

(No Model.)

W. E. SMITH.
FOUNTAIN PEN.

No. 427,444.

Patented May 6, 1890.

Fig. 1.

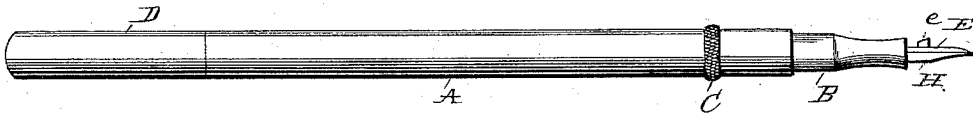


Fig. 2.

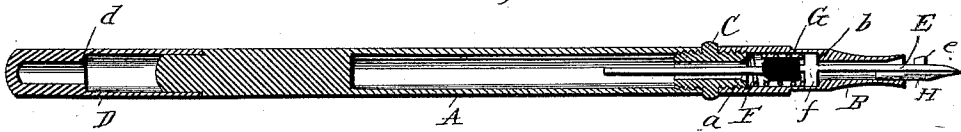


Fig. 3.

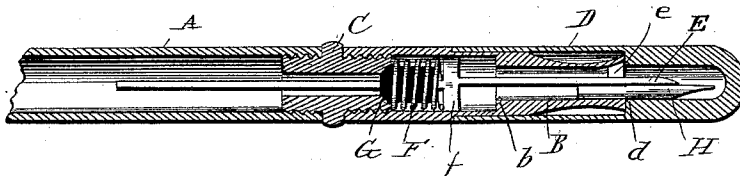
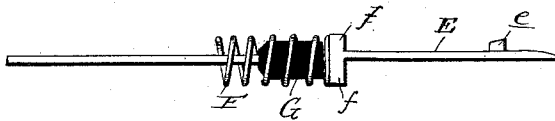


Fig. 4.



Witnesses
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By his Attorneys

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UNITED STATES PATENT OFFICE.

WILLIAM E. SMITH, OF BERWICK, PENNSYLVANIA.

FOUNTAIN-PEN.

SPECIFICATION forming part of Letters Patent No. 427,444, dated May 6, 1890.

Application filed May 7, 1889. Serial No. 309,927. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM E. SMITH, a citizen of the United States, residing at Berwick, in the county of Columbia and State of Pennsylvania, have invented certain new and useful Improvements in Fountain-Pens; and I do 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 the letters of reference marked thereon, which form a part of this specification.

This invention relates to fountain-pens, and has for its object to prevent the leakage of ink when the pen is carried in the pocket point down, or when placed on the table.

The improvement consists in a valve carried by and movable with the valve-stem, said valve closing against a valve-seat when the cap is placed on the pen and moved by a spring when the cap is removed. The valve-stem or a projection thereof is engaged by the cap when the latter is pushed on, and is moved in against the tension of a spring, carrying the valve with it. When the cap is removed, the spring forces the valve-stem out, opening the valve, the stem being limited in its movement by a stop thereon engaging with a corresponding stop on the handle.

The improvement consists of the novel features, which will be hereinafter more fully described and claimed, and which are shown in the annexed drawings, in which—

Figure 1 is a side view of a pen embodying my invention. Fig. 2 is a longitudinal section of the pen. Fig. 3 is a detail section showing the cap on and the valve closed. Fig. 4 is a detail side view of the valve and valve-stem or feeding-tongue, showing the spring placed therein.

The fountain-pen is composed of the following parts, of well-known construction and arrangement: The handle A, the point B, the coupling C, the pen H, the feeding-tongue E, which, for convenience, will be designated as the "valve-stem," and the cap D. The valve-stem is adapted to have a longitudinal movement and is provided with the valve G, which is preferably of soft rubber, being slipped on the valve-stem. The bore of the point B is contracted near its outer end to form the

shoulder or annular stop *b*, and the valve-stem has lateral arms or stops *f*, which strike against the shoulder or stop *b* and limit the outward movement of the said valve-stem, the said stem being forced out by the spring F, which is placed on the inner end of the valve-stem and is held between the stops *f* and the end of the coupling C or other suitable resistance point or stop. The valve-seat *a* is formed on the end of the coupling C, and the valve G closes against the same when the cap D is placed on the pen. The cap D is provided with an annular stop or shoulder *d* on its interior, which is designed to engage with the valve-stem or a projection thereof, as *e*, to move the said stem in and press the valve G against the valve-seat *a*, thereby shutting off the escape of ink when the pen is carried point down. When the cap is removed, the spring F forces the valve-stem out and carries the valve away from its seat, thereby permitting the ink to flow to the point.

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

1. The combination, with the pen and the longitudinally-movable feeder, of the cap adapted to engage with said feeder and move it in, substantially as and for the purpose described.

2. The combination, with the pen and the feeder, of the spring for moving the feeder out and the cap for moving said feeder in, substantially as and for the purpose described.

3. In a fountain-pen, the combination, with the handle having a valve-seat and the point having a stop, as *b*, of the feeder having stop *f* and valve G, the spring placed between a stop on the feeder and a stop on the handle, and the cap adapted to engage with the said feeder, substantially as described.

4. The combination, in a fountain-pen, of the feeder having a projection *e*, with the cap having a stop, as *d*, to engage with the projection *e*, substantially as and for the purpose described.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM E. SMITH.

Witnesses:

J. W. EVANS,
CHARLES W. FRANTZ.