

(No Model.)

P. E. WIRT.
FOUNTAIN PEN.

No. 288,290.

Patented Nov. 13, 1883.

Fig. 1

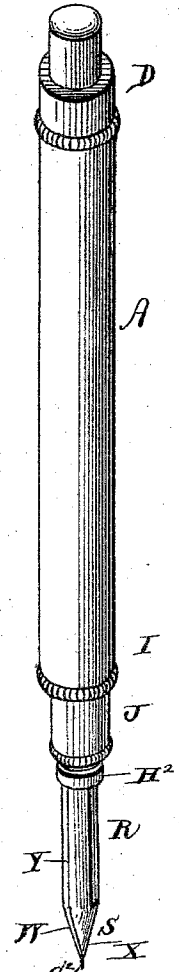


Fig. 2

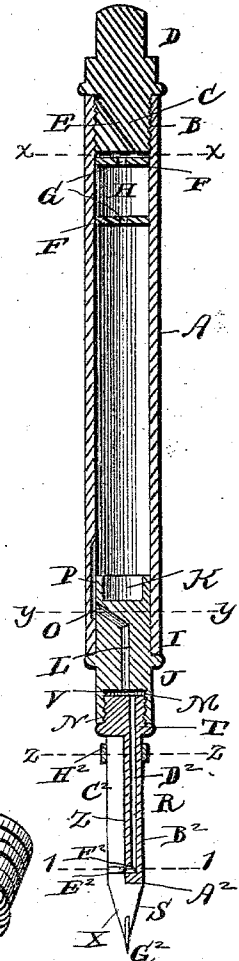


Fig. 3

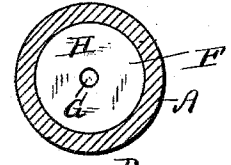


Fig. 4

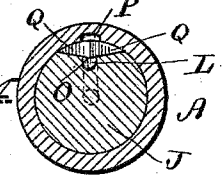


Fig. 5



Fig. 6

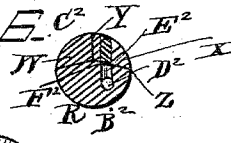


Fig. 7

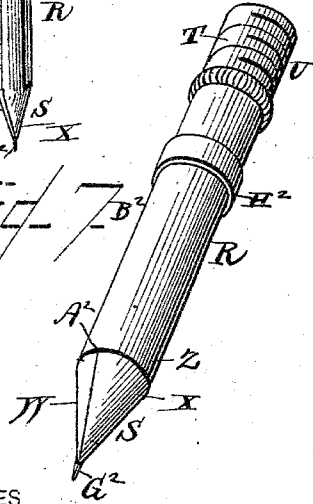
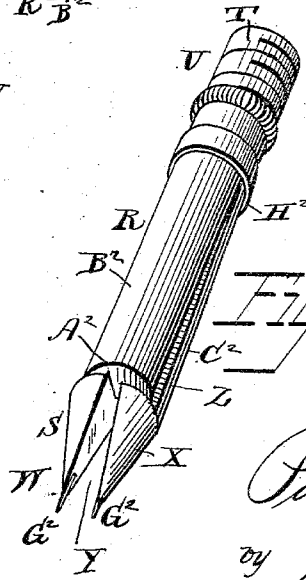


Fig. 8



WITNESSES

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FOUNTAIN-PEN.

SPECIFICATION forming part of Letters Patent No. 288,290, dated November 13, 1883.

Application filed March 12, 1883. (No model.)

To all whom it may concern:

Be it known that I, PAUL E. WIRT, a citizen of the United States, residing at Bloomsburg, in the county of Columbia and State of Pennsylvania, have invented a new and useful Fountain-Pen, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to fountain-pens, and has for its object to provide a simple, inexpensive, durable, and efficient pen, by which shading can be readily effected in writing, and in which the ink will not corrode or mold.

In the drawings, Figure 1 is a perspective view of my improved fountain-pen complete. Fig. 2 is a longitudinal sectional view of the same. Fig. 3 is a detail cross-section on the line *x x*, Fig. 2. Fig. 4 is a detail cross-section on the line *y y*, Fig. 2. Fig. 5 is a detail cross-section on the line *z z*, Fig. 2. Fig. 6 is a detail cross-section on the line *1 1*, Fig. 2. Fig. 7 is a detail perspective view of the pen portion separated from the holder and having its nibs closed. Fig. 8 is a similar view, showing the nibs open.

Referring to the drawings, A designates a tubular holder, which is preferably formed of hard or vulcanized rubber, and provides a reservoir for holding the supply of ink.

The holder A is provided with interior screw-threads, B, at its top end, for the reception of the end C of a screw-threaded cap or plug, D, which latter is provided with an air-vent, E, formed by a perforation extending through the end C, and arranged to be normally closed.

F F are two partitions that are arranged in the holder A near its end, having the cap D, these partitions being provided with openings G, whereby a safety-chamber, H, is formed between the said partitions, into which globules of ink will escape from the holder and be retained until they are forced back into the latter by atmospheric pressure caused by the opening of the pen.

In the lower end, I, of the holder A is neatly fitted a removable plug, J, adapted to be turned in the said end of the holder. This plug J is provided in its inner end with a recess or cavity, K, to receive and retain the sediment of the ink, and is also provided with an ink-channel, L, formed by a perforation extending from its surface inside the holder

to a recess, M, in its outer end, which recess is provided with interior screw-threads, N, for purposes that will be presently described. The mouth O of the said channel L, at the surface of the plug J, opens (while the pen is in use) into a longitudinally-disposed groove, P, formed in the interior surface of the tubular holder A, and extending some distance from the inner end of the plug J.

To regulate the flow of ink from the reservoir into the channel L, from which it passes to the pen, I provide grooves Q Q in the surface of the plug J, at each side the mouth O, these grooves being arranged to gradually decrease in depth and width from the said mouth or opening, as shown. By this construction the flow of ink can be governed by the relative position of the plug J to the groove P. Thus, when the mouth O is directly at the groove P, the flow of ink from the latter to the former will be full; but when the plug J is turned in the end of the holder so that either of the grooves Q Q opens into the groove P, the ink is compelled to flow through the groove to the mouth O, and the supply and rapidity of flow are of course governed by the size of the portion of the said groove Q at the groove P. The flow of ink can be entirely shut off by turning the plug J until its grooves Q Q are out of engagement with the groove P.

R is the pen, which is preferably formed of hard rubber, and is of a cylindrical form, with a tapering point, S, its end T being formed with screw-threads U, by which it can be secured in the recess M, a space, V, being left between the said end of the pen and the bottom of the recess.

The upper side of the pen portion R is divided into two nibs, W X, by a longitudinal slit or kerf, Y. Into this longitudinal kerf Y opens a longitudinally-disposed cross-kerf, Z, that does not extend quite to the point S of the pen, so that the latter is preserved in cone shape.

In the under side of the pen is formed a transverse kerf, A², that extends into the end of the kerf Z, thus separating the under side or half, B², of the pen from the two nibs W X, that comprise the upper side or half, C², and the point S of the pen.

The under portion, B², of the pen R is provided with a longitudinally-disposed ink-

channel, D², formed by a perforation that opens into the space V, into which latter the ink flows from the channel in the plug J. At the lower end of the channel D² is provided an auxiliary channel, E², that is arranged at right angles to the main channel D², and opens against the inner surface of one of the nibs, W, as shown at F².

The points G² G² of the point S of the pen are to be provided with iridium points, to obviate wear upon the rubber of which the pen R is constructed.

H² is a metallic band or ring that is arranged to slide on the cylindrical pen R, to force the nibs and the under half together to close the mouth or opening F² of the channel E², and the spring-tension secured by the said ring serves to retain the parts of the pen in place.

The operation and advantages of my invention are obvious. The holder A can be filled with ink by simply removing the plug J. When the holder or reservoir is filled, the cap-piece D can be loosened to open its air-vent E and admit air into the reservoir, and in writing the nibs are spread and opened in the usual manner, by which action the valve or mouth F² is opened under one nib and the ink is released to the point of the pen, according to the pressure used in writing, a light pressure securing a light mark and a heavy pressure securing a heavy or shade mark.

It will be observed that one nib effects the valve action of the mouth F², though both nibs play alike.

I claim as my invention—

1. The combination, with the holder or reservoir of a fountain-pen having an interior longitudinally-disposed groove, of a plug arranged to carry the pen and fitted neatly in the lower end of the holder, so that it can turn therein, the said plug being provided with an

ink-channel leading to the pen, and having the grooves at its inner mouth gradually decreasing in depth and width from the mouth, the ink being fed from the groove in the holder to the said mouth of the channel, as set forth.

2. As an improvement in fountain-pens, an elastic pen portion divided into nibs or sections by longitudinal kerfs, one of the sections being provided with an ink-channel having its mouth opening under one of the other nibs or sections, so that by the spreading of the latter by pressure in writing the mouth is opened to admit of the flow of the ink to the point of the pen, as set forth.

3. As an improvement in fountain-pens, the elastic pen portion adapted to be secured or connected with the holder or reservoir, and comprising the two nibs formed by the longitudinal kerf, and a channeled portion separated from the said nibs by a longitudinally-disposed cross-kerf, and a transverse kerf extending to the latter, the mouth of the channel being arranged under one of the nibs, as set forth.

4. The combination of the holder or reservoir having an interior groove at its bottom, a plug fitting in the bottom end, and provided with a channel having its mouth arranged to open into the interior groove of the holder, and the elastic pen portion fitted in the said plug, and comprising the nibs and channeled portion, a ring being arranged to slide on the pen portion to hold its sections in position, as set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

PAUL E. WIRT.

Witnesses:
C. M. VANDERSLICE,
G. M. QUICK.