

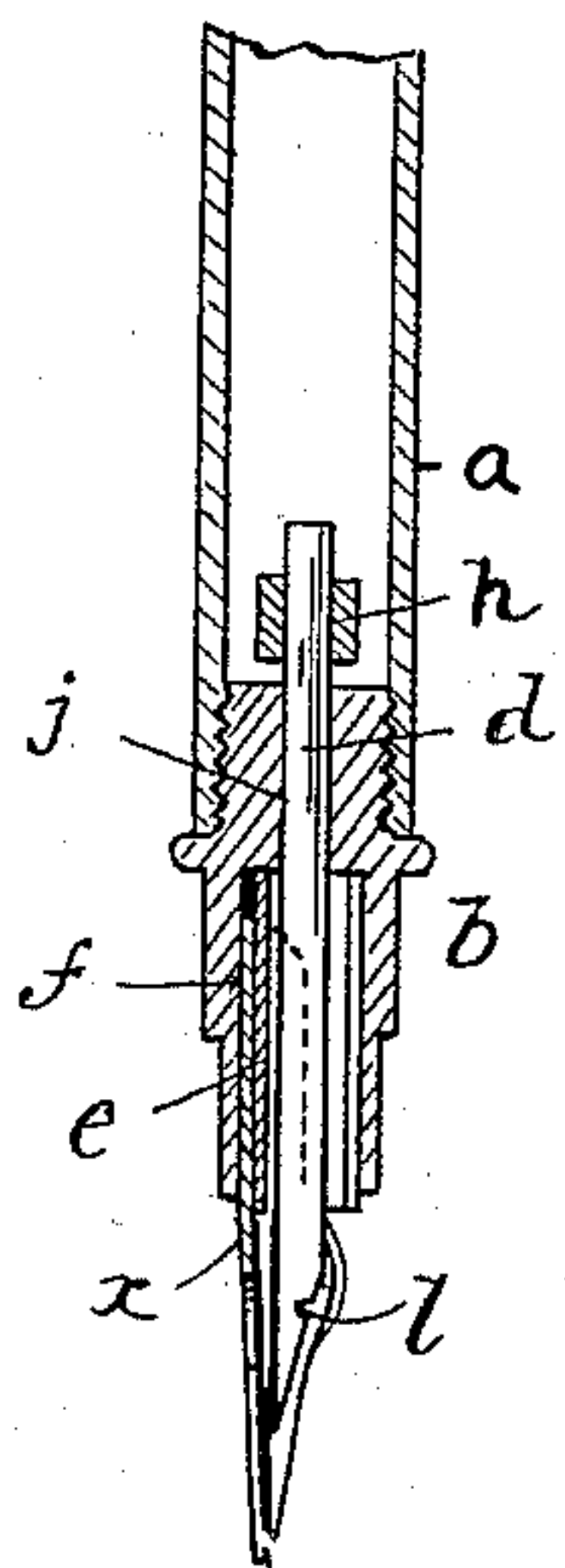
(No Model.)

D. T. PERKINS.  
FOUNTAIN PEN.

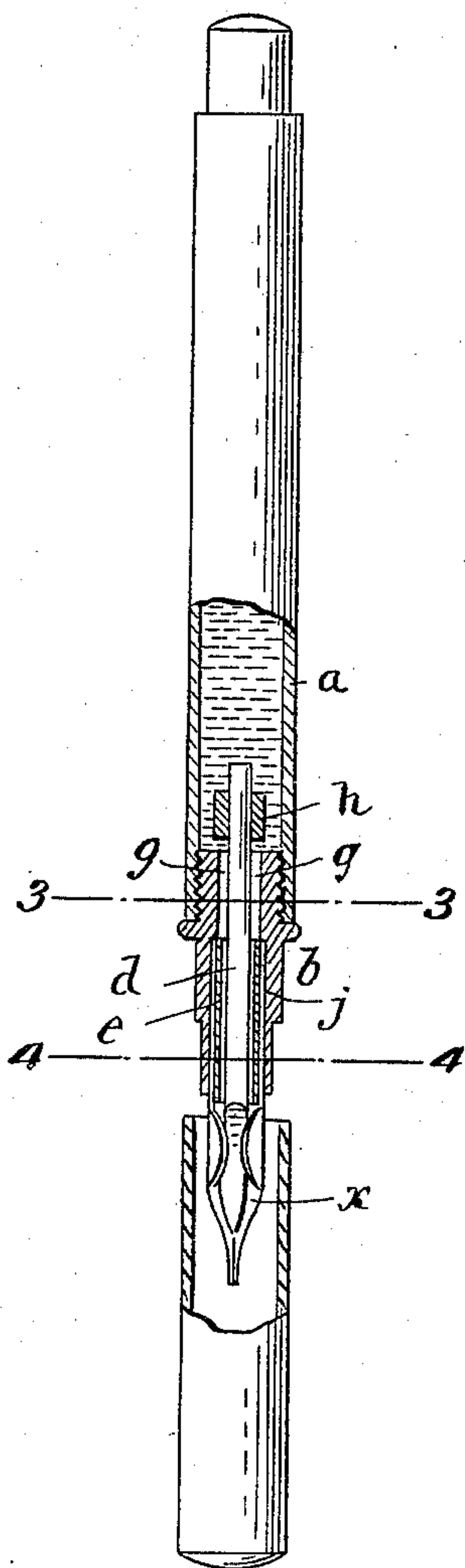
No. 467,519.

Patented Jan. 26, 1892.

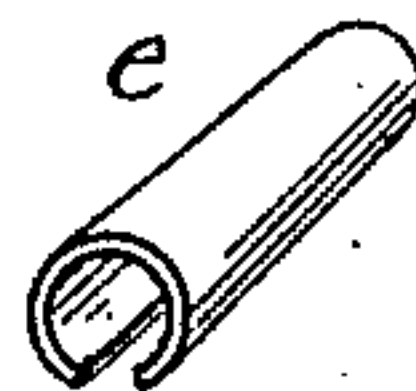
*Fig. 2.*



*Fig. 1.*



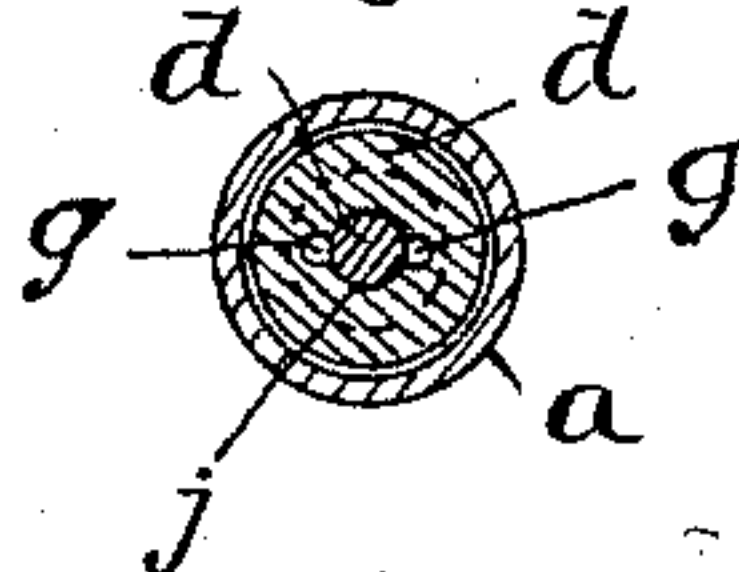
*Fig. 5.*



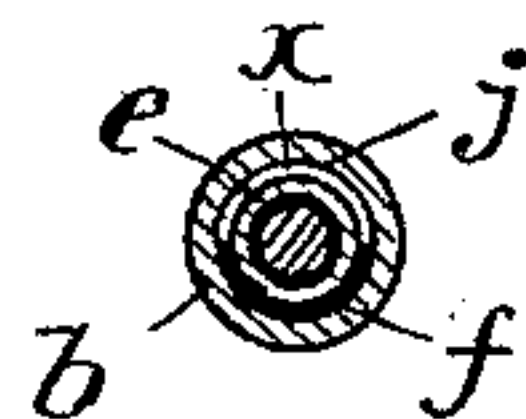
*Fig. 6.*



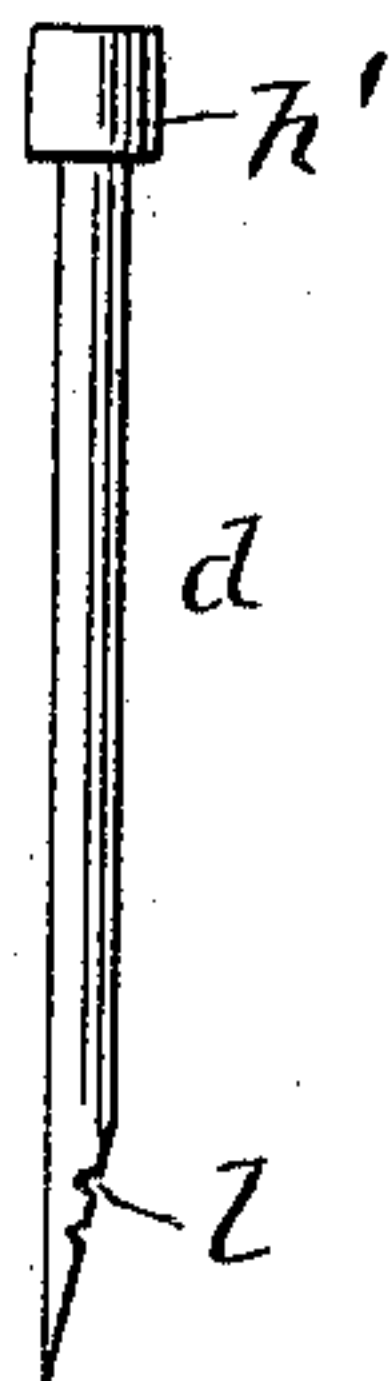
*Fig. 3.*



*Fig. 4.*



*Fig. 7.*



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INVENTOR.  
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# UNITED STATES PATENT OFFICE.

DUANE T. PERKINS, OF SPRINGFIELD, MASSACHUSETTS, ASSIGNOR TO HIMSELF, FREDERICK ZUCHTMANN, AND PAUL KNAPPE, OF SAME PLACE.

## FOUNTAIN-PEN.

SPECIFICATION forming part of Letters Patent No. 467,519, dated January 26, 1892.

Application filed October 21, 1890. Serial No. 368,857. (No model.)

*To all whom it may concern:*

Be it known that I, DUANE T. PERKINS, a citizen of the United States, residing at Springfield, in the county of Hampden and State of Massachusetts, have invented certain new and useful Improvements in Fountain-Pens, of which the following is a full, clear, and exact description.

The object of the present invention in fountain-pens is the provision of improved means for controlling the flow of ink from the reservoir to the pen; and the invention embraces, in a fountain-pen, the combination, with the barrel or reservoir, of a tip at the lower end thereof comprising a thimble or plug which (except as to the duct hereinafter inclusively named) closes the lower end of said barrel, said thimble or plug being adapted to receive the pen and the feed-bar extending to and upon the pen, there being one or more ducts extending through the tip from the interior of the barrel and communicating with the feed-bar, and an adjustable valve applied in relation to said duct to open, shut off, and regulate the flow of ink through the duct; and in accordance with the above I will now proceed to describe, though more in detail, the improved fountain-pen devices, reference being had to the accompanying drawings, in which—

Figure 1 is substantially a central longitudinal section of the improved fountain-pen. Fig. 2 is a longitudinal section of the lower portion of the pen, taken at right angles to the view Fig. 1. Figs. 3 and 4 are cross-sections taken, respectively, on the lines 3 3 and 4 4, Fig. 1. Figs. 5 and 6 are respectively views of the pen-retaining bushing and the ink-controlling valve. Fig. 7 shows a modified form of the feed-bar and valve.

In the drawings, *a* indicates the barrel or reservoir, preferably composed of hard rubber, with its upper end closed, its lower end being internally screw-threaded.

*b* represents the tip, which is in the form of an internally-screw-threaded plug or thimble for engagement with the lower end of the barrel, having a longitudinal passage *j* there-through, of comparatively small diameter, and having extended in and through same the

feed-bar *d*. The lower end of the tip is formed with a cylindrical socket *f*, through and within which the lower end of the feed-bar extends, and within this socket is placed a thin metallic split-bushing sleeve *e* for the retention of the pen-shank, the feed-bar lying along under the back and extended into proximity with the points of the writing-pen *x*. The extremity of the feed-bar on its side opposite that lying under the pen is beveled substantially as shown. One or more duct-forming grooves *g* are provided longitudinally through the tip from its upper or inner end down to the base of the socket, from which base the feed-bar forwardly extends, and such duct or ducts have such a depth or cross-sectional area as to insure when unobstructed by the valve a copious flow of ink.

The valve *h*, as shown in Figs. 1, 2, and 6, is in the form of a bored cylinder or collar, the external diameter of which is less than the internal diameter of the barrel and closely fits on the upper end of the feed-bar, which is projected upwardly into the barrel beyond the inner end of the tip-plug, and said valve is movable up and down thereon toward and away from the ends of said ducts; and, plainly, if the valve be downwardly moved along on the feed-bar until its end is in contact with the inner end of the tip-plug the ducts will be thereby closed, while of course, on the other hand, the farther the valve is removed from the inner end of the tip the greater will be the freedom of the ink flow. The valve may be made of elastic or hard rubber or other suitable material.

It is desirable that the feed-bar be made to closely fit and yet be capable of movement along and within the passage *j*, which is formed therefor longitudinally through the tip-plug, so that on the movement of the bar with the valve thereon the relation of the closing portion of the latter to the inner orifices of the duct may be varied, and when the pen is equipped for this manner of adjustment the valve may be constituted by a flange *h*, which may be integrally formed thereon, and in order that the feed-bar may be readily slid and without removing the tip notches or protuberances *l* are formed at its lower extremity



on the side opposite that lying against the pen, into or against which to insert the thumb-nail or penknife-blade. Having adjusted the valve to permit the flow of ink to accord with  
5 the density of the fluid and to the freedom of the flow that is desired, the ink issuing from the duct or ducts at the lower extremity of the tip-plug flows down on the lower extremity of the feed-bar under and near to the point  
10 of the pen for the adequate supply thereof.

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

In a fountain-pen, the combination, with the

barrel or reservoir, of a tip at the lower end 15 thereof, which comprises a plug that is adapted to receive the pen and the feed-bar extending to and upon the pen, there being a duct extending through the tip from the interior of the barrel and in communication with the 20 feed-bar, and an adjustable valve applied in relation to said duct to open, shut off, and regulate the flow of ink therethrough, substantially as described.

DUANE T. PERKINS.

Witnesses:

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F. H. STEBBINS.