

(No Model.)

E. W. MORTON.  
STYLOGRAPHIC FOUNTAIN PEN.

No. 291,925.

Patented Jan. 15, 1884.

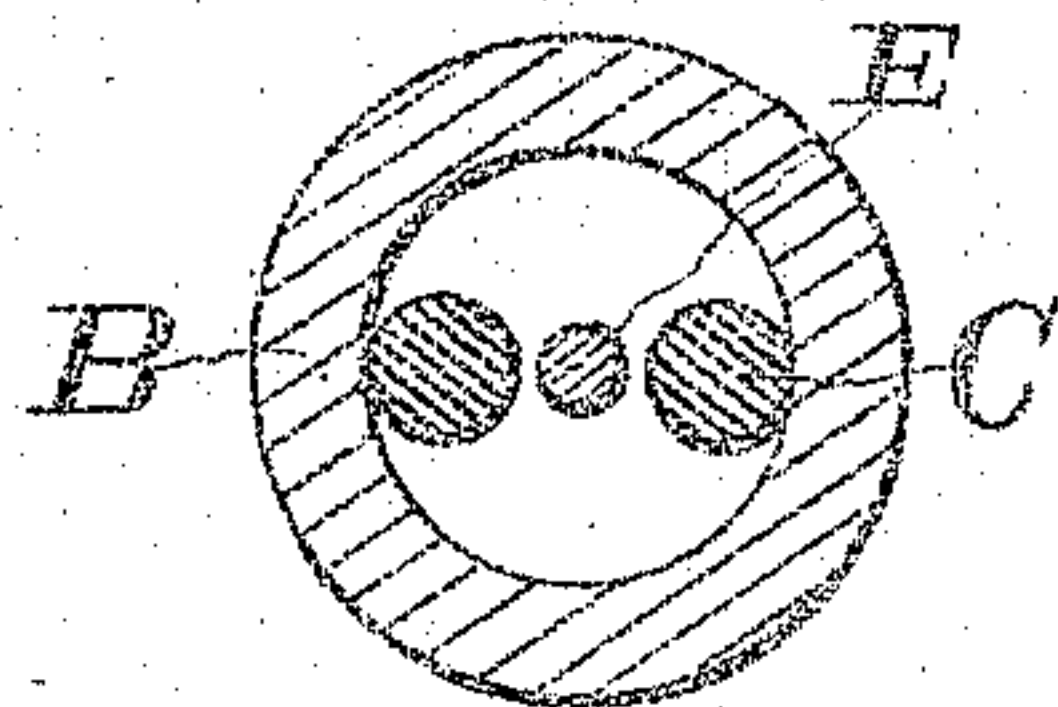


Fig. 2.

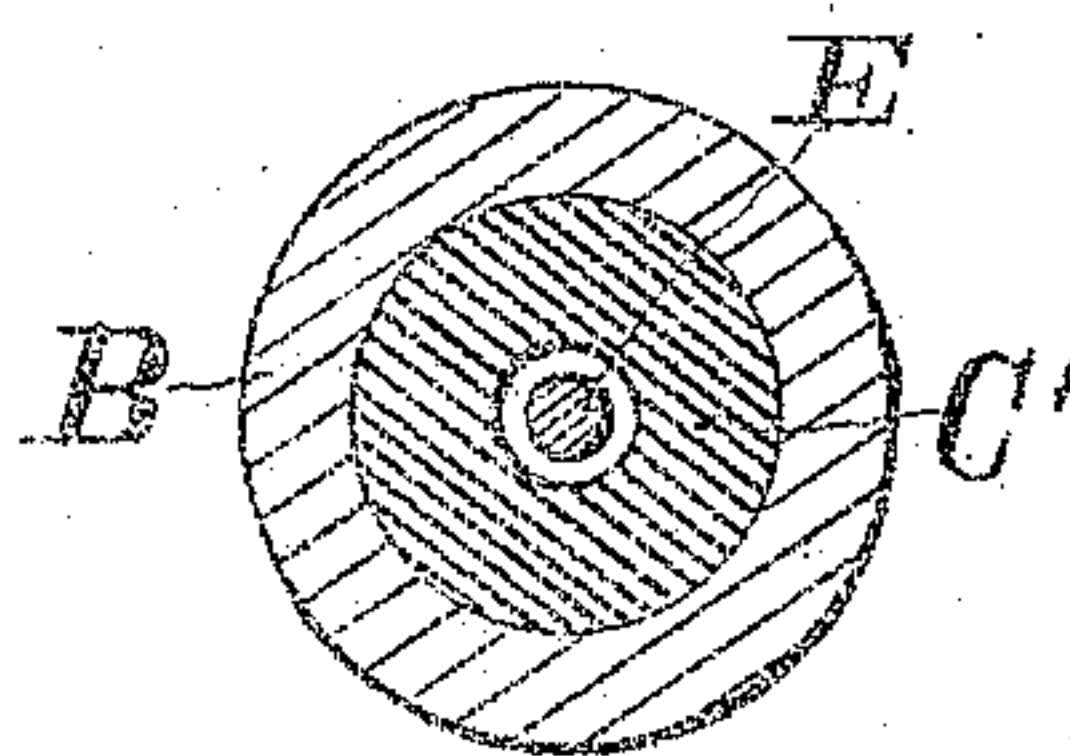


Fig. 4.

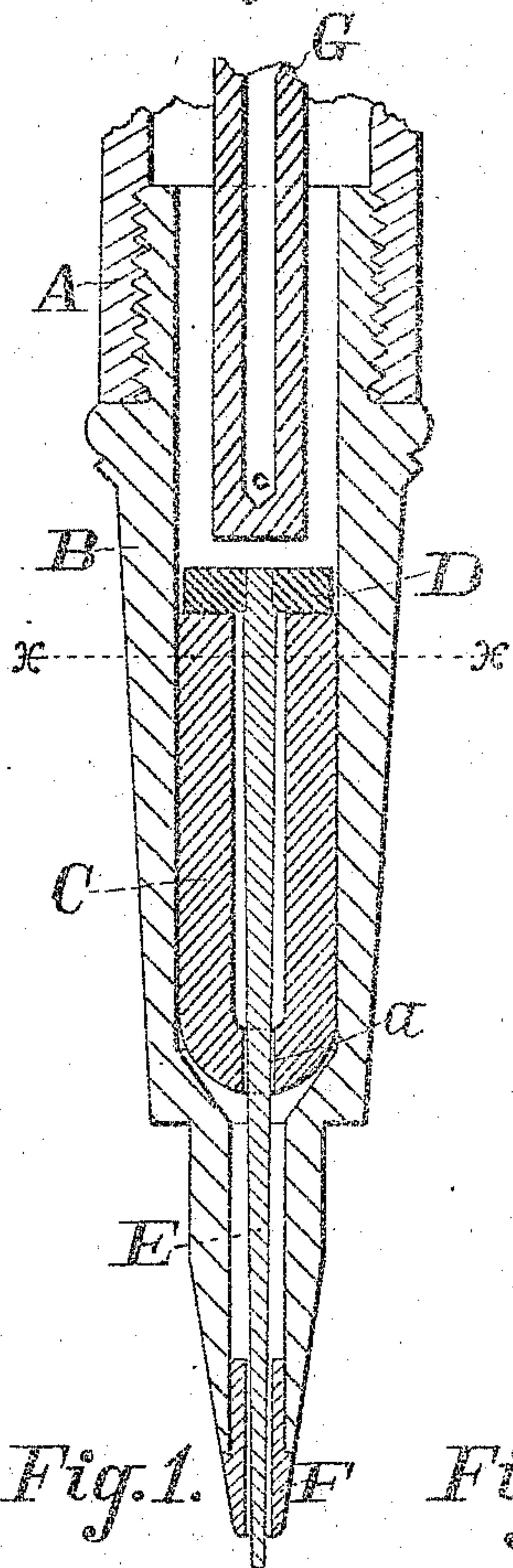


Fig. 1.

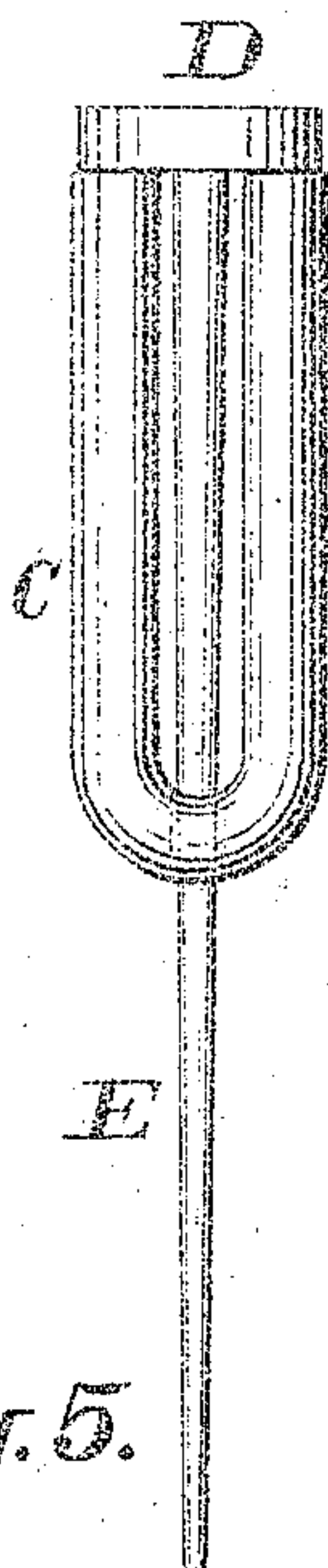


Fig. 5.

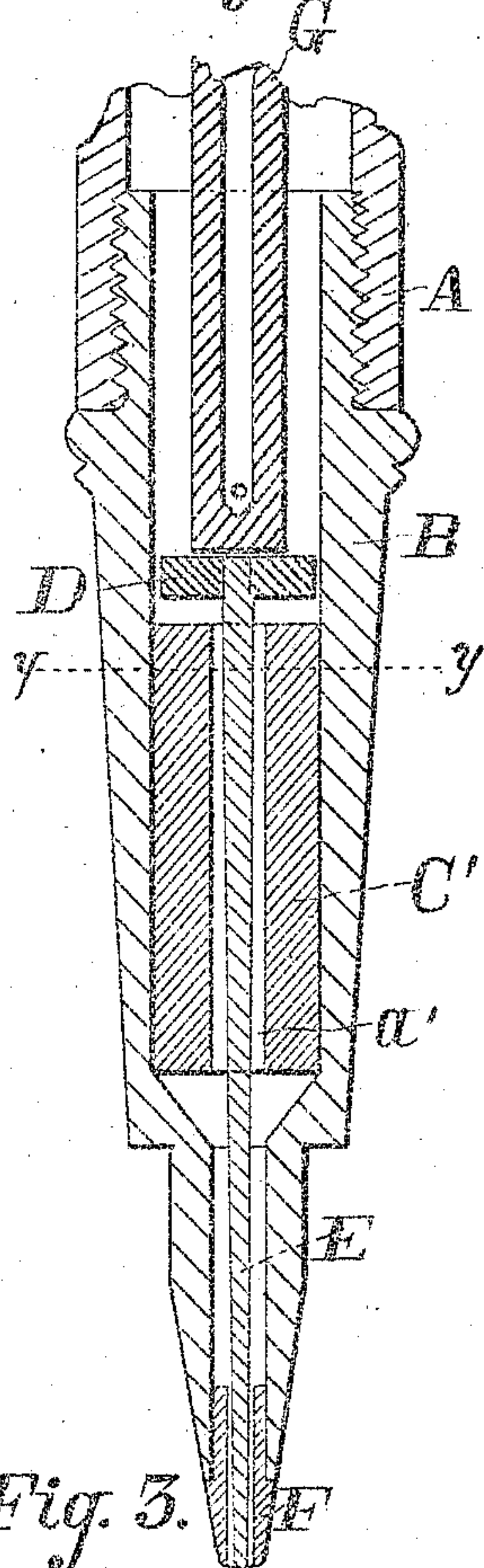


Fig. 3.

Witnesses,  
Edward W. Morton  
S. C. Morton.

Inventor,  
Edwin W. Morton.



# UNITED STATES PATENT OFFICE.

EDWIN W. MORTON, OF WHITE PLAINS, NEW YORK.

## STYLOGRAPHIC FOUNTAIN-PEN.

SPECIFICATION forming part of Letters Patent No. 291,925, dated January 15, 1884.

Application filed January 22, 1883. (No model.)

*To all whom it may concern:*

Be it known that I, EDWIN W. MORTON, a citizen of the United States, residing at White Plains, in the county of Westchester and State of New York, have invented a new and useful Improvement in Stylographic Fountain-Pens, of which the following is a specification.

The nature of my invention consists in substituting a magnet and armature for the spring or weight as used heretofore.

The object of my invention is to provide a means for vibrating the needle or pin, that will not be liable to become clogged with ink or get out of order.

In the accompanying drawings, Figure 1 is a longitudinal sectional view of the point-section of the pen, in which a U-magnet is used. Fig. 2 is a transverse section taken in the line *xx* of Fig. 1. Fig. 3 is a longitudinal section of the point-section, showing a modification in which a bar-magnet having a hole drilled through it longitudinally is used. Fig. 4 is a transverse section taken in the line *yy* of Fig. 3. Fig. 5 is a detached view, showing the magnet and armature as used in the style shown in Fig. 1.

Similar letters refer to similar parts throughout the different views.

A represents the lower part of the ink-reservoir; B, the point-section; C and C', the magnets; D, the armature; E, the needle; F, the ink-delivery tube, and G the lower end of the air-tube.

The method of constructing is as follows: I drill out the point-section and place in it a permanent U-magnet, C, of such size that it will be held in place by the friction of its sides against the inner sides of the point-section B, with its poles pointing toward the upper part of the pen, the magnet having a hole, *a*, drilled in the lower part or bend large enough for the needle to pass through without binding.

The needle E is of the usual construction, except that it is made longer, and has attached to its upper end, either by riveting, screwing, or other suitable method, an armature, D, composed of iron or steel. The end of the needle is then passed through the hole in the lower part of the magnet C, and ink-delivery tube F, so that when the armature D rests

on the poles of the magnet C the needle E will project slightly from the end of the point-tube F. The armature D is made smaller than the bore of the point-section B, to allow the ink to pass it on its way from the reservoir to the point, or it may have its sides corrugated for the same purpose. The magnet and armature may be plated with gold or otherwise protected from the corrosive action of the ink. The end of the air-tube is made to come within a short distance of the top of the armature D, to limit its upward movement, so that in case of a sudden jar the armature cannot get beyond the influence of the magnet.

In the modification shown in Fig. 3, a bar-magnet is used having a hole, *a'*, drilled through it longitudinally, through which the needle E passes. This hole should also be large enough for the necessary amount of ink to pass through.

In using the pen the pressure on the paper causes the needle E to recede within the tube F, and as soon as the pen is lifted from the paper the attraction of the armature D by the magnet C or C' again causes it to protrude, and the vibrations thus caused tend to free the point of dry ink, and to insure a steady and even flow.

The advantages arising from constructing a pen in this manner are its positive action, no matter in what position the pen is held, and its entire freedom from springs, which are liable to clog and easily damaged. It is also very simple, and can be made cheaply.

What I claim as my invention, and wish to secure by Letters Patent, is—

1. In a fountain-pen using ink, the combination of a needle carrying an armature with a permanent magnet, substantially as shown and described, and for the purpose set forth.

2. In a fountain-pen, the combination, with the ink-reservoir A, of point-section B, magnet C, needle E, having armature D, and air-tube G, arranged to act as a stop for the armature, substantially as specified.

EDWIN W. MORTON.

Witnesses:

ELISHA HORTON,

EDWARD W. MORTON.