

(No Model.)

D. C. DEMAREST.
FOUNTAIN PEN.

No. 361,493.

Patented Apr. 19, 1887.

Fig. 1

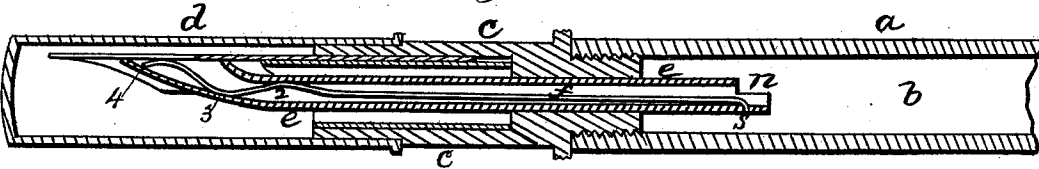


Fig. 2

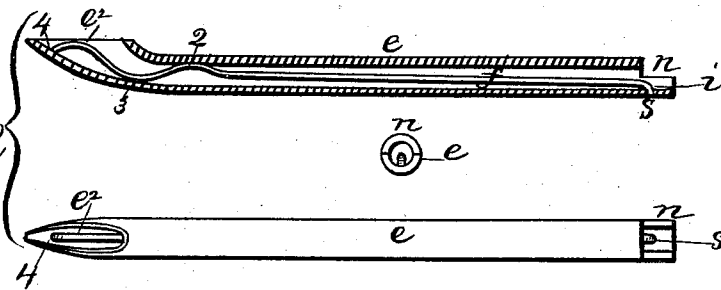
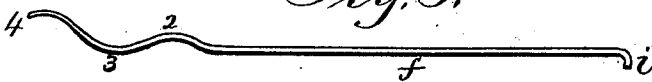


Fig. 3.



Witnesses;

Ella S. Johnson,
Chas. R. (Mackrille)

Inventor;
Dewitt C. Demarest,
By Johnson & Johnson
his Attorneys.

UNITED STATES PATENT OFFICE.

DEWITT C. DEMAREST, OF DENVER, COLORADO.

FOUNTAIN-PEN.

SPECIFICATION forming part of Letters Patent No. 361,493, dated April 19, 1887.

Application filed November 6, 1886. Serial No. 218,159. (No model.)

To all whom it may concern:

Be it known that I, DEWITT C. DEMAREST, a citizen of the United States, residing at Denver, in the county of Arapahoe and State of Colorado, have invented new and useful Improvements in Fountain-Pens, of which the following is a specification.

My improvement is directed to that class of fountain-pens adapted for use with the ordinary pens and having a removable ink-supplying tube and an ink-feeder within said tube, as in a patent granted to me April 27, 1886, numbered 340,365; and the objects of my present improvements are to prevent the ink from flowing out of the supplying-tube too rapidly; to give a free flow of the ink to the pen at the point of the supplying-tube; to prevent the lodgment of air-bubbles at the inner end of the ink-supplying tube, and thereby cause a free flow of the ink from the supply-reservoir into said supplying-tube, and to maintain the ink-feeder in proper position within the supplying-tube. I attain these objects by the pen constructed as illustrated in the accompanying drawings, in which—

Figure 1 is a longitudinal section of so much of a fountain-pen as embraces my improvements. Fig. 2 shows the ink-supplying tube in elevation, in longitudinal section, and in end view; and Fig. 3 shows the rubber feeder-stem.

The handle *a* forms the ink-reservoir *b*, the open end of which is screw-threaded to receive the pen-holding section *c*, which has the usual cap or protector, *d*, for the pen when not in use. These parts I prefer to make of hard rubber. The screw-section *c* forms the holder for the ink-supplying tube *e*, which fits tightly in a central bore in said holder and is adjusted longitudinally therein to adapt it for use with long and short pens, and when so adjusted it is held tight. This screw-section has the usual split spring-binder for holding the pen. The ink-supplying tube is open at both ends, is also of hard rubber and is of sufficient length to pass through the screw-section a short distance into the reservoir and to extend from the other end of said screw-section a distance to bring its supply-point in proper relation to the point of the pen. Its supply-point end is curved toward the pen and has an oblong opening, *e'*, formed by cutting away its side next to the pen, extending from its point a distance about

a quarter of an inch to supply the pen just back of the point of the latter, which projects a little beyond the end of the tube close to or touching it.

The ink-feeder *f* is a slender stem of rubber of peculiar form. It is like a piece of round wire, much smaller than the interior of the tube, and is so bent as to have three points of contact upon the inner walls of the supplying-tube at its end having the side oblong opening.

From the point of contact 2, which is just back of the inner end of the oblong side opening, the rubber stem stands obliquely across the bore of the tube toward its outer end and makes the contact 3 just opposite the side opening, and from this point the rubber stem extends with a curved point to the contact 4 at the open end of the tube. This form of feeder causes the ink to flow along the rubber stem to the contact-point 2, and thence to the point 3, so as to hold the ink just back of the oblong opening in the tube, and thereby prevent the air from entering and the ink from flowing out of the tube too rapidly.

The curved end of the rubber stem causes a quantity of ink to stand on the pen and give a free flow, so that the ink is held and fed from the end of the tube by the two bends of the feeder terminating at the open point of the supplying-tube. In the downward feed of the ink through the supplying-tube the air-bubbles pass upward along the rubber feeder, and to prevent their lodgment at the inner end of said tube, and the consequent cutting off or impeding the flow of the ink from the supply-reservoir, I cut out one side of said tube at its inner end, so as to form a side slot or opening, *n*, to permit the air-bubbles to pass out of the tube before they reach its end into and up through the ink into the air-space in the reservoir. As the feeder is liable, in the use of the pen, to be displaced from its proper adjustment in the supplying-tube, I provide against this by connecting or fastening the rubber stem at the inner end of the tube by drilling a hole therein, tapering the end *i* of the rubber stem, then pulling it into the hole *s* until it is bound tight therein, and then cutting off the projecting end flush with the outer surface of the tube, so that the latter can be inserted in place through the bore of the pen-holding section. By the described construc-

tion the supplying-tube has provision at both ends for effecting a perfect and satisfactory controlled flow of the ink to the pen.

I prefer to make the feeder-stem of hard rubber for the reason that it will not corrode and keeps free and clean of surface-collections.

In a patent granted to me November 23, 1886, numbered 353,053, I have shown, described, and claimed a fountain-pen provided with an ink-feeding tube having a lateral delivering-opening and containing a wire feeder having angular bends, forming retaining-bearings upon the walls at the delivering end of said tube and extending into the reservoir, leaving the tube unobstructed throughout its length for the inflow of the air and the outflow of the ink; and the object of my present improvement is to maintain with certainty the wire feeder in its proper position within the ink-feeding tube; to prevent the lodgment of air-bubbles at the inner end of the ink-feeding tube, and to give thereby a free flow of the ink to the pen.

I claim—

1. In a fountain-pen, the ink-supplying tube having a side opening at its outer end and a side slot or opening at its inner end, in combination with the pen-holding section and the

reservoir-forming handle, substantially as described, for the purpose specified.

2. The combination, with the reservoir-forming handle and the pen-holding section, of an ink-supplying tube open at both ends and having a side slot or opening at its inner end, substantially as described, for the purpose specified.

3. The combination of the ink-supplying tube and the reservoir-forming handle, with a stem feeder fastened to the inner end of the supplying-tube, as described.

4. The combination of the ink-supplying tube, its holding-section, and the reservoir-forming handle, with a stem feeder having its inner end terminating in and bound in a wall-opening of said tube and its outer end having three points of contact with the inner walls at the outer open end of said tube, for the purpose specified.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

DEWITT C. DEMAREST.

Witnesses:

R. G. WEBSTER,

WRIGHT BARKER.