

A. T. CROSS.
Stylographic Fountain-Pen.

No. 225,691.

Patented Mar. 23, 1880.

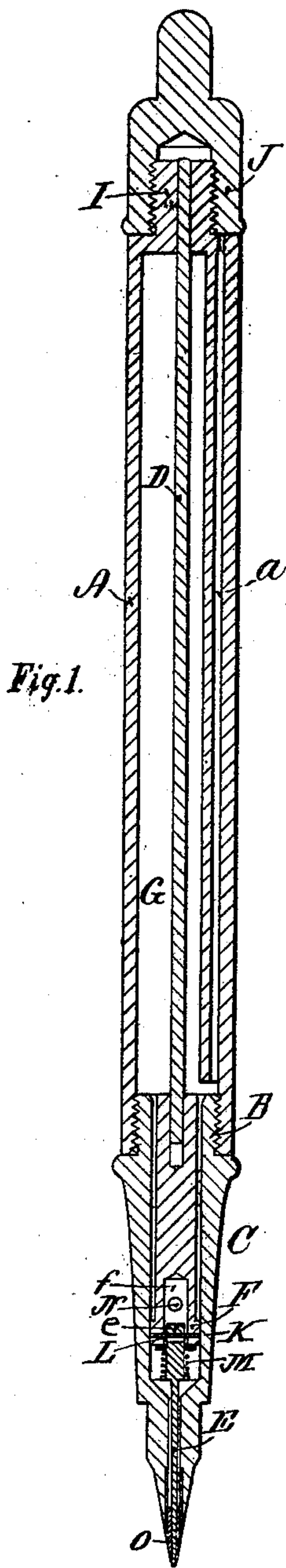


Fig. 1.

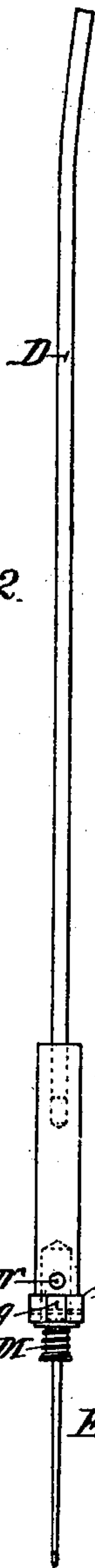


Fig. 2.

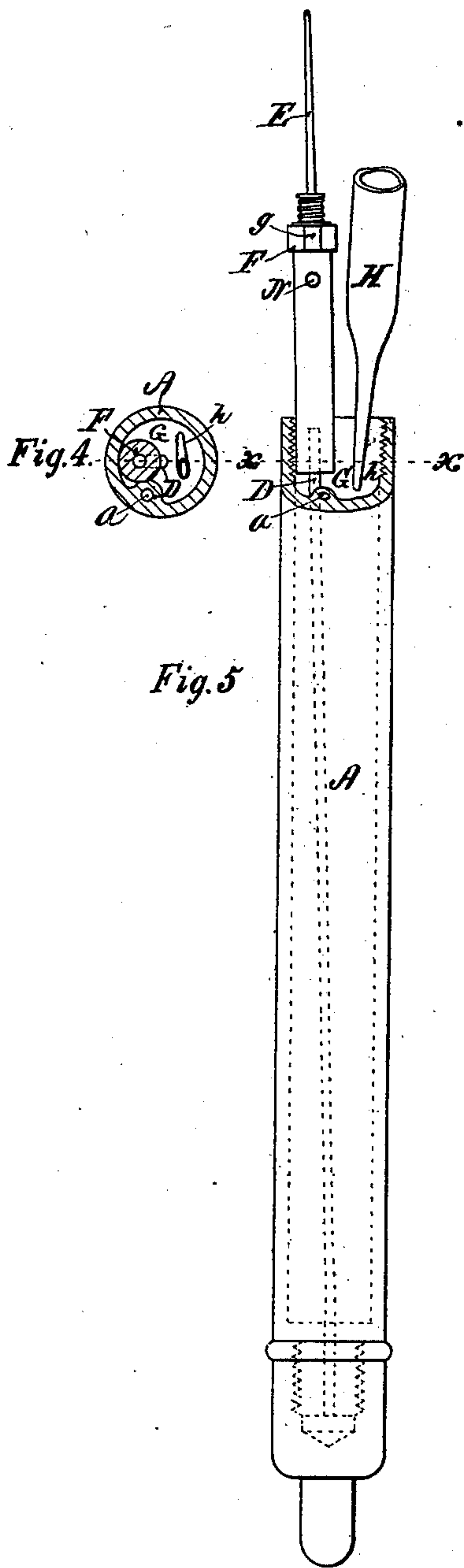


Fig. 5.



Fig. 3.

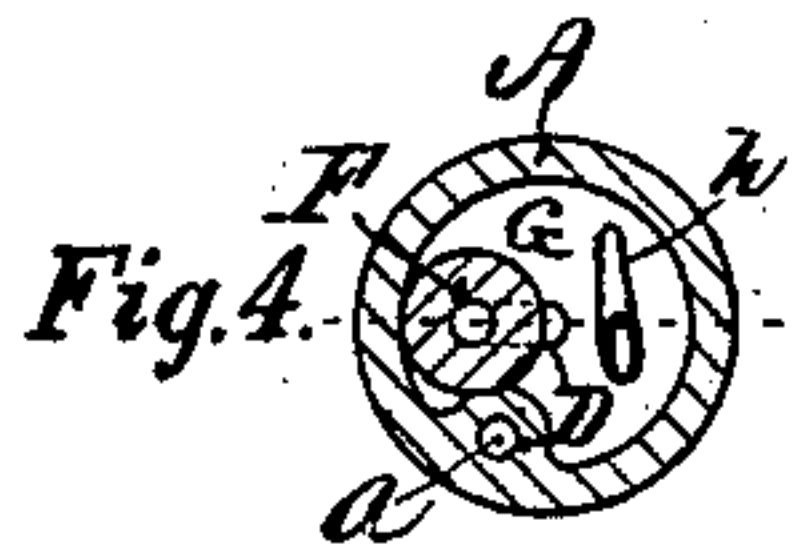


Fig. 4.

Witnesses.
Edward Curd
Joseph F. Scholfield.

Inventor.
Alonso Y. Cross

UNITED STATES PATENT OFFICE.

ALONZO T. CROSS, OF PROVIDENCE, RHODE ISLAND.

STYLOGRAPHIC FOUNTAIN-PEN.

SPECIFICATION forming part of Letters Patent No. 225,691, dated March 23, 1880.

Application filed October 31, 1879.

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 Stylographic Fountain-Pens, of which the following is a specification.

The nature of my invention consists in supporting the writing-spindle, with its holder or guide, upon a slender spring-rod secured to the upper end of the ink-reservoir, so that by slightly bending the rod near the point of its junction with the head of the reservoir the spindle holder or guide at the lower end of the rod will, upon unscrewing the point-section, be thrown to one side of the ink-chamber, thus presenting a larger opening for the insertion of the point of the filler, and also serving to prevent the accidental forcing of ink into the air-duct made in the wall of the ink-reservoir.

It also consists in providing the spindle holder or guide with a longitudinal opening and a lateral communicating opening for the circulation of ink around the upper end of the loosely-connected spindle, thus preventing the formation of obstructing sediment.

Figure 1 is a longitudinal section of a stylographic fountain-pen provided with my improvement. Fig. 2 is a side view of the writing-spindle, spindle holder or guide, and spring-rod. Fig. 3 is an end view of the spindle-guide. Fig. 4 is a transverse section taken in the line *xx* of Fig. 5. Fig. 5 is a side elevation and partial section, showing the proper position of the filler for supplying ink to the reservoir.

In the drawings, A is the reservoir, preferably made of hard rubber, and provided with an air-duct, *a*, formed in the side wall of the reservoir, and terminating at its lower end slightly above the screw-thread B and point-section C. The spring-rod D is held or attached at the upper end of the reservoir A, and serves to support the writing-spindle E and its holder or guide F in such a manner that upon unscrewing and removing the point-section C the guide and spindle will be thrown by the spring of the rod D to one side of the ink-chamber G near the lower aperture of the air-duct *a*, as shown in Figs. 4 and 5, by

which means a comparatively large opening will be provided for the insertion of the point of the filler H, used for supplying ink to the reservoir.

The position assumed by the spindle-guide, as shown in Figs. 4 and 5, prevents the danger otherwise experienced of injecting the ink from the filler into the air-duct. The proper position and direction of the point *h* of the filler H is also shown in the figures.

The lower edge of the vent-cap should seat upon and completely cover the upper aperture of the air-duct.

The spindle holder or guide F, made of hard rubber, is adjustably held on the end of the rod D, in order to properly adjust the relative positions of the end of the spindle E and ink-delivering tube O. The lower end of the guide F is provided with a centrally-located hole, *f*, drilled in for a short distance, to receive the loosely-fitting cylinder *e*, attached to the upper end of the spindle E.

The spindle E is secured to the guide F by means of the pin K passing loosely through the hole L in the cylinder *e*, and is to be operated in its downward movement by means of the spring M.

The central longitudinal opening *f* is closed at its upper end, and a lateral opening, N, is made in the side of the holder or guide F, to connect with the opening *f*, in order to allow the ink to circulate freely around the sides of the loosely-fitting cylindrical portion *e* of the spindle.

The spindle holder or guide F is provided at its enlarged portion with the grooves *g g*, for the free downward passage of ink toward the writing-point of the pen.

The spring-rod D may be made of silver or other metal or material not liable to be acted upon by the acids of the ink, and may be made either of solid or hollow wire, as preferred.

The hollow handle provided with a longitudinally-perforated wall, said perforation to serve as an air-conduit, being shown and claimed in my application filed September 12, 1879, is disclaimed in this.

I claim as my invention—

1. In a stylographic fountain-pen, the com-

combination of the spindle E, spindle holder or guide F, and spring-rod D with an ink-reservoir, substantially as described.

2. In a stylographic fountain-pen, the combination of the spindle E, spindle holder or guide F, and spring-rod D with an ink-reservoir, A, provided with an air-duct within its wall, substantially as described.

3. The spindle holder or guide F, provided

with the longitudinal opening *f* and the lateral communicating opening N, for the purpose of ink-circulation, substantially as described.

ALONZO T. CROSS.

Witnesses:

EDWARD CARD,

HARMON S. BABCOCK.