

A. T. CROSS.  
Fountain-Pens.

No. 209,959.

Patented Nov. 19, 1878.

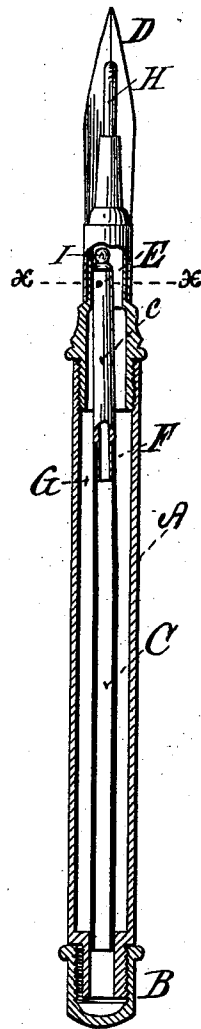


FIG. 1.

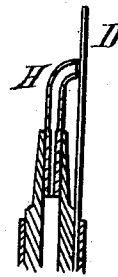


FIG. 3.



FIG. 4.



FIG. 2.

ATTEST.

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# UNITED STATES PATENT OFFICE.

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## IMPROVEMENT IN FOUNTAIN-PENS.

Specification forming part of Letters Patent No. **209,959**, dated November 19, 1878; application filed April 26, 1878.

### *To all whom it may concern:*

Be it known that I, ALONZO T. CROSS, of Providence, in the State of Rhode Island, have invented an Improvement in Fountain-Pens, of which the following is a specification:

The nature of my invention consists in an air-tube arranged eccentrally with the outer case, and closed at its lower end, with the exception of a single small opening upon its side, which, by means of a joint in the tube, may be readily made to approach or recede from the side of the ink-chamber, so that by the resulting increased or diminished resistance to the admission of air to the chamber the outward flow of ink from the point of the pen may be suitably regulated.

It also consists in an adjustable air-tube having a lower orifice, arranged in combination with an adjustable tube for delivering the ink to the nibs of the pen, whereby various lengths or sizes of pens may be inserted in the holder, and the proper adjustment may be readily made, both for the ingress of air and outflow of ink under special and varying conditions.

It also consists in a short pin located within the air-tube at its lower end, and extending above the orifice through which the air passes into the ink-chamber, whereby a drop of ink accidentally forced into the tube is prevented from passing to the upper end thereof, the capillary attraction between the pin and the inner surface of the air-tube being sufficient to retain the drop upon the end of the pin.

Figure 1 is a longitudinal section, illustrating my improvement. Fig. 2 is a transverse section taken in the line *x x*. Fig. 3 is a longitudinal section of the adjustable tube. Fig. 4 is a longitudinal section of the lower end of the air-tube.

In the drawing, A is the outer case; B, the vent-cap; C, the air-tube, and D the writing-pen.

The orifice E is placed on one side of the lower portion, *c*, of the air-tube C, which is bent or deflected so as to bring the lower end of the tube against or near to the side of the ink-chamber. The upper and lower portions of the air-tube C are joined to each other by a friction-joint, F, by means of which the lower portion, *c*, of the air-tube may be turned about its axis, so as to bring the orifice E

near to the side of the ink-reservoir G, in order to properly adjust the flow of ink from the fountain by offering greater or less resistance to the passage of air into the ink-chamber.

The orifice E may be made to face in any direction, as desired, and its employment, when arranged eccentrally with the outer case, furnishes an effective and convenient means of adjustment for the flow of ink in fountain-pens.

The value of a fountain-pen in the market depends greatly on its ready adaptability to an ordinary pen, whereby every person can continue the use of the style and quality of pen to which he is accustomed. In order to secure this result, I make the bent tube H adjustable by means of a screw-thread or friction, as preferred, so that it may be extended or retracted at pleasure, in order that its lower or curved end may terminate at the proper point under the nibs of the pen.

The lower end of the tube, *c*, is closed by the removable plug I, to which is attached the pin J, extending within the air-tube to a point above the orifice E. This pin serves to hold and retain any drop of ink that may be accidentally forced through the orifice E, instead of allowing it to run along the sides of the tube, as heretofore. The pen can thus be carried in the pocket without danger of having the ink show itself at the upper end of the air-tube when the vent-cap B is first raised to set the pen in operation.

I claim as my invention—

1. The air-tube C, having a side orifice, E, arranged eccentrally with the outer case, A, and made adjustable, substantially as described, for the purpose of regulating the flow of ink to the writing-pen.

2. The adjustable air-tube C, provided with an orifice, E, and combined with an adjustable ink-delivery tube, H, in order that the supply of air may be properly controlled for any specific adjustment of the tube H.

3. The air-tube C, provided with the orifice E, in combination with the plug I, provided with the pin J.

ALONZO T. CROSS.

Witnesses:

SOCRATES SCHOLFIELD,  
BENJAMIN CROSS.