(Model.)

J. B. MITCHELL.

FOUNTAIN PEN.

No. 284,318. Patented Sept. 4, 1883.

Fig. 1.

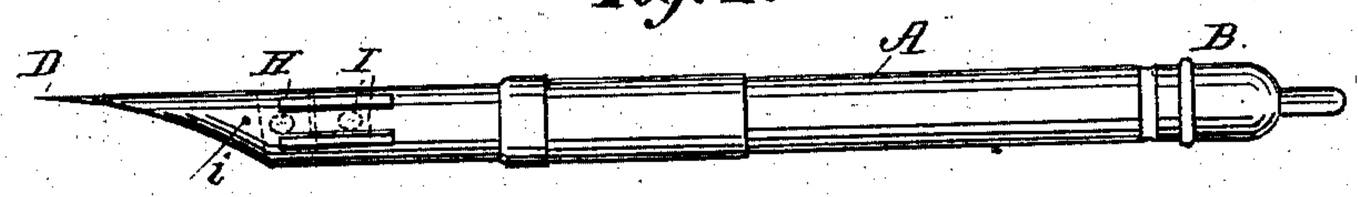


Fig. 2.

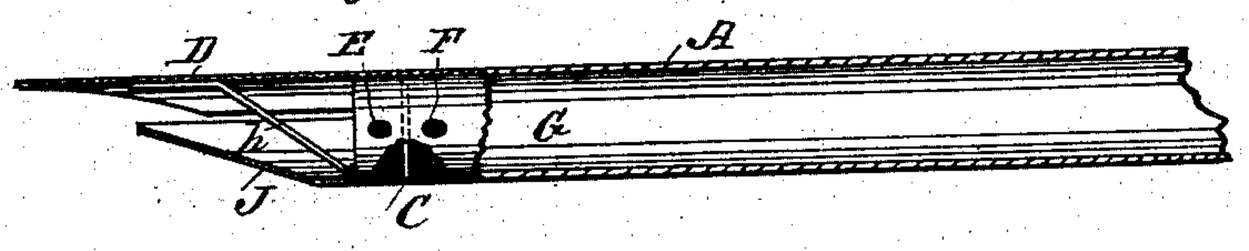


Fig. 3.

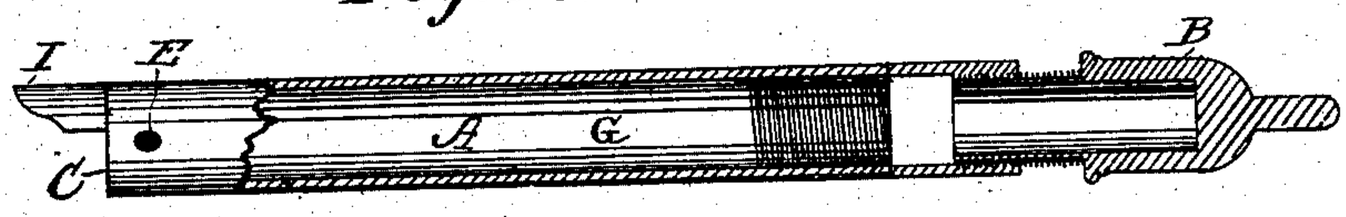


Fig. 4.

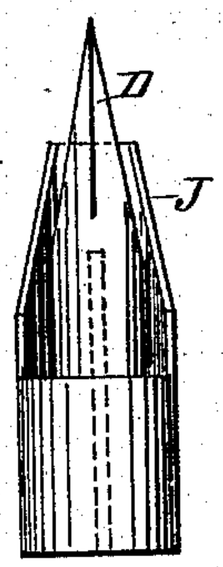


Fig. 5.

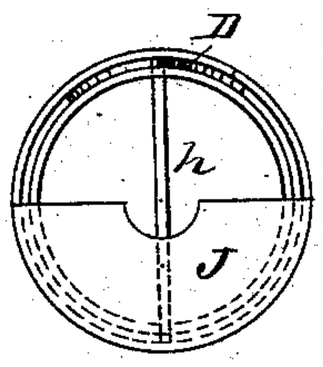
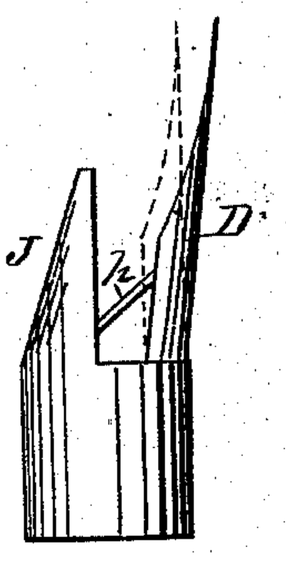


Fig. 6.



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JAMES BUCHANAN MITCHELL, OF LOS ANGELES, CALIFORNIA.

FOUNTAIN-PEN.

SPECIFICATION forming part of Letters Patent No. 284,313, dated September 4, 1883.

Application filed November 21, 1882. (Model.)

To all whom it may concern:

Be it known that I, JAMES B. MITCHELL, of Los Angeles, in the county of Los Angeles and State of California, have invented a new and useful Improvement in Fountain-Pens, of which the following is a full, clear, and exact description, reference being had to the annexed drawings, forming part of this specification.

The object of my invention is to provide a fountain-pen in which the ink shall be conveyed from the reservoir to the point of the pen in a convenient and tidy manner.

The invention consists, primarily, of a valve for a fountain-pen, formed by a hollow pen-holder having a diaphragm or partition near its lower end, and provided with an aperture or apertures in its tubular wall near the lower end, in combination with a tubular cover of elastic material, which incloses the apertured part, whereby the ink, which is to be contained in the holder, shall be allowed to pass down through the aperture or apertures to the pen by compressing the cover between the thumb and forefinger in writing.

The invention further consists in extending the elastic cover below the holder, with its walls converging to a point to form a sheath or pocket for the pen, the point of which projects through the contracted end of the cover, and in providing a rigid tongue underneath the pen, which shall be adapted to expand the elastic sheath when pressure is applied to the point of the pen.

The invention further consists in providing the elastic cover with suitable projections on its outer surface, whereby the compression thereof by the thumb and finger shall be facilitated when a flow of ink is desired, and also in forming a vent in the sheath to prevent the formation of a vacuum, and to force the ink down to the point of the pen by the introduction of air.

In the drawings, Figure 1 is a side view of my improved fountain-pen. Fig. 2 is a side view, partly in section, with the cover or sheath removed. Fig. 3 is a side view of the holder, partly in section, showing the same provided with but one aperture for the passage of the ink. Fig. 4 is a top view of a portion of Fig. 2. Fig. 5 is an end view of the same; and Fig. 6 is a side view of the same, showing the pen in a position to draw the sheath against the rigid tongue, whereby it shall be expanded.

A represents a hollow pen-holder formed of one or more tubes, having its upper end closed by a cap, B, screwing into the same, and its lower end closed by an imperforate diaphragm or partition, C. This partition, as shown in Figs. 1 and 2, is located at a point above the extreme lower end of the holder, in order to provide convenient room for securing the pen D in said end, and in the tubular wall of the holder are formed two apertures, E F, on opposite sides of the partition, the first communicating with the reservoir G, and the latter with the portion of the hollow holder below the partition. Over and around the lower portion of the holder is placed a tubular elastic cover, H, which closes the said apertures, and which is provided with suitable projections, I, secured to its outer surface on opposite sides of the apertures, whereby, by compressing the projections between the thumb and forefinger of the hand holding the pen, the cover will be slightly raised out of contact with the holder between the two projections, and a trough will be formed in the under surface of the cover, extending from one aperture to the other. By this means the ink in the reservoir G will be allowed to flow, at the will of the writer, to the part of the holder below the partition, from which it may conveyed to the point of the pen by a variety of means.

As shown in Fig. 3, the partition C may be placed at the extreme end of the hollow holder, and a suitable flange, I, secured to the said end as a means of attaching the pen. With this construction only the aperture E will be required, instead of two apertures, for the passage of the ink to the opposite side of the partition, owing the nearness of said aperture to the end of the holder.

As a means of conveying the ink to the point of the pen, I prefer to extend the india-rubber cover H downward, so as partially to inclose the pen, with its wall tapering to a point, through which the point of the pen projects, as shown in Fig. 1. The cover thus forms a sheath or pocket for the pen, with sufficient space inside for holding the ink that from time to time is allowed to escape from the reservoir.

If desired, a wire or other suitable guide, *h*, such as has before been used, may be employed in connection with the pocket for conveying the ink to the nibs of the pen. The pocket is provided with a vent, *i*, through which air shall be admitted to force the ink down to the lower end of the pocket, whereby also the formation of a vacuum shall be prevented.

I also provide a rigid tongue, J, secured to the lower end of the holder, underneath the pen, which projects sufficiently to rest in contact with the lower portion of the pocket, in order that when the pen-point is pressed upon paper the pocket will be drawn against the tongue by the yielding action of the pen, and thus expanded, whereby its holding capacity shall be increased for the time, to the end that the air, which is thus made to enter at the point and fill the space, shall, on the contraction of the pocket, force the ink down to the point of the pen. It is obvious that by making the tongue longer or shorter, or by making the pocket fit more or less loosely around it, the degree of expansion and contraction occurring in the use of the pen can be varied, and by proper adjustment exactly enough of ink to keep the point of the pen supplied can be forced out. This method of forcing the ink out is applicable to all reservoir-pens in which a slit pen is used, and might answer in place of air-tubes or any other arrangement for admitting air. With such a construction the air-vent *i* may be dispensed with, and thus a larger supply of ink may be let down below the diaphragm at once, without risk of an untidy escape of ink at the point of the pocket, because the pressure of air from without would restrain the flow caused by the heat of the hand, which latter has considerable effect even on the small quantity of ink contained in the tapering part of the pocket. The projecting rigid tongue has, besides, the effect of giving firmness to the part of the pocket underneath the pen, so that ink will not be forced out by accidental compression of the rubber pocket.

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

1. A valve for a fountain-pen, consisting of the combination, with a hollow holder having a partition near its lower end, and its tubular wall apertured near said end, of an elastic tubular cover which covers the apertured part, and is adapted to be compressed to open the aperture or apertures and form a passage for the ink, substantially as shown and described.

2. A valve for a fountain-pen, consisting of the combination, with the hollow holder having a partition near its lower end, and its tubular wall apertured near said end, with the apertures leading to opposite sides of the partition, of the elastic tubular cover closing said apertures, and adapted by compression to open the apertures and form a passage for the ink, substantially as shown and described.

3. In a fountain-pen, the combination of the hollow holder having the partition and apertures, arranged as described, the tubular cover closing the apertures and extended to a tapering point to form a pocket, and the pen arranged with its nibs slightly projecting through the lower end of the pocket, substantially as shown and described.

4. In a fountain-pen, the combination of the tapering elastic pocket secured to the outside of the reservoir-holder, the pen arranged with its nibs projecting through the point of the pocket, and means for supplying ink to the pocket from the reservoir, substantially as shown and described.

5. In a fountain-pen, the combination of the apertured holder, the continuous cover and pocket having projections on its outer surface to facilitate compression between the fingers, and having means for admitting air into the pocket, and the pen arranged to project through the pocket, substantially as shown and described.

6. In a fountain-pen, the combination of a pen-holder, the continuous cover and pocket, the pen projecting through the contracted end of the pocket, and the rigid tongue secured to the holder underneath the pen, substantially as and for the purpose specified.

JAMES BUCHANAN MITCHELL.

Witnesses:
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JESSEE H. BUTLER.