

(No Model.)

W. VAN DEMARK.
FOUNTAIN PEN.

No. 401,985.

Patented Apr. 23, 1889.

Fig. 1.

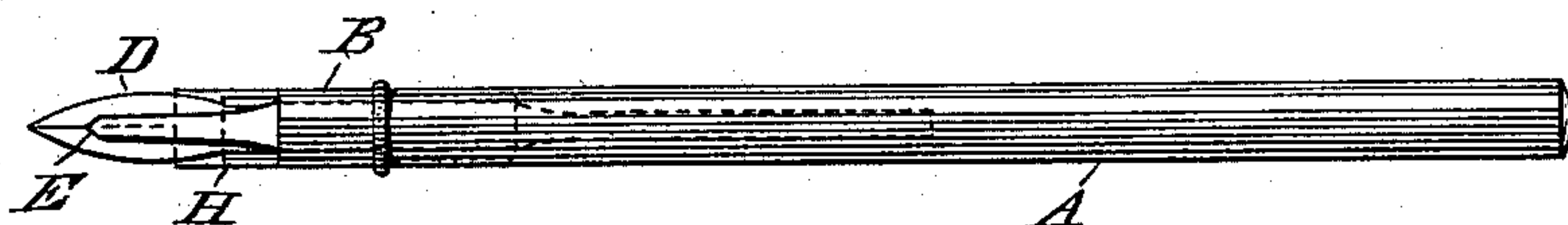


Fig. 2.

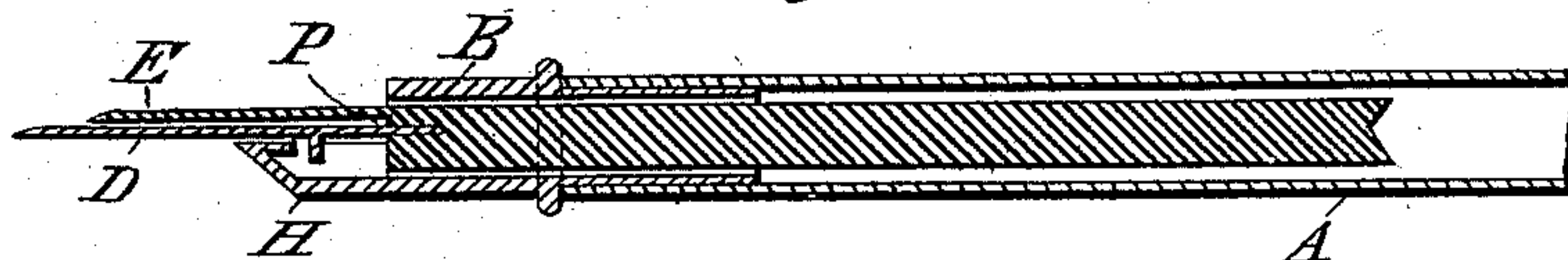


Fig. 5.

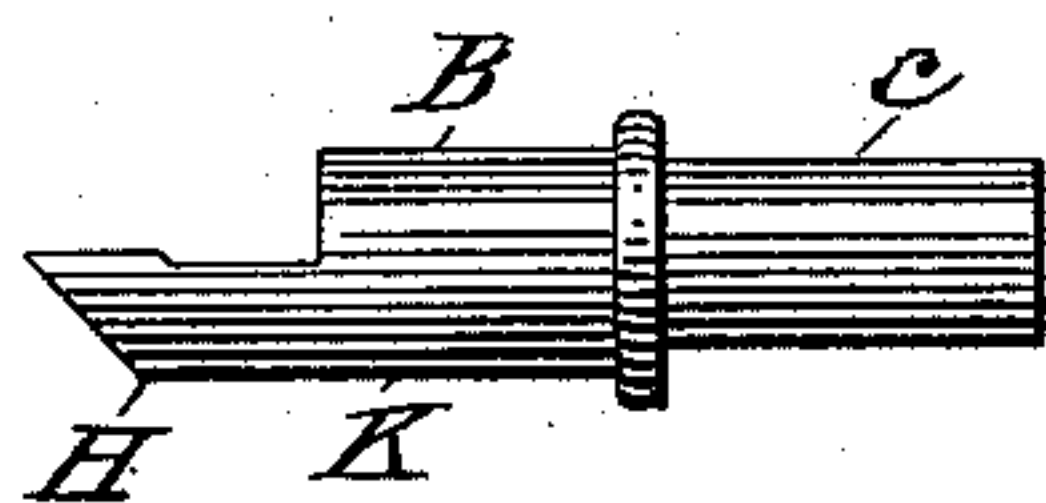


Fig. 3.

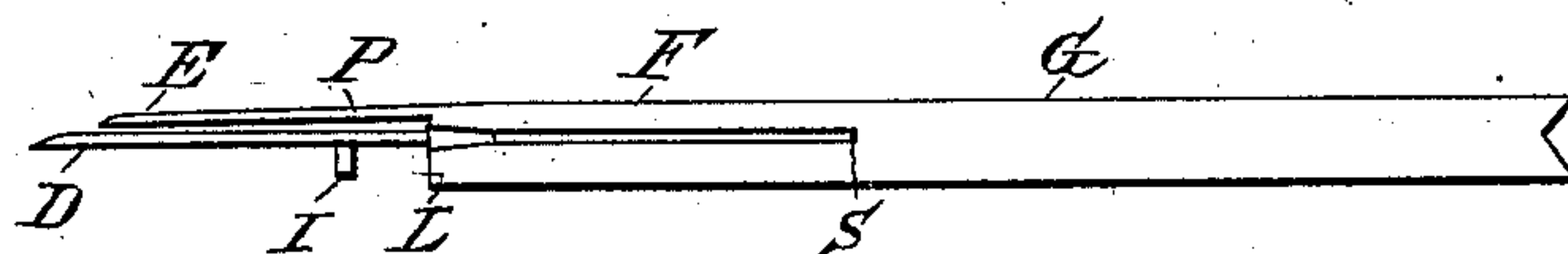


Fig. 6.

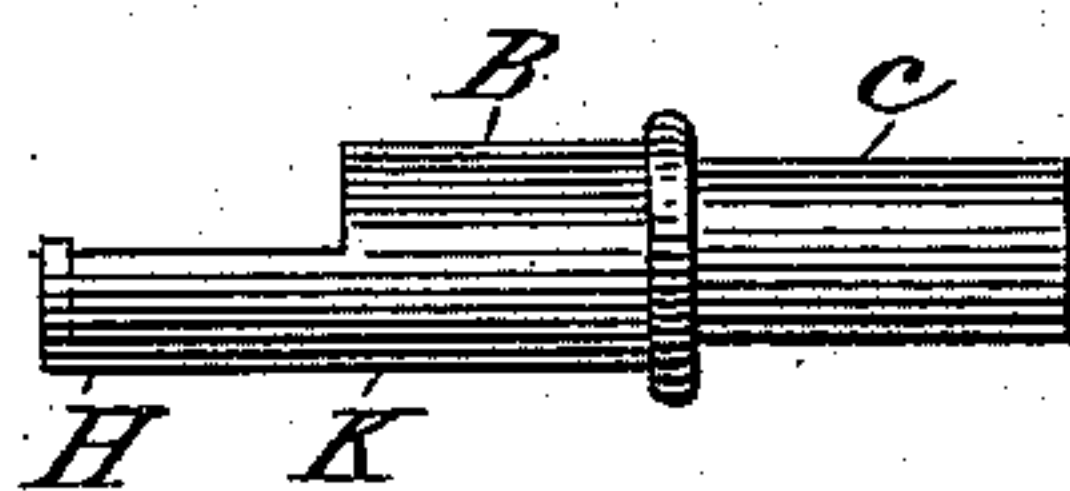


Fig. 4.

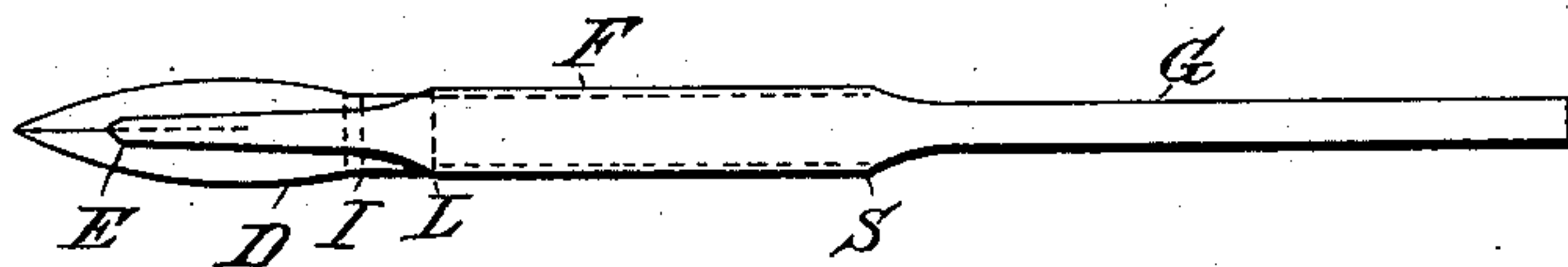


Fig. 7.



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FOUNTAIN-PEN.

SPECIFICATION forming part of Letters Patent No. 401,985, dated April 23, 1889.

Application filed February 3, 1888. Serial No. 262,915. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM VAN DEMARK, a citizen of the United States, residing at Phelps, in the county of Ontario and State of New York, have invented certain new and useful Improvements in Fountain-Pens, of which the following is a specification.

The object of my invention is to improve the fountain-pen for which Letters Patent were granted to applicant July 5, 1887, No. 366,047, in which it was designed to construct a fountain-pen so that "all danger of blotting is avoided in the ordinary and proper use of the pen."

By reference to the accompanying drawings and specification the pen as improved will be understood.

Figure 1 represents a top view of the improved pen; Fig. 2, a longitudinal central section; Fig. 3, a side view of feeding-plug with pen attached; Fig. 4, a top view of the same; Fig. 5, the pen-chamber with overflow-chamber attached; Fig. 6, the same with overflow-chamber entirely uncovered at the top, and Fig. 7 a view of the old pen without the reservoir.

Similar letters refer to like parts in all the views.

By referring to Figs. 2 and 7 it will be seen that in the improved pen I have changed the shape of the overflow-chamber H. In the old pen this chamber is longer than in the new and open at J. In the new pen this end is closed, so as to make a complete cup of the overflow-chamber H. This chamber retains the same general position, however, in both pens, being placed directly under the pen and in front of what I term the "pen-chamber" B. In using the old pen it was found that the overflow ink would sometimes follow the under side of the pen, and a blot would follow. To obviate this difficulty I place a thin piece of metal or its equivalent across the under side of the pen D, as shown at I, Fig. 3, to arrest the flow of ink that gathers under the pen and turn it into the overflow-chamber. To do this I am obliged to drop the under feed, F, in the old pen and use only the upper feed, E, in the new pen. It was also found that when the old pen received a sudden jar the rush of ink was liable to overflow the

overflow-chamber itself. To obviate this objection I place in the pen-chamber of the new pen a close-fitting feeding-plug with small channels cut therein to conduct the ink to the pen and overflow-chamber. These small channels prevent the sudden rush of a large quantity of ink when caused by a jar and remove all danger of blotting from such causes. In the old pen the top feed, E, projected from pen-chamber proper. As improved it is cut from the feeding-plug and is a part of it.

Having pointed out the difference between the new and old pens, I will more fully describe the pen as improved.

In Fig. 5, B represents the pen-chamber, and H the overflow-chamber, separated from each other at K, so as to form a complete cup of the overflow-chamber H. This chamber can be partly covered or left open, as shown in Fig. 6, while its sides can terminate above or below the pen. The particular shape of this chamber is not material, so long as it will receive the surplus ink and return it to the reservoir when desired.

In Fig. 3, E F G represents the feeding-plug. It is made of hard rubber. The body F is round and solid, made to closely fit the pen-chamber B, and has two grooves or channels cut on nearly opposite sides. These channels are large enough to admit of a proper flow of ink. They can be larger at either end, but must be so cut as to permit the easy flow of ink under the sides of the pen-opening into the overflow-chamber. A small incision is made in the feeding-plug under the point E, as shown at P, Fig. 2, to receive and hold the pen D, while the point E serves to conduct the ink over the top of the pen, so that it is freely taken up by the pen when in use. The plug G from S is narrowed down, so as to form a handle to introduce and withdraw plug from pen-chamber. It is also of service in breaking up air bubbles, which sometimes form in ink and tend to obstruct its proper flow.

The lines terminating at S in Fig. 3 represent one of the ink-channels cut in body of feeding-plug.

When ready for use, the pen D, with its lip I attached, is secured in the feeding-plug at P, Fig. 3. The feeding-plug is then pushed into the pen-chamber B, Fig. 5, till the shoul-

der at L reaches the point K. This shoulder serves as a partition between the pen and overflow chambers and makes a complete cup of the overflow-chamber II. The "handle" G from S extends from the rear end of pen-chamber B. The reservoir A, being supplied with ink, is attached to pen-chamber at C. The ink then flows down the channels cut in the feeding-plug, reaching the pen, and is conducted to the point thereof. Should the air and ink in the reservoir become suddenly raised to a higher temperature, as it frequently does, there is a corresponding expansion of the contents in the reservoir, causing too free a flow of ink. This surplus ink is conducted along the channels in the feeding-plug and allowed to pass under and at the sides of the pen into the overflow-chamber, where it is retained till the operator desires to return it to the reservoir, which is done by simply inverting the pen. As now arranged, this device effectually stops all blotting in the ordinary and proper use of the pen, and is an important feature of the invention.

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

1. The combination, in a fountain-pen, of

the overflow ink-chamber II, placed on the under side of the pen, for the purpose of receiving the surplus ink and returning it to the reservoir, with the pen-chamber B and reservoir A, as described. 30

2. The pen D, provided with the lip I, extending across the under side of the pen and firmly secured thereto, as described. 35

3. The feeding-plug E F G, with its channels for conducting the ink to pen and overflow-chamber, in combination with the overflow-chamber II and pen-chamber B, as described. 40

4. A fountain-pen comprehending in its construction the overflow-chamber II, constructed to receive the surplus ink and return it to the reservoir; pen D, provided with the lip I, extending across the under side of the pen, and the feeding-plug E F G, with its channels for conducting the ink to pen and overflow-chamber, all arranged, in combination with the pen-chamber B and reservoir A, substantially as described. 45

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