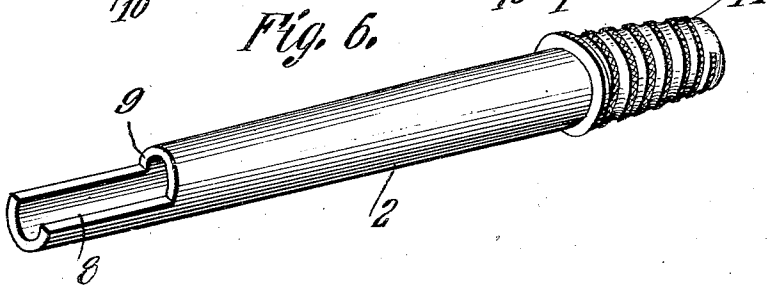
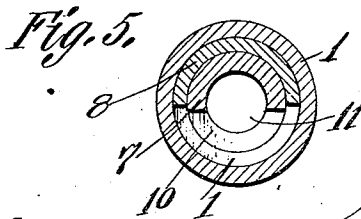
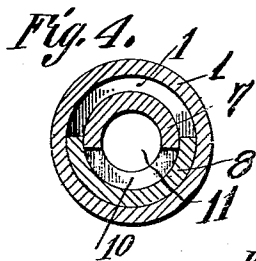
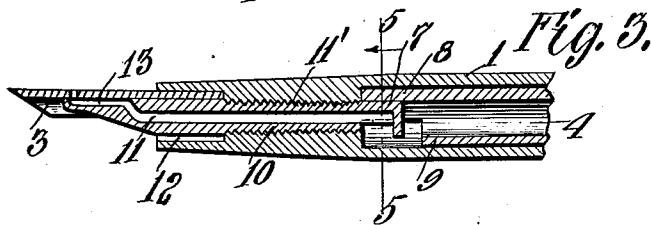
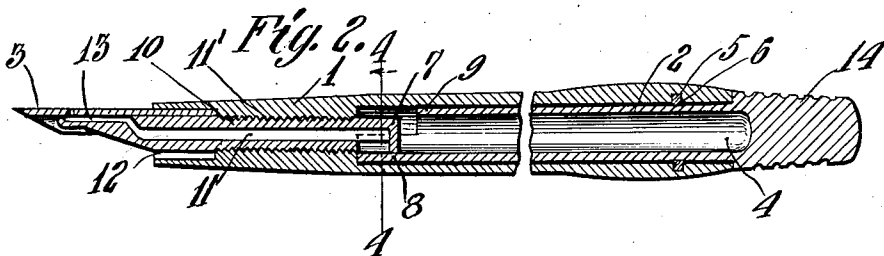


P. J. HELMER.
 FOUNTAIN PEN.
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954,514.

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FOUNTAIN-PEN.

954,514.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, PAUL JOSEPH HELMER, a citizen of the United States, residing at Cucamonga, in the county of San Bernardino and State of California, have invented certain new and useful Improvements in Fountain-Pens, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to improvements in fountain pens.

One object of the invention is to provide a simple and practical valve device by means of which the flow of ink to the pen point may be entirely cut off when the pen is not in use and by means of which it may also be regulated to suit the writer.

Another object of the invention is to improve and simplify the construction of fountain pens and to provide one which may be readily refilled by sucking ink through the pen point and ink feed passage without separating the parts of the pen body.

With the above and other objects in view, the invention consists of the novel features of construction and the combination and arrangement of parts hereinafter fully described and claimed, and illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of the improved fountain pen on a scale somewhat larger than an ordinary pen; Fig. 2 is a longitudinal section through the same showing the valve device in its closed position; Fig. 3 is a detail longitudinal section similar to Fig. 2 but showing the valve device open; Figs. 4 and 5 are transverse sections taken on the planes indicated by the lines 4—4 and 5—5 in Figs. 2 and 3, respectively; and Fig. 6 is a detail perspective view of the inner body section which forms the ink receptacle.

The invention comprises outer and inner body sections 1, 2 which are telescopically engaged, the outer section 1 preferably carrying the pen point 3 and the other or inner section 2 having a cavity 4 which forms the ink reservoir or receptacle. The inner or reservoir section 2 is cylindrical and snugly fits into the cylindrical bore of the outer pen point carrying section 1 so that the two sections will be frictionally retained in telescoped or engaged position, as shown in Fig. 2, and the ink in the reservoir or cavity 4 will be prevented from leaking out between said sections. If desired, I may thicken the

inner end of the section 1 and form in its bore an annular groove 5 for the reception of a packing ring 6, which latter may be of rubber or other suitable material and engages the exterior of the section 2 and provides a more effective frictional lock and also effectively prevents the leakage of ink.

By making the body of the pen in two separable sections, one to carry the pen point and the other to maintain the ink, it will be seen that the pen may be constructed at a small cost and that the pen may be easily refilled without separating the sections. To refill the pen, the point is dipped in ink and the inner section is moved outwardly or upwardly in the outer section so as to suck the ink into the bore of the outer section through the pen point and the ink feed passage. After the inner section has been moved outwardly a suitable distance the body of the pen is turned so that the point 3 will extend upwardly and the ink in the bore of the outer section will pass into the cavity or reservoir 4. When the pen is in this position, the inner section is moved into the outer section to the position shown in Fig. 2 and during such movement the air in the bore of the outer section will pass out through the pen point.

The two sections of the body of the pen carry coacting valve members 7, 8, one of which is stationary and the other movable with respect thereto. As illustrated, the valve members 7, 8 are in the form of overlapping and telescoping, substantially semi-cylindrical parts and the member 8 is rotatable around the member 7, the latter being preferably carried by the section 1 while the former is carried by the section 2. The movable or rotary member 8 is in effect a valve and is formed by removing substantially one-half of the inner end of the section 2, as shown more clearly at 9 in Fig. 6. The other member 7 is in effect a valve seat and is formed by removing a portion of the closed inner end of a tubular element 10 which contains the ink passage 11 leading to the pen point 3. Said tubular element 10 has its intermediate portion externally screw threaded to engage internal screw threads 11' formed in the section 1 adjacent to its front or outer end, at which latter is an enlarged bore or recess 12 for the reception of the inner end of the pen point. The ink passage 11 at the outer end of the element or tube 10 is properly shaped to conduct the

ink to the pen point, as indicated at 13 in Fig. 2.

It will be understood that the inner section 2 is rotatable in the outer section 1 so that its inner end or valve 8 may be rotated around the valve seat 7 to entirely or partially uncover the opening therein and thereby cut off or regulate the flow of ink from the reservoir cavity 4 through the passage 11 to the pen point. To permit the inner section 2 to be easily rotated, its outer end is enlarged to provide a finger piece having a roughened outer surface, as indicated at 14. For the purpose of indicating the relative positions of the two sections, and hence of the valve and valve seat, marks 15, 16 may be placed upon the two sections, as shown in Fig. 1, in such position that when the valve 8 closes the opening in the valve seat 7, said marks register with each other.

The pen is provided with the usual removable cap 17 for covering the pen point when the pen is not in use.

The operation of the pen is as follows: When it is desired to refill the pen, the point 3 is turned downwardly and dipped in ink and the finger piece 14 is grasped and drawn upwardly to partially remove the inner section 2 from the outer section 1. During this operation the ink will be sucked up into the bore of the section 1 and when the pen is righted, the ink will flow to the bottom of the cavity or reservoir 4, whereupon, the section 2 may be returned to its normal position in the section 1. Assuming the valve device of the pen to be closed, as shown in Figs. 2 and 4 of the drawings, when it is desired to use the pen, the cap 17 is removed from over the point 3 and may be temporarily retained upon the other end of the section 1 but, before the cap is placed on the latter, the finger piece 14 is turned to cause the other end or valve 8 of the inner section 2 to entirely or partially uncover the valve seat 8 or open end of the ink feed tube 10, as shown in Figs. 3 and 5 of drawings. When the parts are in this position, it will be seen that the ink in the reservoir 4 may pass through the passage 11 to the pen point 3.

From the foregoing it will be seen that the

invention provides an exceedingly simple and practical fountain pen which may be easily refilled without separating the parts and hence without soiling the hands, but the parts of which may be readily separated to permit of their being cleaned; and that the valve device will permit the flow of ink to the point to be entirely cut off or regulated to suit the writer. It will be further noted that the pen is of simple construction so that it may be produced at a small cost, will be strong and durable and not liable to get out of order.

Having thus described the invention what is claimed is:

The herein described fountain pen comprising a body having inner and outer telescoping tubular sections, the outer section having at one end a large cylindrical bore to receive the other section, said bore being formed adjacent to its open end with an annular groove, an annular packing ring seated in said groove to frictionally engage the inner section, said outer section being also formed with a reduced screw threaded bore and with a pen-receiving socket, said inner section having its outer end closed and formed with an enlarged portion to provide a finger piece and an annular stop shoulder for engagement with the outer section, the other end of said inner section having a portion removed, whereby the remaining portion of said inner end forms a valve seat, a tubular feeding member externally screw threaded to engage the threaded bore in the outer member, the inner end of said feeding member being closed and of cylindrical shape and having in one of its sides a valve opening, said valve opening being adapted to be controlled by said valve seat when the inner section of the body is rotated in the outer section of the same, and a pen-point arranged on the outer portion of the feeding member and in the pen-receiving socket of the outer section of the body.

In testimony whereof I hereunto affix my signature in the presence of two witnesses.

PAUL JOSEPH HELMER.

Witnesses:

H. G. KLUSMAN.

GEORGE KLUSMAN.