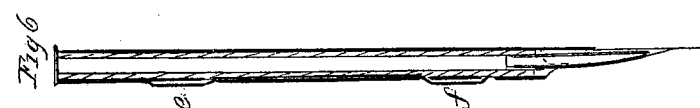
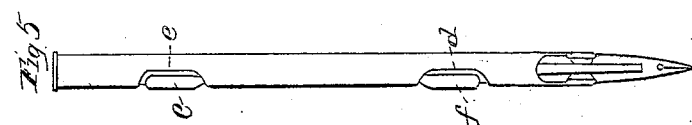
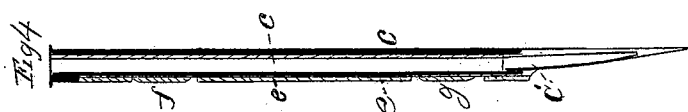
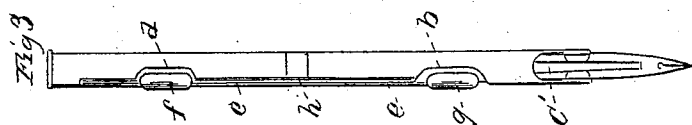
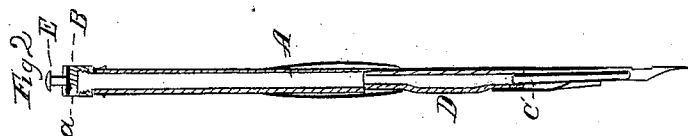


J. Darling. Fountain Pen.

No 68418.

Patented, Sept 3 1867.



Witnesses { John Brown
J. J. H. Crutshank.

John Darling

United States Patent Office.

JOHN DARLING, OF STANE, NORTH BRITAIN.

Letters Patent No. 68,418, dated September 3, 1867.

RESERVOIR PEN-HOLDER.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, JOHN DARLING, of Stane, Lanark county, North Britain, have invented certain improvements in Reservoir Pen-Holders; and I do hereby declare the following to be a full, clear, and exact description of the same.

This invention has for its object the supplying of ink to pens used for writing, without the necessity of practising the ordinary act of dipping the pen into the writing fluid, as the body of the pen-holder is constituted so as to contain and supply the ink to the writing points or nibs. The invention relates also to the means or apparatus to be employed for filling or charging the reservoir pen-holder.

In carrying out the first part of this invention, a sliding-case is employed over the body of the holder, to protect the diaphragm, by means of which, the thumb or finger being pressed thereon, the ink is caused to flow out of the reservoir to the pen. A distributing tube is also provided, extending from the reservoir to the under side of the nibs, so that the ink is conducted immediately to that part of the pen from which it is applied in writing. The reservoir pen-holder may be filled with ink by pressure and suction combined; for instance, into the top at one side, or at any convenient part or position with the body of the holder, may be screwed or otherwise attached an elastic chamber, which, on being compressed, displaces an amount of air from its interior; whilst so compressed the lower part of the holder is dipped into ink, and on the pressure being withdrawn the elastic chamber returns to its original shape and dimensions, whereby a partial vacuum is produced, and the ink thereby becomes drawn up into the reservoir. The elastic chamber is made of such dimensions that it may be carried in the pocket.

In order to enable others skilled in the art to make and use my invention, I will now proceed to describe its construction and operation, reference being had to the accompanying drawing, which forms a part of this specification, and in which—

Figure 1 is a plan of the under side of the pen and pen-holder, containing the means for supplying the ink to pens, as constructed under the first modification of my invention.

Figure 2 is a longitudinal section of the same.

In filling the reservoir A (formed by the tubular holder) with ink, the top or cover B is unscrewed or detached from the head of the tube, and the finger or other means is applied to the orifice of the supply-tube C to close the opening, and when so closed, ink is poured into the reservoir from the top end until the reservoir is full. When the reservoir is filled, the cap or cover is replaced. The cap contains within it the India-rubber or other elastic pad *a*, so that when the cap is screwed on, an air-tight joint is thereby effected, and the pressure of the atmosphere prevents the ink from escaping through the distributing-tube C, except at the time it is required to be used for writing. In using the pen, it is held by the writer between the fingers in the ordinary manner, so that the thumb becomes situated against or upon the elastic tube D, a portion of the metallic case of the reservoir being cut away to allow a portion of the elastic tube being left clear for being acted upon by the thumb. It is evident that if a little pressure is applied by the thumb to the exposed portion of the elastic tube D, the interior capacity of the reservoir is at once diminished, the result of which is that some of the ink contained within the reservoir is caused to flow through the distributing-tube C on to the writing nib of the pen. In case the pressure of the thumb upon the elastic tube is insufficient to cause the flow of the ink, as may sometimes happen when the supply of ink is getting low, additional means for impelling it through the distributing-tube C is provided by means of the elastic pad *a*, which may be pushed forward into the reservoir by the applied pressure of the finger on the movable head E. Instead of filling the reservoir by pouring the ink into it in the manner I have herein previously described, the filling may be effected by means of an elastic chamber, constructed so that it may be screwed on to the upper end of the reservoir when the cap B is detached. On compressing this elastic chamber by means of the fingers and thumb, the air is expelled therefrom, and the distributing-tube C, being dipped into ink, the pressure is withdrawn from the chamber, at which time the chamber expands to its natural shape, and the ink flows up into and fills the reservoir. A tubular shield, F, is provided for the purpose of being drawn over the exposed part of the elastic tube, thereby protecting the latter from accidental pressure when the pen is not in use.

Figure 3 is a plan of the under side of the pen and pen-holder, constructed in accordance with the second modification of my invention—

Figure 4 being a longitudinal section thereof.

In this modification, the tubular part of the holder is completely filled with an elastic tube, *e*, more particularly seen in fig. 4, the distributing-tube *C'* extending from it to the nibs, or near to the writing points of the pen, as shown. A longitudinal opening is made throughout, nearly the whole length of one side of the tube, being narrow in the middle and at the extreme ends, but broader at two intermediate points, *a* and *b*, the object of this longitudinal opening being for the purpose of admitting a wire, *e*, with two thumb or finger-plates *f* and *g* respectively. The ends of the wire *e* pass underneath the ends of the slot in the tube, and a ring, *h*, surrounding the tube, keeps the wire and thumb-plates in place. In using this pen-holder for writing, the reservoir is filled in the manner hereinafter described, and the ink is forced upon the pen through the distributing-tube by the pressure of the thumb upon the lower thumb-plate *g*. In filling the reservoir, the pressure of the thumb or finger is applied to both thumb-plates *f* and *g*, by means of which the elastic tube is compressed, and the capacity of the chamber for the time being reduced, the air being thereby expelled. When so compressed, the distributing-tube *C'* is dipped into a vessel containing ink, and on the pressure being withdrawn from the thumb-plates, the elastic tube at once expands into its natural shape and capacity, being accompanied by a corresponding inflow of ink.

Figure 5 is an under side plan, and

Figure 6 a longitudinal section of the fifth modification of the invention, the only difference in this from the preceding modification being, that in place of forming a continuous longitudinal opening for the admission of the wire of the thumb-plates, the wire is in this case dispensed with, and openings *c* and *d* are formed towards each end of the tube, the thumb-plates *e* and *f* being constructed in one piece, with a strip uniting the same together, and which is passed underneath the solid metallic part of the tube, as shown.

In all the foregoing arrangements, cases may be provided for protecting the points of the pen when the same is laid aside or carried in the pocket. In place of forming the openings in the side of the case for the thumb to act upon the elastic tube, the openings may be cut on the upper side of the tube, so that the finger in place of the thumb may act thereon.

I claim as my invention, and desire to secure by Letters Patent—

1. The tubular slide or shield *F*, in combination with the tubular holder and its elastic reservoir-tube *D*, as described.
2. The flexible diaphragm or pad *a*, and sliding-head or plunger *E*, arranged in respect to the reservoir *A* substantially as and for the purpose set forth.

JOHN DARLING.

Witnesses:

JOHN BROWN,

I. I. H. CRUIKSHANK.