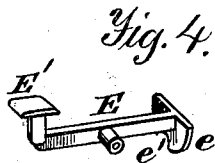
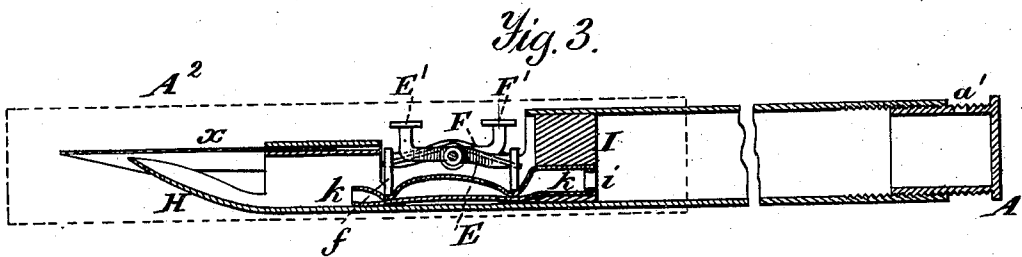
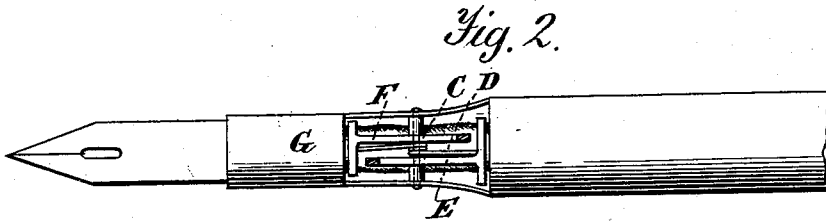
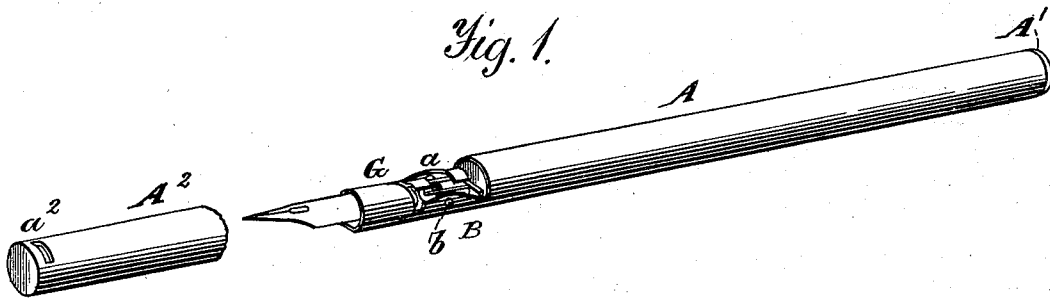


(Model.)

L. F. KORNS.  
Fountain Pen.

No. 230,706.

Patented Aug. 3, 1880.



Witnesses.  
A. Ruppert.  
H. Clay Smith

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# UNITED STATES PATENT OFFICE.

LEWIS F. KORNS, OF SYCAMORE, ILLINOIS.

## FOUNTAIN-PEN.

SPECIFICATION forming part of Letters Patent No. 230,706, dated August 3, 1880.

Application filed June 23, 1880. (Model.)

To all whom it may concern:

Be it known that I, LEWIS F. KORNS, of Sycamore, in the county of De Kalb and State of Illinois, have invented certain new and useful Improvements in Fountain-Pens; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

My invention relates to that class of pens known as "fountain" pens, carrying the writing-fluid within the hollow shank or handle; and the novelty consists in the construction and arrangement of parts, as will be more fully hereinafter set forth, and specifically pointed out in the claims.

A great trouble in this class of devices has been to prevent overflow or superabundance of the ink, and at the same time insure a sufficient supply from the fount; and my invention is designed to avoid the one and supply the other.

In carrying out my invention I employ a tubular handle, the upper end being threaded to receive a screw-cap having a hole or vent to supply air to compensate for the displaced writing-fluid. At a point near the opposite end the tube is cut away to allow of the introduction of the operating mechanism hereinafter to be described, and the remaining portion forms a smaller cylinder or pen-clamp and terminates in an inclined spoon or feeder bent so as to direct and conduct the fluid to the pen.

In the cut-away portion there is left upon opposite sides proper journal-bearings for a shaft around which is coiled a single spring, the ends of which are extended in opposite directions longitudinal with the plane of the handle. These extended ends form spring-arms, one of which operates with a constant force to keep the fount closed, but is susceptible, through a lever and thumb-rest, to open the same at will, and the other to regulate the spoon-supply, and it is also susceptible of manipulation, through lever and thumb-rest, to open the same when desired. These levers are each hung upon the shaft, arranged one upon each side of the spring, and so located

that either may be manipulated without impinging upon the other. A flexible rubber tube leads from the mouth of the fount to the feeding-spoon and passes under the feet of the two levers.

The operation of the device is as follows: As the fount-exit is opened the ink flows into the tube; that exit being closed, the fluid is held between two points until released by opening the exit and allowing the fluid to flow to the pen-spoon.

In the accompanying drawings, which form a part of this specification, Figure 1 is a perspective view; Fig. 2, a plan view; Fig. 3, a longitudinal section, and Fig. 4 a detail.

Referring to the drawings, A represents a tubular handle, having a screw-cap,  $\Delta'$ , provided with a vent or hole,  $a'$ , the said cylinder being cut away at  $a$ , as shown. The portion  $a$  cut away forms sides B, which furnish journal-bearings for a shaft, C, which carries rigidly upon it a spring, D, as shown.

E represents a lever hung upon the shaft C and provided with a cut-off disk,  $e$ , having a semicircular cut-away portion,  $e'$ , and having a thumb-plate upon the other end for the convenient manipulation thereof by the writer.

F represents a lever hung on the shaft C, having a cut-off disk on one end and a thumb-plate,  $F'$ , on the other. Both of these thumb-plates are situated so as to be conveniently operated by the index finger of the writer, even while in the act of writing.

The continuation of the tube A forms a pen-clamp, G, and the extremity forms an inclined feed-spoon, H, as shown.

I represents a cork or pad of material capable of preventing the flow of ink, and having an opening, between which and a small ring,  $i$ , is secured one end of a small rubber tube, K, the exit end  $k$  of which leads to the spoon H. This tube is adapted to lead the ink from the fount to the spoon, governed by the disks  $e$  and  $f$ .

By depressing the thumb-plate  $E'$  the disk  $e$  is elevated, and the fluid fills the tube K. The spring D exerts a constant force to keep both the disks  $e$  and  $f$  in a closed position. As soon as the tube is full the disk  $e$  is closed; but the semicircular space  $e'$  leaves a diminished communication still open between the fount and the holder.

When it is desired to use the ink the thumb-plate F is depressed, and this action opens the valve *f*, which allows the ink to flow through *k* to the feeding-spoon, and thence to the pen 5 *x*, the cut-away *e* allowing fresh ink or air to compensate for the vacuum thus created by the displaced ink within the holder.

It will always be understood that the cap A' is unscrewed sufficiently to admit air into and 10 through the hole *a'*, during the expelling of the ink, when it is necessary to compensate for the displaced fluid.

A<sup>2</sup> represents a cap, removable at will, and adapted to be placed on the butt of the pen, if 15 desired, and *a*<sup>2</sup> a vent therein.

What I claim as new, and desire to secure by Letters Patent, is—

1. A fountain-pen having inlet and outlet valves convenient to the finger of the writer, 20 and said valves being adapted to supply or cut off the supply of the ink at the will of the writer, as shown and set forth.

2. The flexible rubber tube K *k*, cork I, and ring *i*, combined with the fount and with suitable controlling-valves, as specified. 25

3. The shaft C and double spring D, combined with levers E' *e e* E and F *f* F', flexible rubber tube K, case A, and spoon H, as and for the purposes specified.

4. The combination of the case A A' *a'*, cork 30 I, ring *i*, tube K *k*, and spoon H with the shaft C, spring D, lever F, having disk *f* and thumb-plate F', and lever F, having disk *e e'* and thumb-plate E', as and for the purposes set 35 forth.

In testimony that I claim the foregoing I have hereunto set my hand this 22d day of May, 1880.

LEWIS F. KORNS.

Witnesses:

WM. N. SNOW,  
FRANK W. LOTT.