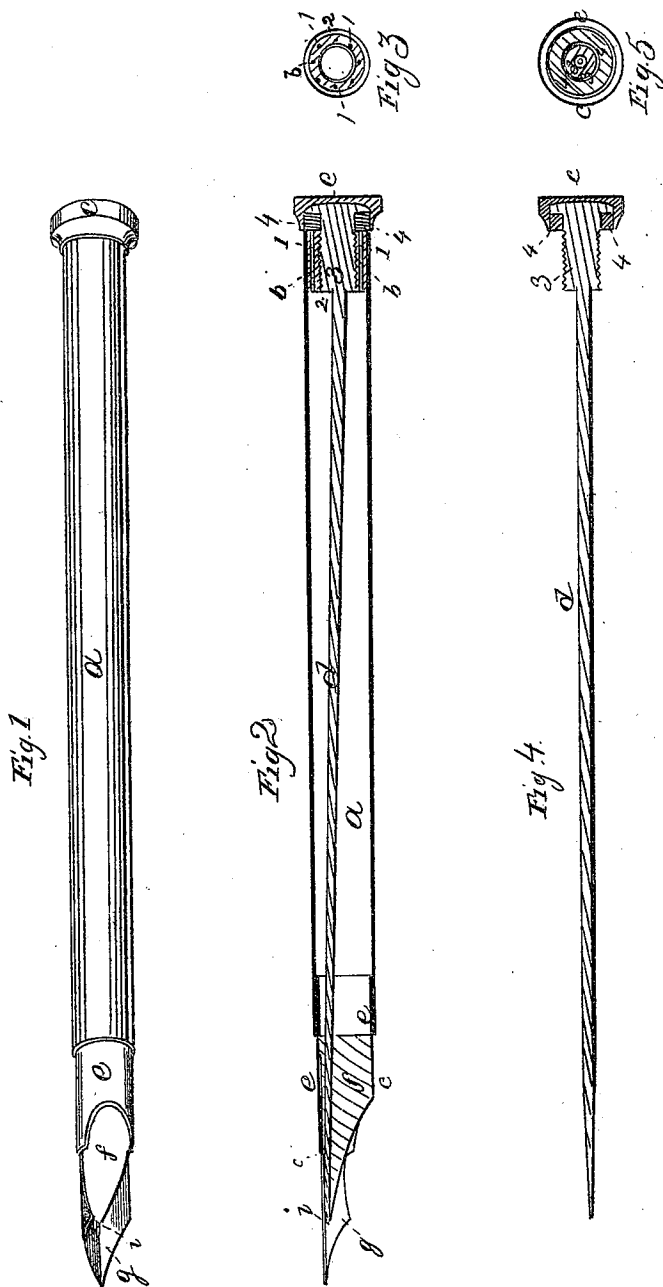


D. O. Macomber, Fountain Pen

No 6672

Patented Aug 28 1879



Witness

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UNITED STATES PATENT OFFICE.

DAVID O. MACOMBER, OF NEW YORK, N. Y.

IMPROVEMENT IN FOUNTAIN-PENS.

Specification forming part of Letters Patent No. 6,672, dated August 28, 1849.

To all whom it may concern:

Be it known that I, DAVID O. MACOMBER, of the city and State of New York, have invented and made and applied to use certain new and useful improvements in the mode of constructing and using pens that contain and supply the ink with which they are used; that such improvements consist in simple means for so applying and regulating the hydrostatic pressure of the fluid that each pen is portable, safe, and always ready for use, in a manner for which I seek Letters Patent of the United States; and that the said improvements are fully and substantially set forth and shown in the following description and in the drawings annexed to and making part of this specification, wherein—

Figure 1 is a perspective representation of a complete pen. Fig. 2 is a longitudinal section of the same. Fig. 3 is a view of the top end of the tube or handle. Fig. 4 is a longitudinal section of the feeding and stopping parts attached to the screw-cap; and Fig. 5 is a full end view of the screw-cap and feeding or stopping parts, all drawn as twice the usual or general proper size to show all the parts of the invention more distinctly.

The same letters and other marks of reference apply to the like parts in each of the figures.

In these the body is a tube *a*, of any proper metal and of any desirable size for the intended purpose. In the top of this is a metal cylinder *b*, with a female screw 2 on the inside. This cylinder *b* is of sufficient thickness to allow small air-holes 1 1 to be drilled through between the screw and the exterior of the cylinder. (See Figs. 2 and 3.)

3 is a male screw (see Figs. 2, 4, and 5) made to fit the female screw 2. On the top of this screw 3 the cap *c* is to be fitted with an annular groove to receive a ring 4 of gutta-percha, india-rubber, cork, or any other fit substance to stop the air-holes when the pen is not in use. The other end of the screw receives one end of a conical-pointed wire *d*, the use of which is shown hereinafter.

In the opposite end of the principal tube *a* a secondary tube *e* is secured, and carries within it a piece *f*, having a hole through it, forming a small conical tube to feed the ink, the point of which is diminished, as seen at *i*, Figs. 1 and 2. This tube is made, as shown

in Fig. 2, as a conical hole so far out of the axis of the principal cylinder that the point and orifice lie close to the slit in the nib of a pen *g*, which is held in a recess between the tube *e* and the piece *f*.

In the Figs. 2 and 4, *d* is a conical-pointed wire going from the screws 3, with the point entering the conical tube in the piece *f*, and when secured tightly in by the screws 3, projecting a little out of the tube, as at *i*, Figs. 1 and 2.

The whole of the parts are to be fitted accurately together, but most particularly the conical tube and point of the wire. When thus fitted, the body is to be filled with ink in any convenient manner; but I recommend a small reservoir of ink, with a conical spout, that holds a gaged quantity—only enough to fill the body of the pen. Such articles are well known and need not be further described. The wire *d*, screw 3, and cap *c* having been first withdrawn and the finger held under the conical hole, as at *i*, the pen being filled, the wire, screw, and cap are then replaced, as in Fig. 2.

The body of the pen may be enlarged by a bulb or globe to increase the capacity for holding ink; but I do not advise this, and the pen may be protected in place when not in use by a cap or sleeve shield or cover.

When wanted for use the cover on the top is to be slightly unscrewed. This at the same moment withdraws the conical wire to let the ink pass through the conical tube to the slit of the pen-nib and opens the small air-holes 1 1 under the cap, and if the workmanship of the parts is perfect the flow of the ink to the pen can be regulated to the nicest exactness, according to the work the pen is employed on, and the same certainty is given in retaining the ink or preventing the incrustation by drying in the conical tube, because the conical wire, turning in the length of the tube, compresses out the ink from the tube, and has to a limited extent a compound movement by the spring of the body of the straight wire, acting at the conical end out of the line of axis, both of the main tube and wire moving every portion of the fluid within the tube, and if a slight crust dries on the point it is removed the moment the fluid from within is allowed to pass out and act on it.

I am aware that a pen having some general

similarity to this has been patented in England; but in that pen the parts that let out or confine the ink are fitted with an india-rubber valve, on which the security of the ink appears to depend, and which must be alternately moved to supply the ink to the pen in use and closed to prevent an overflow, beside which the point of exit is parallel in its length and central with the other parts, so that it operates only to prevent a too rapid escape of ink from the reservoir when in use and does not operate to shut the ink in when not in use, as that is effected by the india-rubber valve, whereas in the mode herein described and shown the conical and eccentric plug and tube effect three objects: first, to effectually secure the ink when not in use; second, to regulate the supply, and, lastly, to prevent the ink clogging within the tube and

remove that which has clogged or dried at the point of exit, thereby differing from any other instrument of the same general character.

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

The application of a conical metal point or plug acting in a conical tube set eccentrically with the axis of the main tube for the three purposes of guiding the ink to the nib of the pen, of regulating the supply of ink, and for securing the ink in the tube when not in use, substantially as described and shown.

In witness whereof I have hereunto set my signature this 6th day of May, 1848.

D. O. MACOMBER.

Witnesses:

WM. SERRELL,

LEMUEL W. SERRELL.