

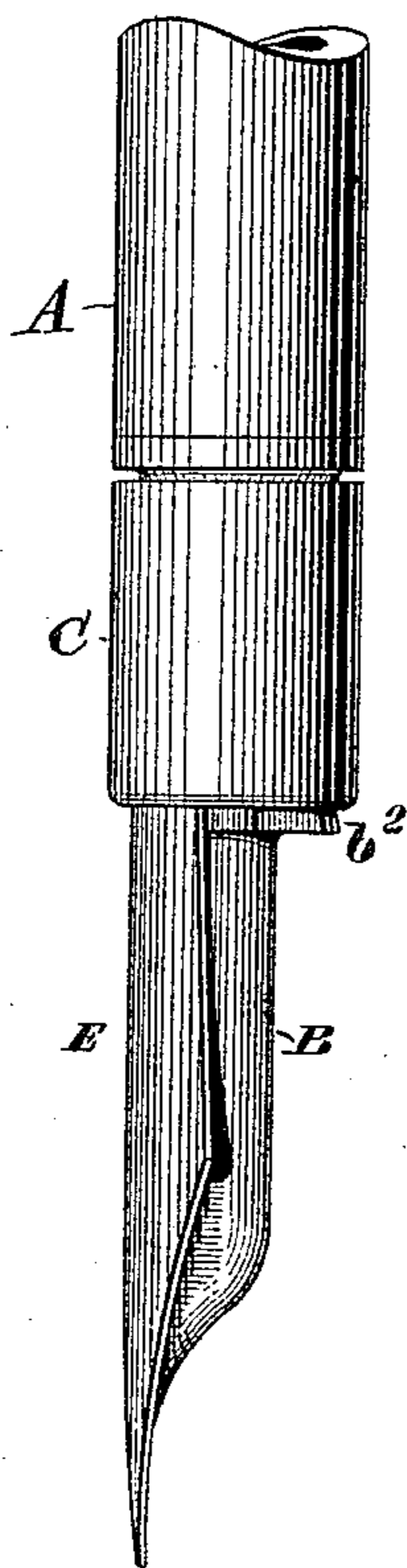
(No Model.)

S. W. HIGGINS.  
FOUNTAIN PEN.

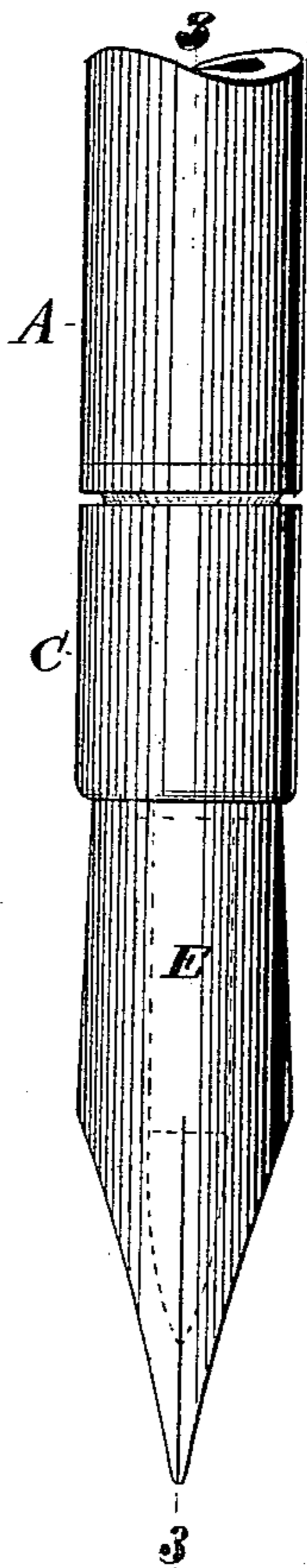
No. 271,455.

Patented Jan. 30, 1883.

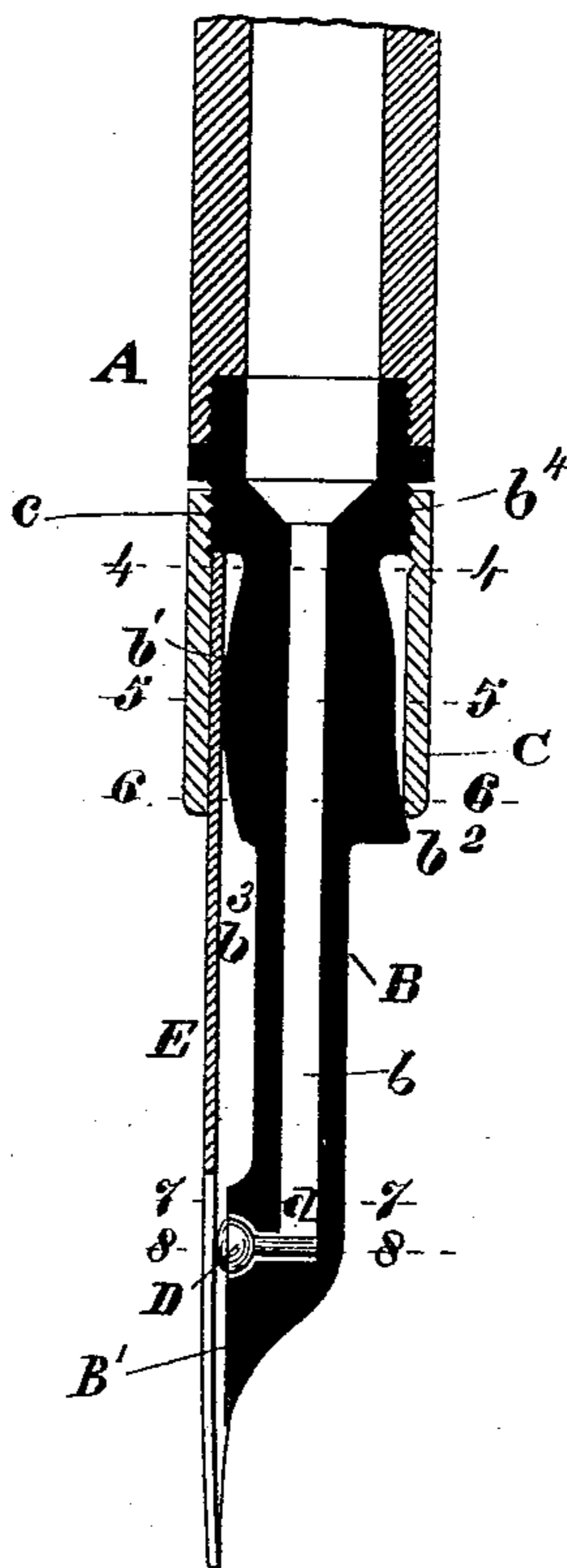
*Fig.1.*



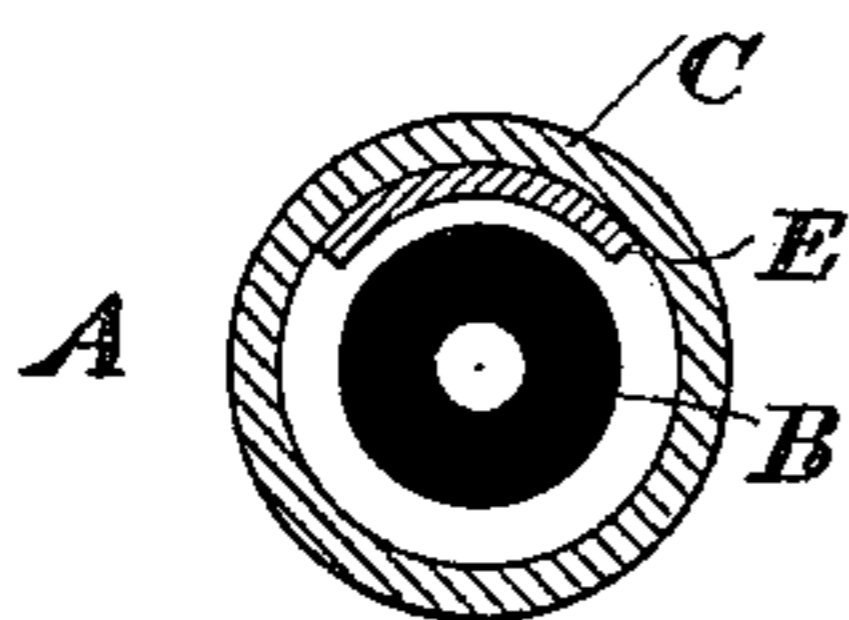
*Fig.2.*



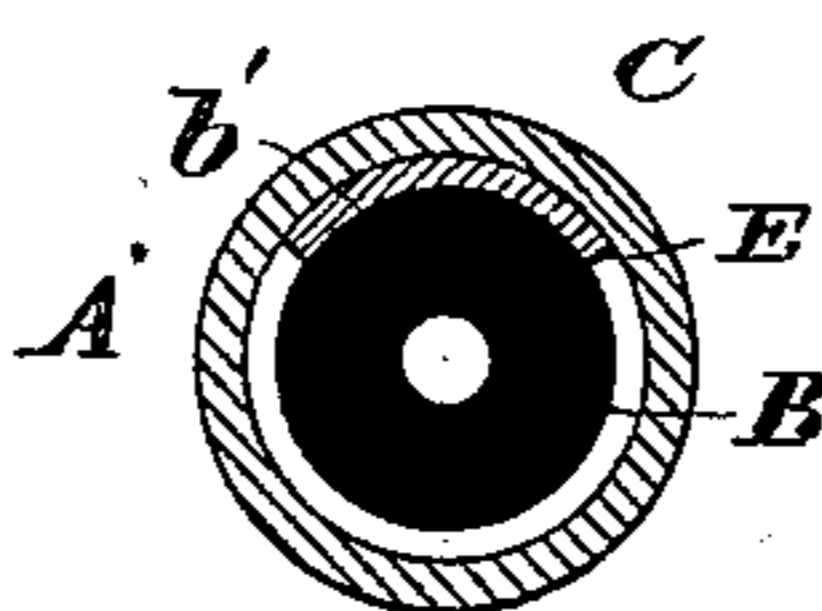
*Fig.3.*



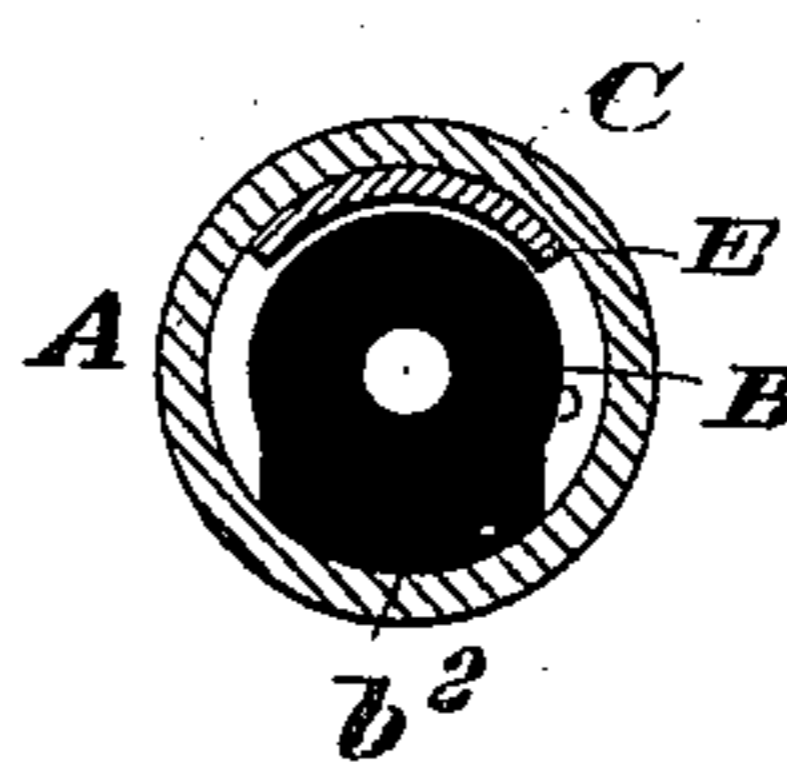
*Fig.4.*



*Fig.5.*



*Fig.6.*



*Fig.7.*



*Fig.8.*



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# UNITED STATES PATENT OFFICE.

SYLVESTER W. HIGGINS, OF ST. LOUIS, MISSOURI.

## FOUNTAIN-PEN.

SPECIFICATION forming part of Letters Patent No. 271,455, dated January 30, 1883.

Application filed March 30, 1882. (No model.)

*To all whom it may concern:*

Be it known that I, SYLVESTER W. HIGGINS, of the city of St. Louis, in the State of Missouri, have invented a certain new and useful Improvement in Fountain-Pens, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

This invention relates to an improvement on the pen shown and described in my application for Letters Patent of the United States, filed January 4, 1882; and it consists in the hereinafter-described means for regulating the pressure of the pen-nibs upon the valve and stem.

In the drawings, Figure 1 is a side elevation, showing only the lower part of the pen-holder. Fig. 2 is a back view of same, and Fig. 3 is a vertical section on line 3 3, Fig. 2. Figs. 4, 5, 6, 7, and 8 are respectively cross-sections on lines 4, 5, 6, 7, and 8, Fig. 3.

A represents the hollow pen-holder, into the lower end of which screws or fits tightly the valve plug or piece B. The upper end of the pen-holder would be formed in substantially the same manner as shown and described in my application referred to. The plug B has an axial opening,  $b$ , for the passage of the ink from the reservoir of the holder, at the lower end of which is an opening, in which fits the stem  $d$  of the valve D. The outer part of this latter opening is enlarged, as shown in Figs. 3 and 8, to form the seat for the valve. The valve and stem are formed of an elastic material, so that they will give when pressed upon by the pen proper, E, and allow the valve to close upon its seat, and when the pressure is removed will spring out and open the valve, allowing the ink to escape around it to feed the pen. The stem fits loosely in the opening to allow the ink to escape around it. The pen proper is held in place between the convex surface  $b'$  of the valve-piece and an outer ring, C, the outer surface of the upper end of the plug having screw-thread  $b^4$ , to receive the internal screw-thread,  $c$ , of the upper end of the ring. The under part of the valve-plug has an inclined projecting portion,  $b^2$ , against

which the lower and free end of the ring bears. The screw-connection between the plug and the ring is made loose, and it will thus be seen that as the ring is unscrewed its free end will be pulled down by the inclined projection  $b^2$  of the plug, and will act upon the pen, causing it to rock upon the convex surface  $b'$ , which will force its nibs down upon the valve, thus requiring a greater pressure upon the nibs or points of the pen to raise them up at the part where they bear against the valve, and vice versa when the ring is screwed up, thereby regulating the flow of ink for either hard or light pressure, as required, to suit the hand of the writer. The upper surface,  $B'$ , (or that next to the pen-nibs,) of the lower end of the valve-piece B is made broad and flat, and tapers to a point, as shown in Figs. 7 and 8 and by dotted lines in Fig. 2, so that the ink, as it escapes from the valve, will be retained between this flat surface and the concave surface of the pen E, and thus its flow from the pen will be regulated. I consider this a very valuable feature in this class of fountain-pens, for as the flat surface projects beyond the outlet of the ink it thereby creates a certain space between itself and pen to retain a certain amount of ink—not sufficient to drop off or blot when writing or shading letters—and prevents the accumulation of too much ink, and consequently the distribution of too much ink while writing. The valve-piece is cut away at  $b^3$ , so that it does not come in contact with the pen at that point. The under part of the lower end of the valve-piece should be cut away, as shown in Fig. 3, so that it will not come in contact with the writing-paper.

I claim as my invention—

In a fountain-pen, the means for regulating the pressure of the pen-point on the valve, consisting of a valve-plug, B, formed with convex surface  $b'$ , inclined projection  $b^2$ , and screw-thread  $b^4$ , and the adjustable ring C, having screw-thread  $c$ , as set forth.

SYLVESTER W. HIGGINS.

Witnesses:

SAML. KNIGHT,  
GEO. H. KNIGHT.