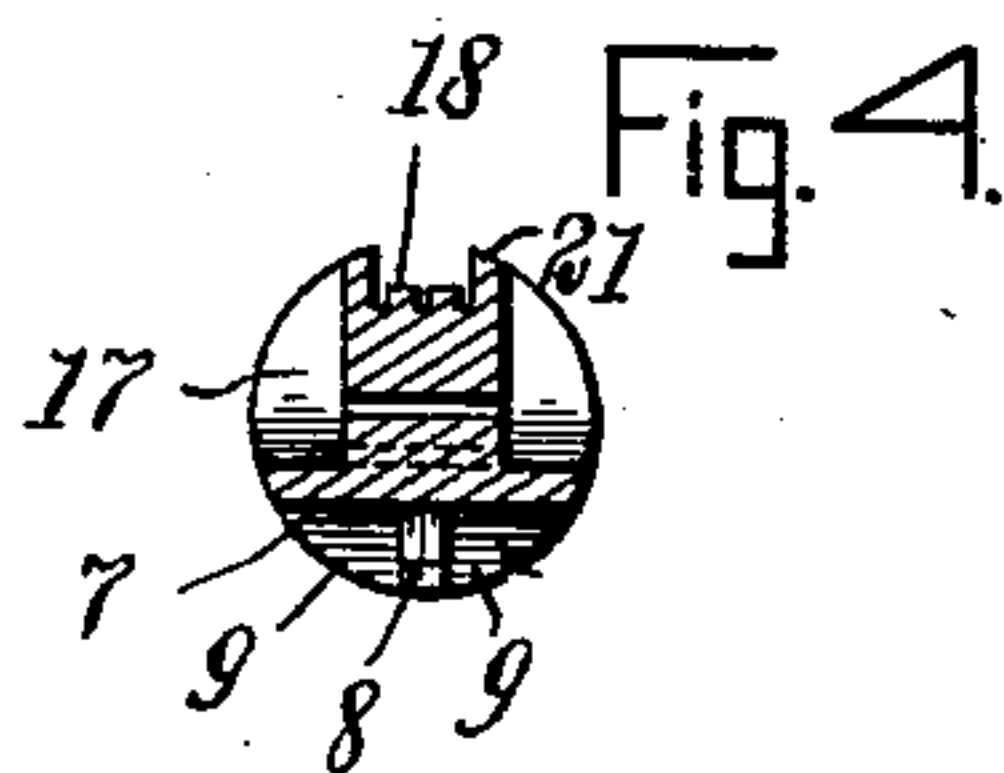
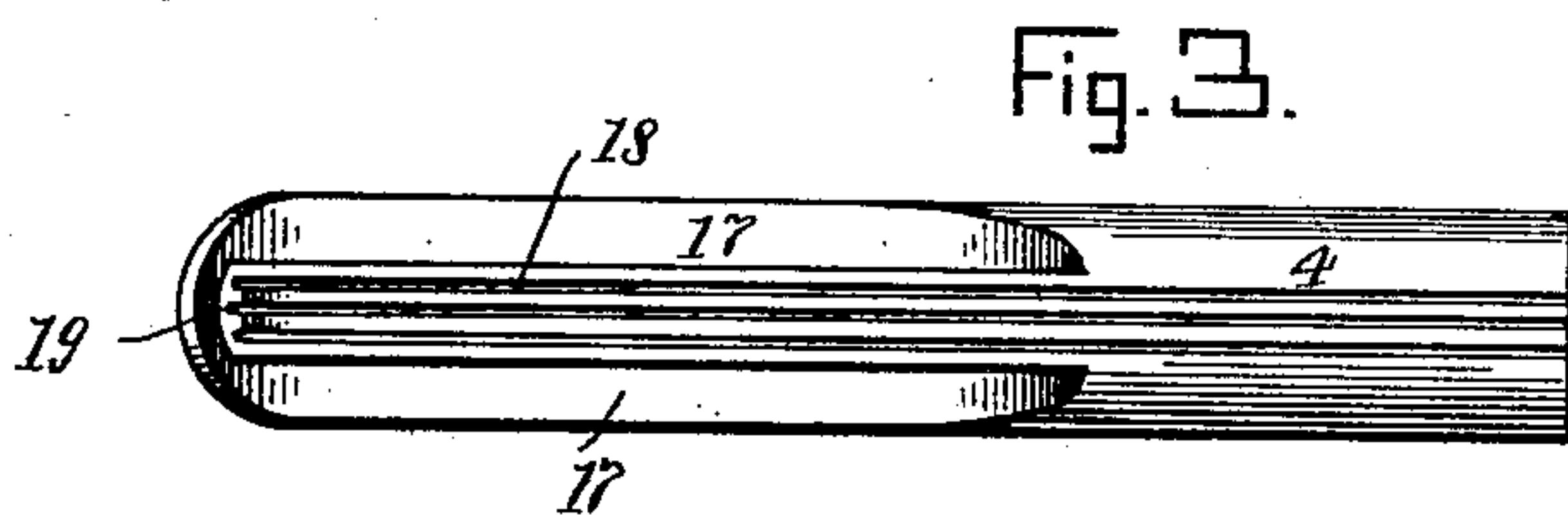
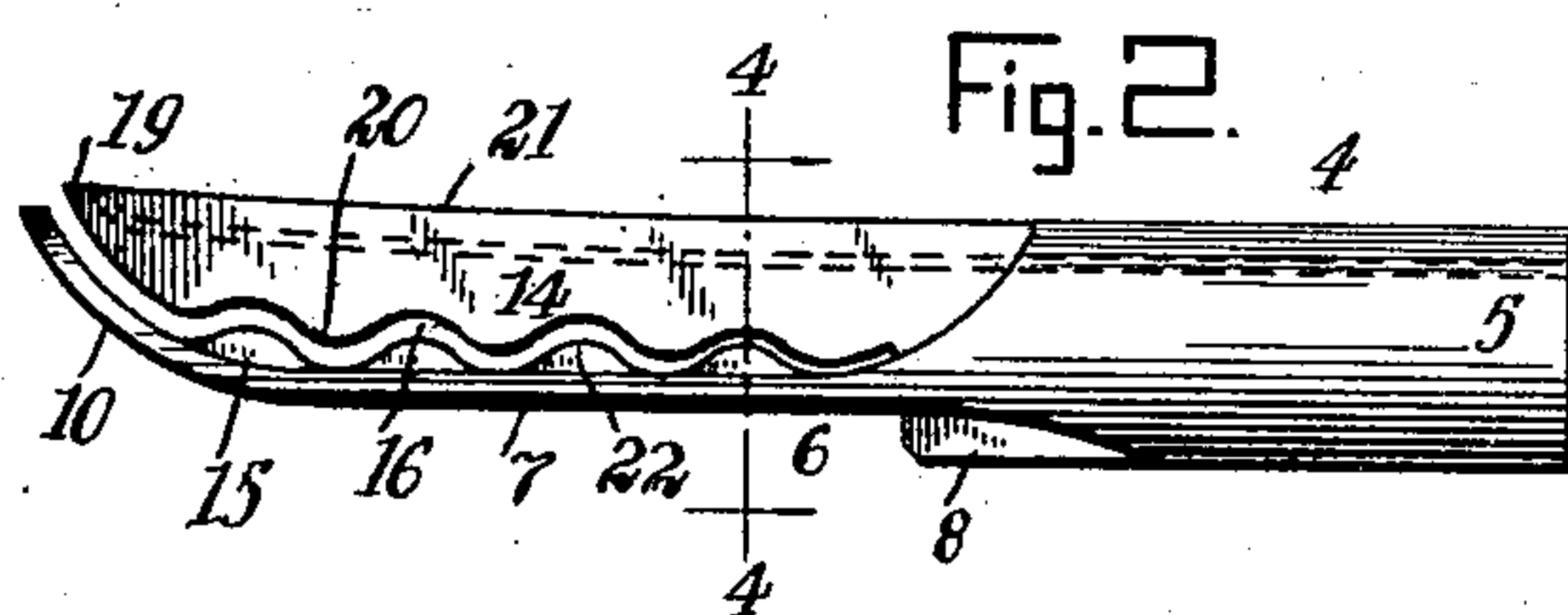
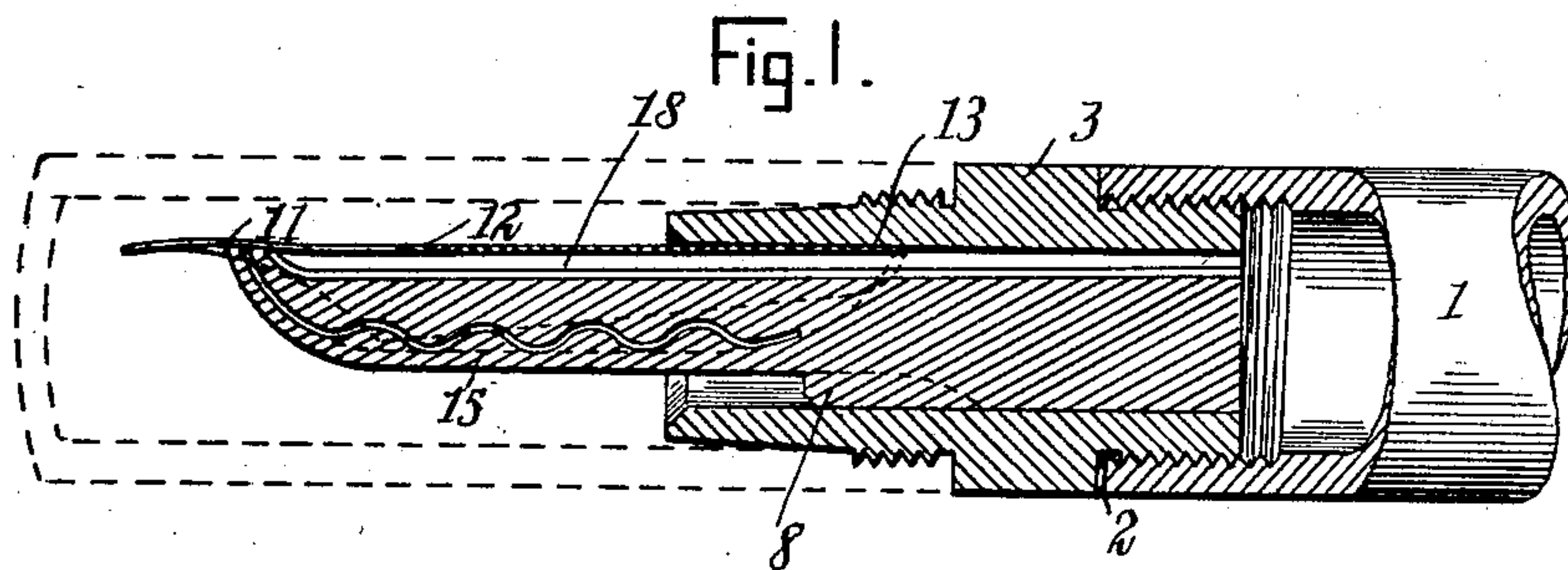


W. A. HOUSTON.
 FOUNTAIN PEN.
 APPLICATION FILED JAN. 3, 1911.

999,648.

Patented Aug. 1, 1911.



WITNESSES

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FOUNTAIN-PEN.

999,648.

Specification of Letters Patent.

Patented Aug. 1, 1911.

Application filed January 3, 1911. Serial No. 600,608.

To all whom it may concern:

Be it known that I, WILLIAM A. HOUSTON, a citizen of the United States, and a resident of Tracy, in the county of Lyon and State of Minnesota, have invented a new and Improved Fountain-Pen, of which the following is a full, clear, and exact description.

My invention relates to certain improvements in fountain pens, and more particularly in the feeding devices commonly employed therein for feeding ink from the reservoir to the pen point.

It has for its objects in general the improvement and perfection of such feeding devices, thereby insuring a uniform flow of ink to the pen nibs and paper, and further to obtain a simple construction affording means for preventing the dropping of ink from the feeder or pen point to the paper in case the ink is fed too freely at times, whereby the surplus ink supplied is effectively taken up and retained until required, the writing rendered uniform and regular and blotting, caused by the dropping of ink from the pen point, is avoided.

More specifically an object of my invention is to so construct the overflow reservoir that a relatively large amount of surplus ink may be confined within a small space at the end of the feeding device.

A further object of my invention is to so construct the feeding device that the opening in the reservoir is controlled by pressure upon the pen point or nib.

A further object of my invention is to so construct the feeding device that the surplus ink will have easy access from the pen point to the overflow chamber, and so that communication between these two parts will be governed by the amount of pressure upon the pen point.

I attain these objects by forming the end of the feed bar in two parts movable relative to each other and constituting a variable size reservoir for surplus ink. The opening of this reservoir is in engagement with the under side of the pen point and is controlled by the pressure of the point while engaged in writing.

With the above and other objects in view, as will more fully hereinafter appear, the present invention consists in certain novel details of construction and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and more

particularly pointed out in the appended 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, and in which—

Figure 1 is a sectional view taken axially through the nozzle portion of a fountain pen provided with the improved feeding device, and showing in elevation part of the end of the ink reservoir; Fig. 2 is a side elevation of the feed bar detached from the pen; Fig. 3 is a plan view looking down on the same; and Fig. 4 is a transverse section taken through the feed bar in the plane indicated by the line 4—4 of Fig. 2, looking in the direction of the arrow.

In the drawings I have disclosed a preferred embodiment of my invention applied to any common form of fountain pen, and comprising a reservoir 1 into one end 2 of which is threaded a screw plug 3, commonly employed for closing the open end of this class of fountain pens, and also employed for holding the pen points and feed device in place. A feed bar 4, the inner end 5 of which is of a solid cylindrical form, snugly fits within and is held frictionally in the bore of the screw plug 3. The forward under side of this feed bar 4 is cut away at 6 to form a flat broad bottom surface 7. The cut-away portion 6 extends toward the cylindrical part 5 on each side of a supporting bar 8, to form a space 9 on each side thereof to receive any excessive overflow of ink which may be expelled from the pen point while the pen is carried in the pocket. The bottom surface 7 is curved upward at 10 to contact with the under side of the nibs 11 of the pen point 12, which pen point is inserted between the forward part of the cylindrical end 5 of the feed bar 4 and the top of the bore of the screw plug 2. The heel 13 of the pen point 12 is held firmly against the curve of the upper wall of the screw plug 3 by the bar 8, which not only tends to strengthen the forward wall of the plug but also acts as a wedge to hold the pen points rigidly in place.

The part of the feed bar 4 above the cut-away portion 6 is split in a downward and rearward curve from its forward end and then downwardly in a manner hereinafter described, to form a flexible ink conductor 14 and a relatively rigid tongue 15 relatively

broader than the conductor 14 co-acting with the conductor 14 to form between them a variable sized overflow chamber 16. The upper surface of the feed bar 4 is cut away in an inverted arch shape, as shown at 17, to form the central longitudinally extending elastic ink conductor 14, which conductor and the cylindrical end 5 are provided with the usual feed grooves 18 which grooves may be of any desired shape and extend to a point near but separated from the forward end of the feed bar, as shown at 19, and the end of the feeder is slightly flattened to permit the ink to be fed readily to the nibs 11. The conductor 14 is somewhat resilient, due to its small depth, and the outer end is normally slightly raised out of the line of the top of the cylindrical part, so as to press upon the under side of the pen point, whereby the conductor is always kept in contact with the pen point. The bar 4 is split by a wavy cut, whereby the under side of this conductor 14 is corrugated transversely, as shown at 20, from the point where the tongue 15 joins the cylindrical part 5 to the point where the cut-away portion 6 curves upward, and then the under side of the conductor 14 curves upward to its upper edge 21, the curvature of which part corresponds to the contour of the curved portion 10. The tongue 15 has its upper surface transversely corrugated, as shown at 22, which corrugations are adapted to fit into the spaces between the corrugations at the under side of the conductor 14, thereby forming between them an overflow receptacle or chamber adapted to receive and retain the surplus ink from the pen point 12.

From the above description, it will be seen that the improved pen constructed according to my invention is of an extremely simple and inexpensive nature, and is especially well adapted for use since the feeding device herein described and shown effectively prevents the dropping of ink from the pen point, whereby blotting is prevented and the action of the pen is made uniform and regular, any surplus ink supplied through the feeding grooves being held within the overflow chamber 16 until it is required for use, when it is permitted to run evenly and readily down the pen point to the nibs, for use in writing. It will also be seen that by this arrangement of the corrugated or overflow chamber, I am enabled to place a relatively large sized chamber within the very small forward portion of my feeding device, and at the same time retain, not only the advantages of the capillary action of the straight-slotted overflow chambers now in common use, but I also attain automatically a relatively larger chamber under some conditions, and also attain a greater capillary action, due to the

longer, hair-like recess I am enabled to obtain. Further, the opening into this chamber is automatically controlled, for, as pressure is brought down on the nibs of the pen, ink is fed freely to the pen point, as in any form of pen; but in case there is too free a flow, it will be seen that the spring action of the feeder 14 will cause it to open up the reservoir, thereby enlarging the capacity of the overflow chamber until the pressure is taken off the nibs, when the flow of ink through the feed grooves is proportionately restricted and the surplus ink can then slowly flow out and onto the nibs. Further, it will be seen that by this arrangement the mouth of the overflow chamber is in direct contact with the nibs, thereby rendering it quite easy for the surplus ink to find its way into the overflow chamber.

Many changes could be made in the above construction and many apparently widely different embodiments of this invention could be made without departing from the scope thereof. It is intended that all matters contained herein, in the above description or shown in the accompanying drawings, shall be interpreted as illustrative and not in a limiting sense.

It is also to be understood that the language used in the following claims is merely intended to cover all the generic and specific features of the invention herein described, and all statements of the scope of the invention, which, as a matter of language, might be said to fall therebetween, and that materials, sizes and relativities of parts are non-essential except as called for in the claims.

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

1. In an overflow receptacle for fountain pens, a feed bar, comprising a member having an upwardly curved end portion adapted to contact with a pen nib, the upper surface having a series of transverse ridges in the rear of said curved portion, and a relatively narrow spring member disposed above, parallel to, and spaced apart from said rigid member and integral therewith, and having transverse ridges oppositely disposed to the spaces between the ridges on the rigid member, the ends of said spring member conforming substantially to the contour of said curved portion, whereby the outer ends of said members may be pressed together to leave a relatively long overflow chamber in the rear thereof.

2. In a feeding device for fountain pens and the like, a feed bar having an ink conductor with feed grooves in its upper edge, and a tongue integral with said feed bar and materially broader than the same, spaced from, positioned below and extending beyond said conductor, to contact with

the pen point, thereby forming a broad based overflow chamber in said feed bar, to receive surplus ink from said pen point.

3. In a fountain pen having a pen point, 5 a feed bar comprising a rigid member, the outer end of which is in contact with the pen point and having a resilient ink-feeding member in engagement with said point and spaced apart from said rigid member, the 10 space between said members constituting a variable sized overflow chamber for the surplus ink on said pen point.

4. A feeding device for fountain pens and the like, comprising a feed bar having an 15 ink flexible conductor, said conductor having a corrugated under surface, and a tongue engaging said corrugated surface to form a variable sized overflow chamber.

5. In a feeding device for fountain pens, 20 comprising a feed bar having an ink conductor therein, said bar having an irregular

under surface, and a tongue having an upper surface coacting with the irregular surface of the feed bar, to form therewith a variable sized overflow chamber, said bar 25 actuated by the pen point, to vary the size of said chamber.

6. In a feed bar for fountain pens, two members disposed parallel, having one end of each normally spaced apart to form an 30 overflow chamber therebetween, one of said members actuated by the pressure of the pen point, to vary the volume of said chamber.

In testimony whereof I have signed my 35 name to this specification in the presence of two subscribing witnesses.

WILLIAM A. HOUSTON.

Witnesses:

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L. F. NELSON.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."
