellipsoidal form, Figs. 4 and 5, and has its under or seat face shaped to conform to the periphery of the carrier or stem D.

In practice I prefer to make the collar or sleeve *d'* of such a height as to project into and move along the longitudinal groove *a* in the fount A, as shown in Fig. 4; and in order to insure the proper function of the collar and avoid its being tilted when the pin or stud *d* impinges upon one or the other of the end walls of the oblong slot or opening in said collar whenever the direction of motion of the slotted tube C is reversed I make the collar *d'* slightly higher at one end and side than at the other end and side, respectively, so as to lean slightly toward one of the side walls of the peripheral groove *c* and straight groove *a*, as shown in Figs. 3 and 4.

Of course when the collar *d'* is made to project into the longitudinal groove *a* in the fount the said groove is made sufficiently wide to afford free motion to the said collar along the same.

By the means described friction, and consequently the wear of the sides of the slot *c* in tube C or of the walls of the groove *a* in the fount, is reduced to a minimum, while the

cutting or unequal wear of either of said parts is effectually avoided.

Of course it will be understood that the arrangement of the spiral and straight grooves *c* and *a* may be reversed—that is to say, the former groove *c* may be made in the inner wall of the fount and the straight groove *a* in the tube *C*—without departing from the spirit of my invention or changing the operation of the movable parts.

Having thus described my invention, what I claim as new therein, and desire to secure by Letters Patent, is—

1. In a fountain-pen, the combination with the fount provided with a longitudinal internal groove, a spirally-slotted sleeve or tube revoluble in a bearing in said fount, and the pen-carrier or stem loosely fitted in said slotted tube and provided with a radial stud or pin projecting through the slot into the longitudinal groove of the fount; of an oblong collar or friction-bearing on said pin, for the purpose set forth.

2. In a fountain-pen, the combination with the fount provided with a longitudinal internal groove, a spirally-slotted sleeve or tube revoluble in a bearing in said fount, and the pen-carrier or stem loosely fitted in said slotted tube and provided with a radial stud or pin projecting through the slot into the longitudinal groove of the fount; of an oblong collar or friction-bearing on said pin projecting likewise into the groove of the fount, for the purpose set forth.

3. In a fountain-pen, the combination with the fount provided with a longitudinal internal groove, a spirally-slotted sleeve or tube revoluble in a bearing in said fount, and the pen-carrier or stem loosely fitted in said slotted tube and provided with a radial stud or

pin projecting through the slot into the longitudinal groove of the fount; of an oblong collar or friction-bearing on said pin having its under side in contact with the stem concave to fit such stem, for the purpose set forth.

4. In a fountain-pen, the combination with the fount provided with a longitudinal internal groove, a spirally-slotted sleeve or tube revoluble in a bearing in said fount, and the pen-carrier or stem loosely fitted in said slotted tube and provided with a radial stud or pin projecting through the slot into the longitudinal groove of the fount; of an oblong collar or friction-bearing on said pin having its under side in contact with the stem concave to fit such stem and being of greater height at one end than at the other, for the purpose set forth.

5. In a fountain-pen, the combination with the fount provided with a longitudinal internal groove, a spirally-slotted sleeve or tube revoluble in a bearing in said fount, and the pen-carrier or stem loosely fitted in said slotted tube and provided with a radial stud or pin projecting through the slot into the longitudinal groove of the fount; of an oblong collar or friction-bearing on said pin having its under side in contact with the stem concave to fit such stem and being of greater height at one side and end than at the other side and end respectively, for the purpose set forth.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

F. C. BROWN.

Witnesses:

DANIEL SHERWOOD, Jr.,  
CHAS. EDGAR MILLS.