

(No Model.)

E. TYRRELL.

FOUNTAIN PEN.

No. 294,340.

Patented Feb. 26, 1884.

Fig. 1.

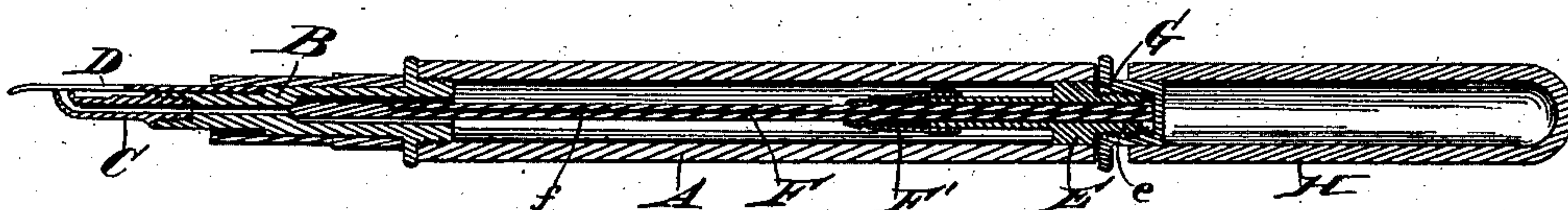
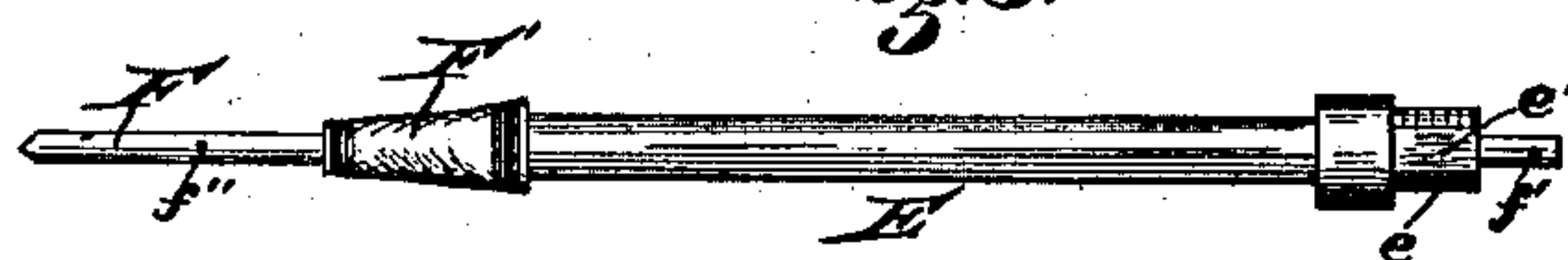


Fig. 2.



Fig. 3.



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EDWARD TYRRELL, OF CINCINNATI, OHIO.

FOUNTAIN-PEN.

SPECIFICATION forming part of Letters Patent No. 294,340, dated February 26, 1884.

Application filed May 19, 1883. (No model.)

To all whom it may concern:

Be it known that I, EDWARD TYRRELL, a citizen of the United States, and a resident of Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Fountain-Pens, of which the following is a specification.

My invention relates to improvements in fountain-pens.

The objects of my invention are, first, to provide means for automatically opening and closing the valve without the use of a wire spring; second, to provide means for effectually keeping the ink from escaping from the ink-chamber by way of the sleeve or guide-tube, within which the valve-rod slides.

The various features of my invention will be more fully set forth in the following description of the accompanying drawings, in which—

Figure 1 is a central longitudinal section of a fountain-pen containing my improvements. Fig. 2 is a detached view of the guide-tube and valve-rod. Fig. 3 represents a modified form of my improvement, showing the guide-tube made considerably longer.

A represents the barrel or ink-chamber.

B is an end piece tapping into the barrel A at its lower end, and containing the valve-seat and tube for conveying ink to the pen.

C is the tube which supplies the pen with ink.

D is the pen.

E is the guide-tube, having a shoulder which fits very closely into the upper end of barrel A, and having a projecting end, *e*, provided with a screw-thread, in which is cut the blank *e'*, for admitting air to the inside.

F is the valve-rod or air-conduit, having air-passage *f* and vents or air-holes *f'* *f''*.

F' is a piece of rubber tubing or other suitable material, fitted over guide-tube E, secured thereto at any convenient point, and secured at its other end to the valve-rod F.

G is a screw-cap screwing upon the projecting end *e* of the tube E.

H represents a shield, which, when the pen is not in use, may be placed over the end piece, B, to protect the pen from injury.

The operation of my device is as follows: When it is desired to use the pen, screw-cap G is loosened and the retractile force of the rubber tubing F' draws the valve-rod F away from its seat, thus opening the valve. The upper end of the valve-rod bears against the inside of cap G, and when said cap is screwed down again is forced back to its seat. Air is admitted through vent *f'*, passing down through air-passage *f* and out at vent *f''* into the ink-chamber, thus allowing the ink to flow to the pen.

The function of the rubber tubing F' is two-fold. It serves to lift or withdraw the valve-stem from its seat, thus supplying the place of a wire spring; and it also serves as a shield to keep the ink from entering the sleeve or guide-tube E. This is a very desirable feature, as it saves expense in construction, and is effective in operation, performing perfectly every function of the wire spring. The rubber secured around the sleeve E and valve-rod F is much more effective in excluding the ink from said tube E than any other means heretofore employed.

Having described my invention, what I claim as new and useful is as follows:

1. In a fountain-pen, in combination with the hollow valve-rod or air-conduit F, adjustably secured within sleeve or guide-tube E, the rubber tubing F', secured to and uniting said rod and guide-tube, and adapted to operate as a spring to withdraw the valve-rod from its seat, substantially as herein set forth.

2. The combination, with the ink-chamber A, the guide-tube E, secured therein, and the valve-rod F, arranged to slide in the guide-tube, of a shield, F', arranged around the valve-rod and the inner end of the guide-tube, to exclude ink from the latter, substantially as described.

In testimony whereof I have hereunto set my hand.

EDWARD TYRRELL.

Witnesses:

JNO. E. JONES,

A. GLUCHOWSKY.