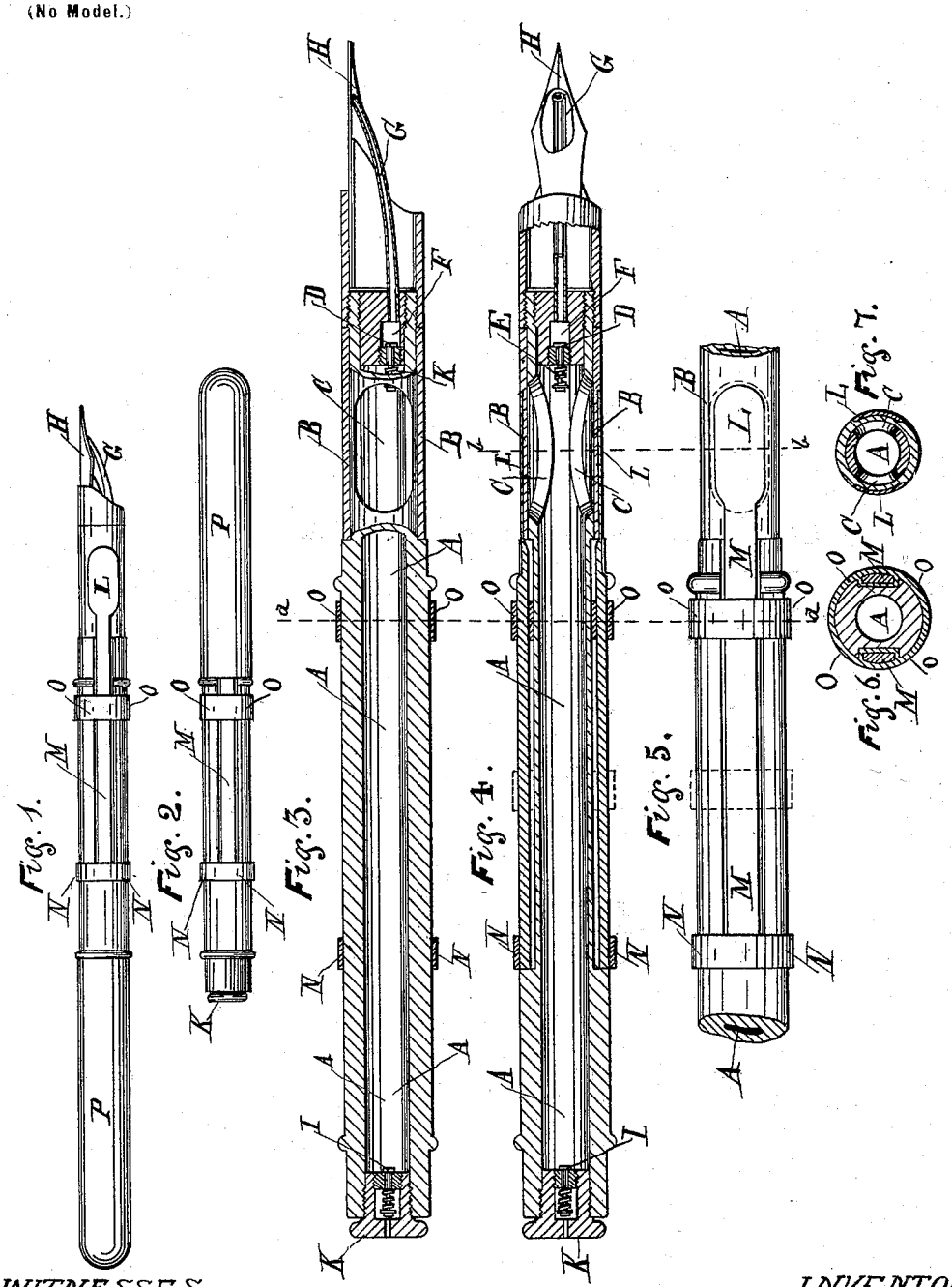
No. 609,978. Patented Aug. 30, 1898.

H. J. SCHULTE.

FOUNTAIN PEN.

(Application filed July 2, 1897.)

(No Model.)



WITNESSES

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UNITED STATES PATENT OFFICE.

HENRY JOHN SCHULTE, OF LOS ANGELES, CALIFORNIA.

FOUNTAIN-PEN.

SPECIFICATION forming part of Letters Patent No. 609,978, dated August 30, 1898.

Application filed July 2, 1897. Serial No. 643,311. (No model.)

To all whom it may concern:

Be it known that I, HENRY JOHN SCHULTE, of Los Angeles city, in the county of Los Angeles, State of California, have invented certain new and useful Improvements in Fountain-Pens, of which the following is a full, clear, and exact description or specification, reference being had to the annexed sheet of drawings and to the letters marked thereon.

My invention, which consists of certain new and useful improvements in fountain-pens, has reference to that class of fountain-pens in which an ordinary metallic, vulcanite, or other writing-pen is used and to which the ink from the fountain in the holder is fed or supplied by means of a tube. For the purpose of regulating the feed of the ink from the fountain in the holder to the tube by which it is conveyed to the pen a valve is provided. This valve is opened or closed by the pressure of the thumb and fingers of the person using the pen acting upon a flexible part of the fountain. A second valve is also provided whereby air is admitted into the fountain as the supply of ink therein becomes reduced through use. The fountain-pen-holder is also provided with a device for adjusting or regulating the flow of ink from the fountain to the pen relatively with the pressure exercised by the thumb and fingers of the user.

In the annexed drawings, Figure 1 is a side elevation of my improved fountain-pen in the condition or state adapted for writing with—that is to say, with the cover removed from off the pen or writing end of the instrument, the said cover being shown placed on the upper end of the writing instrument. Fig. 2 is an elevation of the same, showing the improved fountain-pen in the condition for carrying in the pocket—that is to say, with the cover placed over the writing end of the instrument. Fig. 3 is a longitudinal vertical section, on an enlarged scale, of my improved fountain-pen, showing all parts thereof excepting the cover. Fig. 4 is a horizontal section of the said pen on the same enlarged scale as Fig. 3 and showing the pen or writing end thereof partly in plan and partly broken away. Fig. 5 is an enlarged side elevation of a portion of my improved fountain-pen. Fig. 6 is an enlarged transverse section of my improved fountain-pen, taken on the line *a a*, Figs. 3, 4, and 5. Fig. 7 is an enlarged transverse section taken on the line *b b*, Figs. 4 and 5.

As shown by the drawings, the fountain consists of the hollow tubular space A in the body of the penholder. This part, as shown more particularly at Figs. 3, 4, 5, and 7 at the part where the thumb and finger of the user becomes situated when writing with my improved fountain-pen, is reduced in diameter, and an elastic tube or sleeve B, of soft vulcanized caoutchouc or the like, is placed over such part. In the sides of this portion of the tubular penholder openings C are formed, as shown in Figs. 3, 4, and 7. Against each of the two parts of the elastic tube B which cover the openings C a contact-piece L is situated. Each contact-piece L, of which there are two, as shown, is carried upon a spring M. The springs M are attached to a ring N, whereby they are fastened to the penholder. The springs M each pass through an opening in the sliding ring O, according to the position of the ring O, so the distance between it and the contact-piece L may be varied and the stiffness of the springs M varied to suit the pressure of the thumb and fingers acting upon the contact-piece L, and thence on the elastic tube B for forcing the ink out of the fountain to the pen H. As the thumb and fingers continue to press those portions of the elastic tube B which are situated immediately outside the opening C, the volume of the fountain A becomes proportionately reduced, and sufficient pressure is produced upon the ink contained in the fountain A to cause it to open the valve D against the pressure or tension of the spring E. As the valve D is thus opened the ink flows out from the fountain into the chamber F, and the pressure of the thumb and finger upon the sides of the elastic tube B causes the ink to be forced up through the tube G and to be discharged underneath the nibs or writing-points H, so that the ink when the pen is held in the position necessary for writing with flows along the under side of the nibs to the writing-points of the pen.

As the continued use of the improved fountain-pen in the manner above described will cause the quantity of ink held in the fountain A to become reduced, a partial vacuum

is gradually formed therein. For the purpose of getting rid of this partial vacuum a balance of air-pressure is maintained therein. For this purpose the fountain A is provided with a second valve I and spring J, against which the atmospheric pressure acts and opens it inward, thereby admitting air to the fountain just in proportion as such partial vacuum becomes formed.

Whenever it is necessary to replenish the fountain A with a supply of ink, the box K, containing the valve I and the spring J, is removed by screwing it out from the upper end of the fountain, which being done ink in any desired quantity is poured into the fountain, after which the chamber K, with its valve and spring I and J, respectively, is replaced therein.

As shown at Figs. 1 and 2, the improved fountain-pen is provided with a cover or sheath P, adapted to fit over the writing end of the pen when not in use, and which cover or sheath equally fits the upper end of the fountain part of the instrument when in use, thereby providing sufficient length of the penholder.

Having now described the nature of my said invention and the best system, mode, or manner I am at present acquainted with for carrying the same into practical effect, I desire to observe, in conclusion, that what I consider to be novel and original, and therefore claim as the invention to be secured to me by Letters Patent, is as follows:

1. The improved fountain-pen, consisting of the combination of the pen, the fountain, the elastic chamber, the spring contact-pieces, the adjustable sliding ring, the valve situated in the lower part of the lower end of the fountain, the chamber into which the valve opens, the inclined tube leading from the lower part of this chamber and inclined at an angle upward to the under side of the nibs or writing-points of the pen, the valve for admitting air to the fountain when a partial vacuum is formed therein, the cover for closing over the pen when out of use and for being placed on the upper end of the fountain so as to lengthen the holder of the pen when in use, substantially as set forth.

2. The adjustable spring contact device for regulating the pressure applied by the thumb and finger to the elastic or flexible parts of the fountain, consisting of the contact-pieces, the springs connecting said contact-pieces to the ring by which they are attached to the fountain-penholder and the sliding ring for regulating the length of the operating parts of the springs carrying the contact-pieces, the penholder and pen, substantially as set forth.

In testimony whereof I have hereunto set my hand and seal, in the presence of two subscribing witnesses, this 28th day of April, A. D. 1897.

HENRY JOHN SCHULTE. [L. S.]

Witnesses:
ST. JOHN DAY,
JOHN SATTERWHITE.