

J. BOARD.  
 FOUNTAIN PEN.  
 APPLICATION FILED MAR. 4, 1908.

903,662.

Patented Nov. 10, 1908.

Fig. 1

Fig. 2

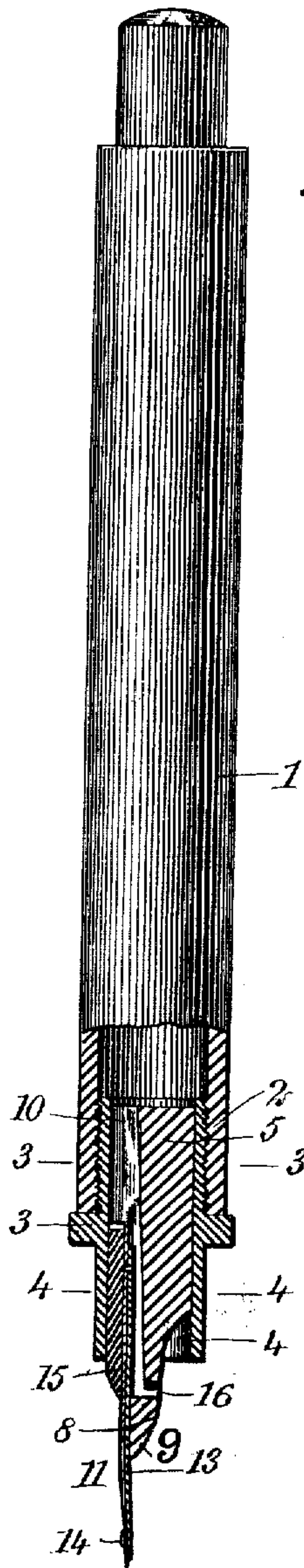
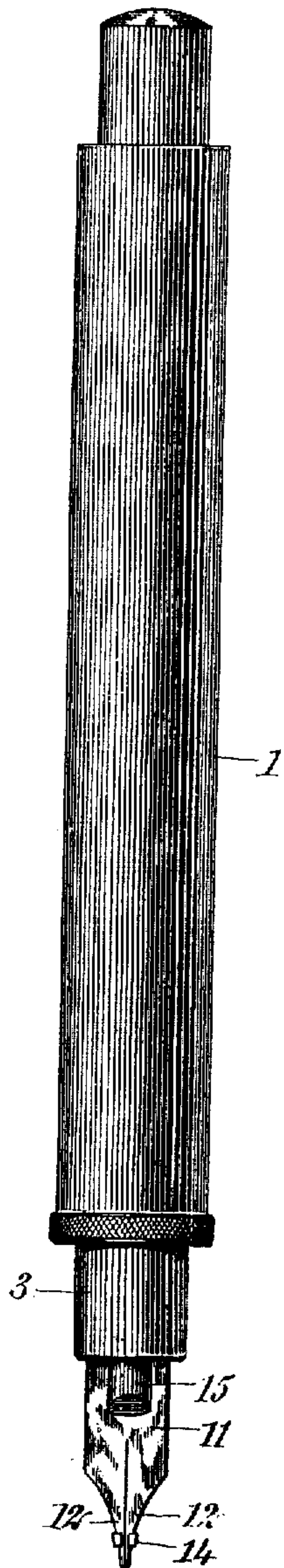


Fig. 3

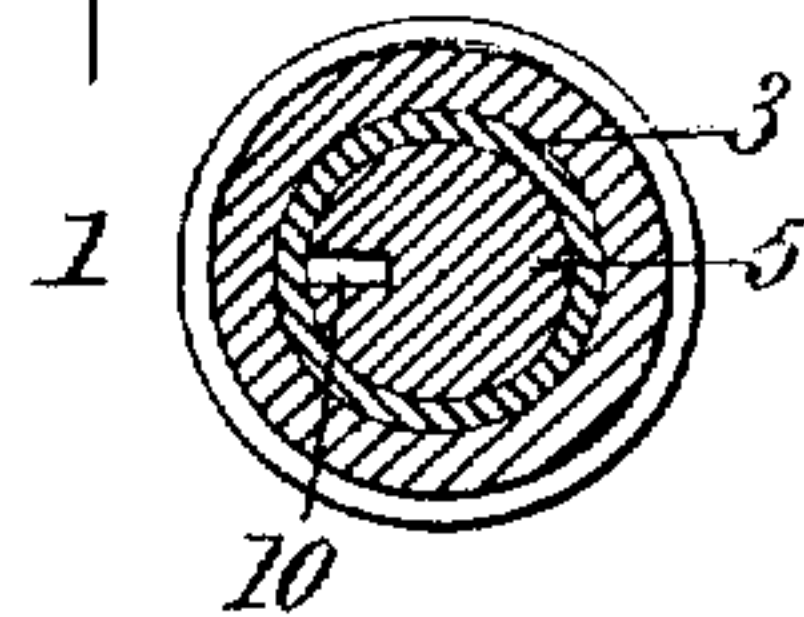


Fig. 4

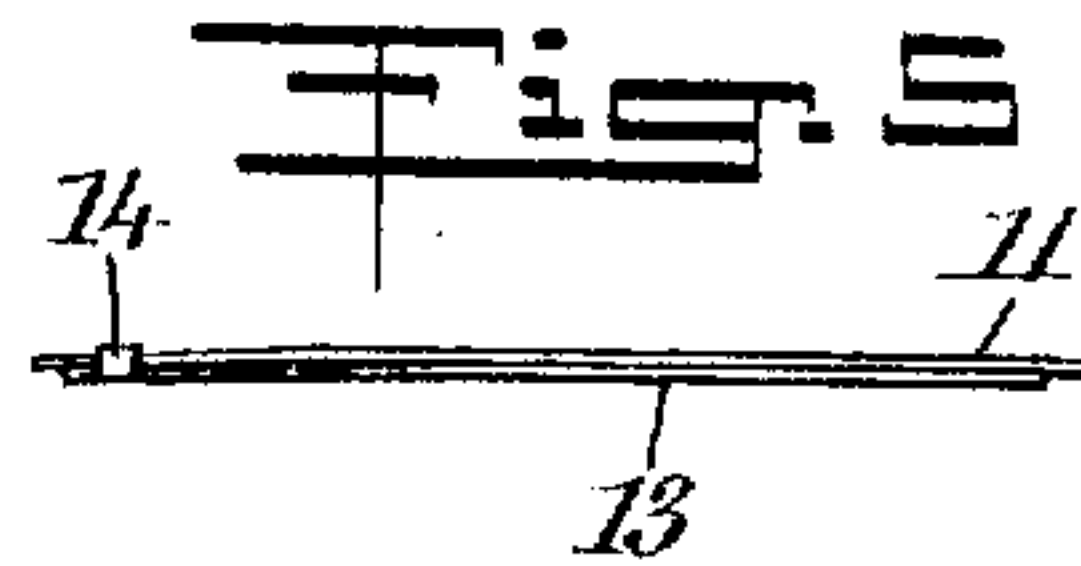
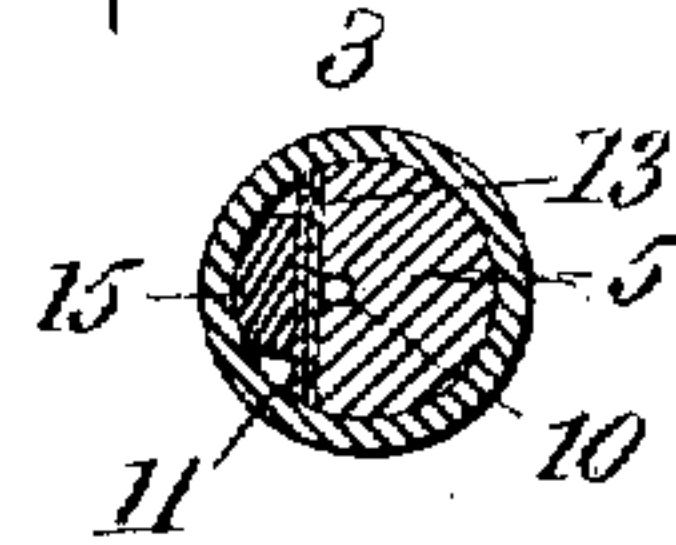
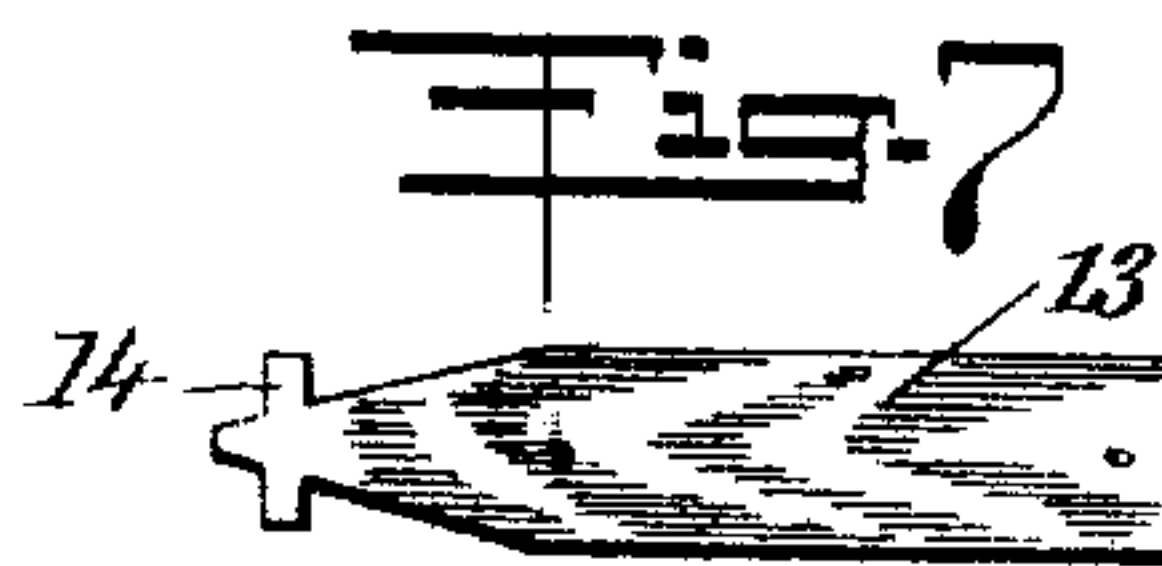
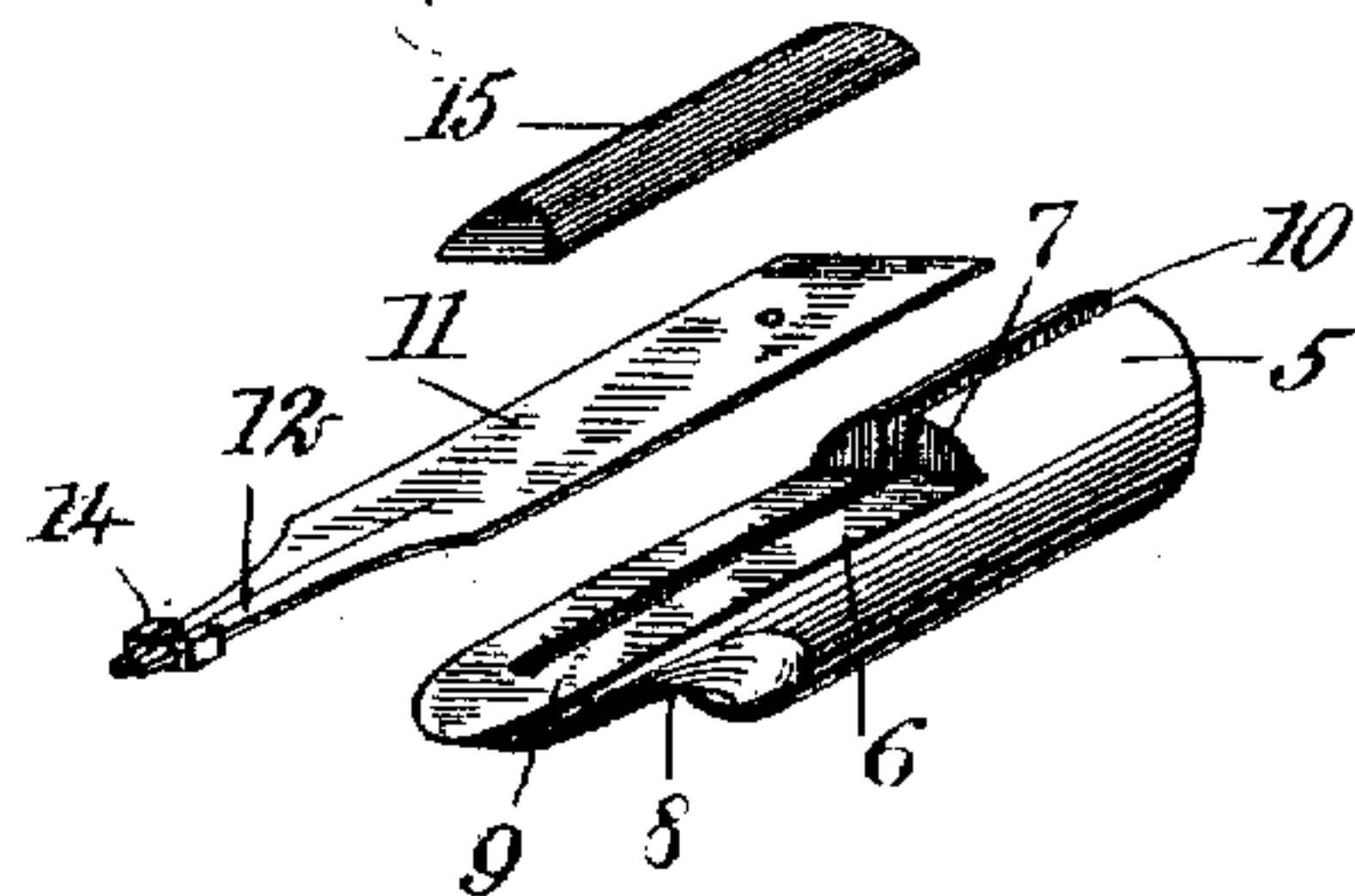


Fig. 6



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# UNITED STATES PATENT OFFICE.

JOSEPH BOARD, OF CHESTER, NEW YORK.

## FOUNTAIN-PEN.

No. 903,662.

Specification of Letters Patent.

Patented Nov. 10, 1908.

Application filed March 4, 1908. Serial No. 419,091.

*To all whom it may concern:*

Be it known that I, JOSEPH BOARD, a citizen of the United States, and a resident of Chester, in the county of Orange and State of New York, have invented a new and Improved Fountain-Pen, of which the following is a full, clear, and exact description.

This invention relates to fountain pens, and the object of the invention is to provide improved means for feeding ink from the reservoir to the pen point.

More specifically, the purpose of the invention is to construct the parts at the pen point in such a way that the feeding movement of the ink will be automatic, as it were, in its action; that is, when the pen is being used, the ink will feed to its point, and when it is not being used, the flow of the ink will be shut off. In other words, the flexing movement of the pen point is utilized to stimulate the feeding action; but the construction is such as to enable the pen to be carried in the pocket even in an inverted position without the ink's leaking from the reservoir.

The invention consists in the construction and combination of parts to be more fully described hereinafter and particularly set forth in the claims.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a side elevation of a fountain pen embodying my invention, and showing the pen point viewed from the under side; Fig. 2 is a longitudinal section taken through the pen at the forward end and through the forward portion of the reservoir; the remainder of the reservoir being shown in side elevation; Fig. 3 is a cross section on the line 3—3 of Fig. 2; Fig. 4 is a cross section on the line 4—4 of Fig. 2; Fig. 5 is a side elevation of the pen point and feed plate; Fig. 6 is a perspective representing the feeder, pen point and plug removed from the thimble which normally holds them; and Fig. 7 is a plan of the blank from which the feed plate is formed.

Referring more particularly to the parts, 1 represents the reservoir of the pen, the forward end of which is provided with internal threads 2 so as to receive a thimble 3 which screws into position in the usual manner. This thimble is provided with a bore

4 extending longitudinally thereof from end to end, and this bore is of uniform diameter as shown.

In the thimble I provide a feeder 5, which has the form of a plug as shown in Fig. 6. The rear or inner portion of this feeder is of round form as shown; the forward and upper portion is cut away so as to present a flat longitudinally extending face 6 and a shoulder 7 extending at right angles to this face. On the under side the forward portion of the plug or feeder is cut away as indicated at 8, so that the plug presents a forwardly extending bill 9. On the upper side of the plug there is formed a longitudinally extending feed duct or groove 10. The origin of this groove is at the rear end of the plug. In this portion of the plug the groove has considerable depth, but it is quite shallow where it cuts through the face 6, and especially in the vicinity of the shoulder 7.

The pen point or pen 11 consists of a substantially flat plate, which is slightly flexed at its forward end where it is split and tapered so as to form two nibs 12 which lie adjacent to each other as shown. On the under side of the pen point 11 I provide a feed plate 13 which is of substantially the same shape as the pen point, but is slightly smaller in dimensions. This plate is not split at its forward end like the pen point 11, but is tapered in the same manner, and near its point, is formed with laterally projecting integral clips 14. These clips are bent upwardly and clamped on the upper side of the pen point so as to attach the feed plate to the pen. It should be understood, however, that this attachment is not so rigid as to prevent ink passing downwardly between the feed plate and the pen point at the nibs.

In Fig. 7 I illustrate the form of the blank from which the feed plate is formed.

In assembling the parts, the pen point with the feed plate on its under side, is laid upon the face 6, which face constitutes a seat for the pen; and on the outer side of the pen I place a splint 15, the form of which is clearly shown in Fig. 6. The parts are then pushed into the thimble, as indicated in Fig. 2. Holding themselves in position by friction, as shown in Fig. 2, the rear edge of the feed plate 13 is disposed slightly forward of the rear end of the pen point 11, and, furthermore, the rear end of the pen



point 11 seats against the shoulder 7. From this arrangement a capillary opening or feed space, as it were, is formed between the butt ends of the feed plate and the pen, which  
 5 feed opening communicates with the feed duct 10. In this way by capillary attraction the ink is drawn from the feed duct into the space under the pen point. This capillary movement is facilitated by the flexing of the  
 10 pen which occurs in writing, for it will be evident that the flexing movement which takes place at the forward end of the pen point in writing will tend to produce a periodical or momentary separation of the pen  
 15 point from the feed plate. In this way a pumping or suction action arises which assists the capillary action and tends to advance the ink to the pen point only while the pen is being actually used for writing. This  
 20 action at the pen point is highly advantageous, for the reason that the flexing referred to has its maximum effect on the downward strokes of the pen; that is, it will be seen that after the downward stroke, an increased  
 25 supply of ink will have advanced toward the nibs of the pen point. This increased supply just at this time has the effect of giving the pen point an unusually good supply of ink on its up-strokes. This advantage  
 30 will be appreciated by users of fountain pens, as it appears to be an inherent weakness in pens of this class that the supply of ink is smaller on the up-strokes of the pen point.

35 It will appear that that portion of the feed duct which lies below the shoulder 7 does not materially assist the feeding of the ink to the pen, but operates principally as an air duct, for which purpose its forward  
 40 extremity is provided with a vent 16 which opens upon the under side of the bill 9 as indicated.

When the pen is not in use, its forward end is covered by the usual removable cap,  
 45 which is not illustrated.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:

50 1. A fountain pen having a feeder consisting of a plug with a feed duct therein, a substantially flat pen point having a substantially flat feed plate attached thereto, and means for securing said pen point and said

feed plate upon said plug to receive ink from said duct.

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2. A fountain pen having a substantially flat pen point and a substantially flat feed plate held thereagainst, said pen point and feed plate being flexible whereby the ink is fed downwardly therebetween in the writing  
 60 movement of the pen.

3. A fountain pen having a feed plug, a substantially flat pen point, and a flat feed plate held against said pen point, means for securing said pen point and said feed plate  
 65 on said plug to receive ink therefrom, and means for attaching said feed plate and said point together near the forward end thereof, said pen point and said feed plate being flexible whereby the flexing movement there-  
 70 of will advance the ink in the feed space therebetween.

4. A pen point for a fountain pen, consisting of a substantially flat flexible plate having nibs at the forward end thereof, and a  
 75 flat feed plate held against said pen point and attached thereto at the forward end thereof.

5. A pen point for a fountain pen, consisting of a substantially flat plate having nibs  
 80 formed at the forward end thereof, and a flat feed plate placed under said pen point and having clips engaging said nibs, said pen point and said feed plate being flexible.

6. A fountain pen having a reservoir, a  
 85 thimble removably mounted in said reservoir, and a feed plug received in said thimble and having a feed duct communicating with said reservoir, said plug presenting a substantially flat face constituting a seat,  
 90 and a flat pen point received on said seat.

7. A pen point consisting of a flexible, substantially flat plate, a feed-plug having a duct, a feed plate placed under said pen point and seating under said face, the rear  
 95 ends of said pen point and said feed plate being exposed to said duct, and means for holding said pen point on said plug.

In testimony whereof I have signed my name to this specification in the presence of  
 100 two subscribing witnesses.

JOSEPH BOARD.

Witnesses:

B. C. DURLAND,  
 A. M. GOLDSMITH.