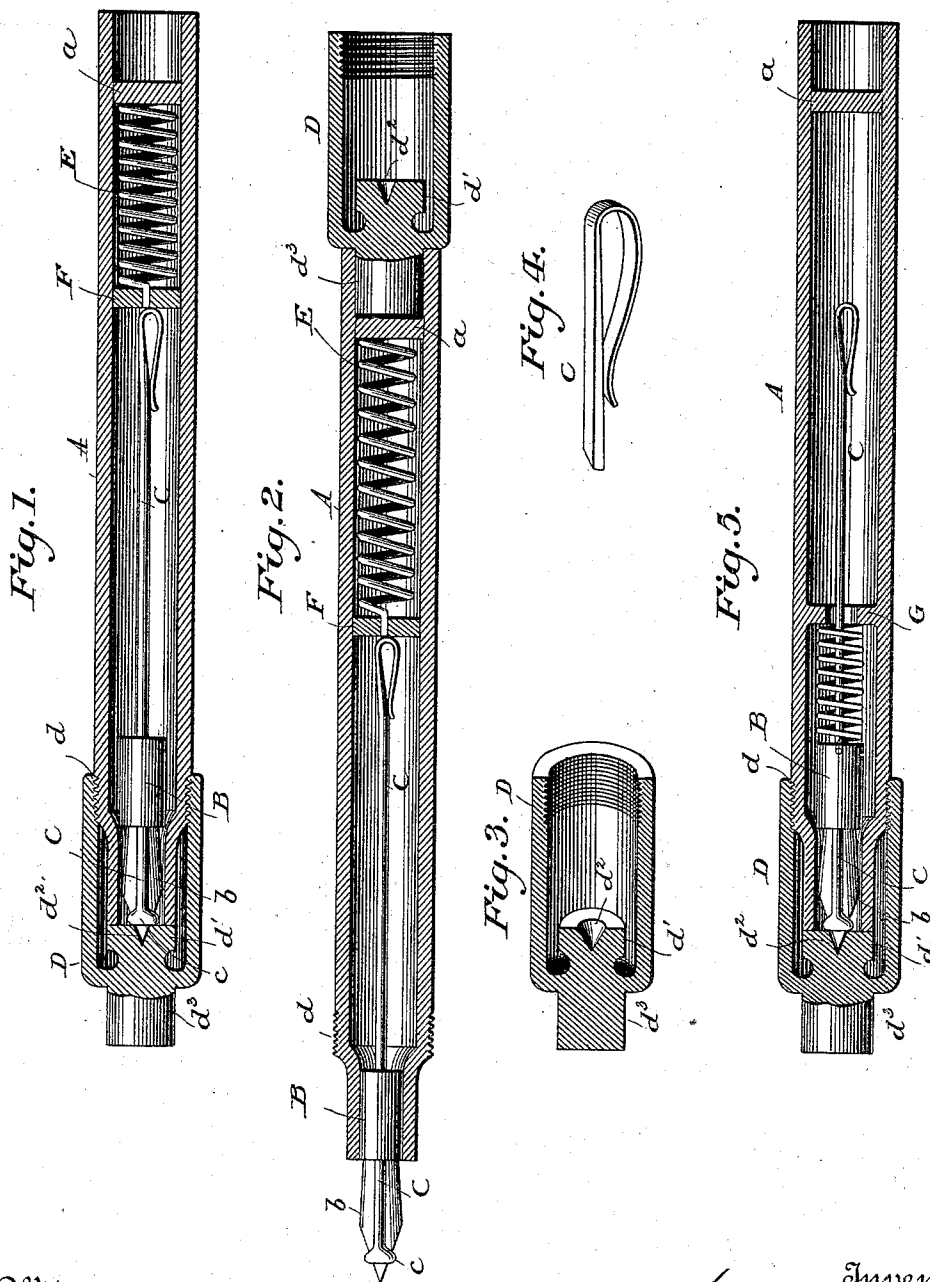


(No Model.)

P. E. WIRT.
FOUNTAIN PEN.

No. 526,426.

Patented Sept. 25, 1894.



Witnesses
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UNITED STATES PATENT OFFICE.

PAUL E. WIRT, OF BLOOMSBURG, PENNSYLVANIA.

FOUNTAIN-PEN.

SPECIFICATION forming part of Letters Patent No. 526,426, dated September 25, 1894.

Application filed December 4, 1893. Serial No. 492,766. (No model.)

To all whom it may concern:

Be it known that I, PAUL E. WIRT, of Bloomsburg, county of Columbia, and State of Pennsylvania, have invented a new and useful Improvement in Fountain-Pens, of which the following is a specification.

This invention relates to fountain pens and has reference more particularly to pens of the character described and claimed in an application filed by me on the 26th day of August, 1893, Serial No. 484,106. The pen forming the subject matter of the application referred to, comprises a reservoir and a pen point, the latter arranged to be located normally within the reservoir surrounded by the ink when not in use, and to be moved beyond the reservoir to an operative position when in use. The purpose of providing for the retention of the pen within the ink is to keep the point moist so that when moved to an operative position for writing, the ink will readily flow to the point and the writing permitted without delay.

The present invention consists in various improvements in pens of this character relating more particularly to the mechanism for projecting the pen out of the reservoir to an operative position; to the form of the conductor for leading the ink to the pen point; to the form of the cap for closing the end of the reservoir when the pen is not in use, and to various other details as will be more fully described hereinafter and claimed.

In the accompanying drawings, Figure 1, is a longitudinal section partly in elevation through a pen having my invention embodied therein, the pen point being shown within the reservoir. Fig. 2, is a similar view with the pen point beyond the reservoir ready for use. Fig. 3, is a sectional perspective view of the improved cap for closing the end of the reservoir. Fig. 4, is a perspective view of the rear end of my improved conductor shaft. Fig. 5, is a central sectional view partly in elevation of a modified form of my invention, the pen point being shown as located within the reservoir.

Referring to the drawings, A represents a tube of hard rubber or other appropriate material constituting the reservoir for the ink. At its rear end it is closed by a partition *a*, fixed therein in any suitable manner a short

distance from its extreme end, while the front end of the reservoir is open, and has its interior diameter at this point reduced as shown.

B represents a plug or stopper, which is provided with a longitudinal opening within which is fixed a pen point *b*, and an overlying conductor shaft C, the latter serving to feed the ink to the point of the pen. The plug is cylindrical in form, and of such size that it will fit snugly within the reduced open end of the reservoir, thus closing the same, the pen point when the plug is in this position being projected beyond the end of the reservoir ready for use. When the pen is not in use the plug is pushed back within the enlarged portion of the reservoir to the position shown in Fig. 1, carrying with it the pen, and the end of the reservoir being closed by a cap D, more fully described hereinafter, the ink within the reservoir will be prevented from escaping and will completely surround the pen and maintain the same in a moist condition.

In order that the pen point may be automatically projected to an operative position from the reservoir when the cap is removed, I provide a spiral spring E of non-corrosive material which is located within the reservoir with one end bearing against the partition *a*, and its other end connected to a follower F, the arrangement being such that the follower may be moved freely back and forth within the reservoir as the spring is contracted or expands. The follower abuts against the rear end of the conductor, and under the influence of the spring tends normally to push the same forward and to project the pen to an operative position as shown in Fig. 2. When the pen is returned within the reservoir the conductor is pushed rearward, forcing the follower before it, and compressing the spiral spring as shown in Fig. 1.

The cap D referred to is hollow, and provided on its interior with screw threads to engage corresponding threads formed on the outer surface of the reservoir as at *d*, so that it may be held securely in place when screwed thereon. At its center the cap is provided with a flat raised surface *d'*, adapted when the cap is in place to fit over the open end of the reservoir and effectually seal the same

as in my application referred to. In order that this cap may be employed to push the pen point and connected parts back into the reservoir when the pen is not in use, and in order that the point may be protected from injury while being thus forced back, I provide the raised portion of the cap with a notch d^2 adapted to receive the point of the pen, and I form on the conductor shaft C overlying the pen, a head or enlargement c , which is adapted to abut against the flat portion of the raised surface d' adjacent to the notch. The form of the notch and the relation of the parts are such that when the head on the conductor abuts against the raised surface, the point of the pen will extend within the notch, but its edges will be maintained a slight distance from the sides of the notch, thus avoiding any actual contact of the pen, and thereby preventing injury to the same.

While it is preferable to form the head c on a forward continuation of the conductor shaft, it will be readily seen that this construction is not essential, and that the plug B could be provided with an extension to be engaged by the raised portion of the cap. At its rear the cap is provided with a cylindrical projection d^3 , adapted to fit within the space in the rear of the partition a , the cap in this manner being held in place when not in use.

In the drawings I have represented, and in the specification described, the conductor and its connected parts as being free and disconnected from the projecting spring, and this in order that the pen point and conductor may be removed bodily from the front of the reservoir to permit the latter to be filled, or for any other purpose, but it will be understood that these parts may be connected permanently to the projecting spring and follower, in which case the operation will be the same. When, however, the parts are disconnected as shown, I propose in certain cases to utilize the conductor shaft for filling the reservoir with ink. To accomplish this I propose to form the conductor of a flat strip, and to bend its rear end forward upon itself, so that its end will extend for a short distance parallel to its straight portion, and a slight distance from the same. The hook thus formed will retain a small quantity of ink when dipped into a body of the same and withdrawn. By removing the pen and conductor shaft bodily from the front of the reservoir and repeatedly dipping the hooked end of the conductor into a body of ink and then transferring the ink retained by the hook into the reservoir, the latter may be soon filled, after which the conductor and pen point may be returned to its former place within the reservoir.

In Fig. 5 I have represented a modification of my invention. Here it will be seen that the spiral spring for projecting the pen point forward

to an operative position instead of being located at the rear end of the reservoir, is located in its forward end, in rear of the reduced opening, and has one end connected to the plug B, and its opposite end arranged to bear against an annular internal flange G, projecting from the interior of the reservoir. The spring in this case is of such size that it may be withdrawn through the contracted end of the reservoir, so that the removal of the pen point and conductor as in the first case may not be interfered with. The operation of the parts here is similar to those first described, the spring tending to normally project the pen point forward to an operative position out of the reservoir.

Having thus described my invention, what I claim is—

1. In a fountain pen the combination of the reservoir open at its front end, the movable pen adapted when not in use to be located within the reservoir, and mechanism tending to project the pen forward out of the reservoir.

2. In a fountain pen the combination of the reservoir open at its front end, the movable pen adapted when not in use to be located within the same, the conductor shaft, the plug sustaining the said shaft and pen in fixed relations, and adapted to fit within the end of the reservoir, and the spring acting on said parts and tending to project the same forward for use.

3. In a fountain pen the combination of the reservoir open at its front end, the movable pen and conductor shaft adapted when not in use to be located within the reservoir, and mechanism disconnected from said parts for projecting the same forward; whereby the pen and conductor may be removed bodily from the reservoir.

4. The combination of the reservoir open at its front end, the movable pen and conductor shaft sustained in fixed relation, the follower located within the reservoir in rear of the conductor, and the spring acting on said follower and tending to force the same forward.

5. The combination with the reservoir open at its front end, of the pen and conductor adapted when not in use to be located entirely within the reservoir, and arranged to be removed bodily therefrom when desired.

6. In a fountain pen the combination of the reservoir open at its front end, the movable pen adapted when not in use to be located within the reservoir, a plug carrying said pen, a cap for closing the end of the reservoir, and means interposed between the cap and plug by which the cap will push the plug into the reservoir without coming in contact with the pen.

7. In a fountain pen the combination of the reservoir open at its front end, the movable pen and conductor adapted when not in use to be located within the reservoir, and the cap provided with a surface to close the end of the reservoir, said cap constructed to engage

the conductor and prevent the contact of the pen with the cap.

5 8. The combination of the reservoir open at its front end, the cap provided with a flat surface for closing the same, and with a notch to receive the point of the pen, a pen and a conductor shaft sustained in a fixed relation to the same, said conductor having its end in position to be engaged by the flat surface of

the cap, whereby the contact of the point of the pen with the cap is prevented.

In testimony whereof I hereunto set my hand, this 27th day of October, 1893, in the presence of two attesting witnesses.

PAUL E. WIRT.

Witnesses:

C. W. FUNSTON,
W. E. SHAFFER.