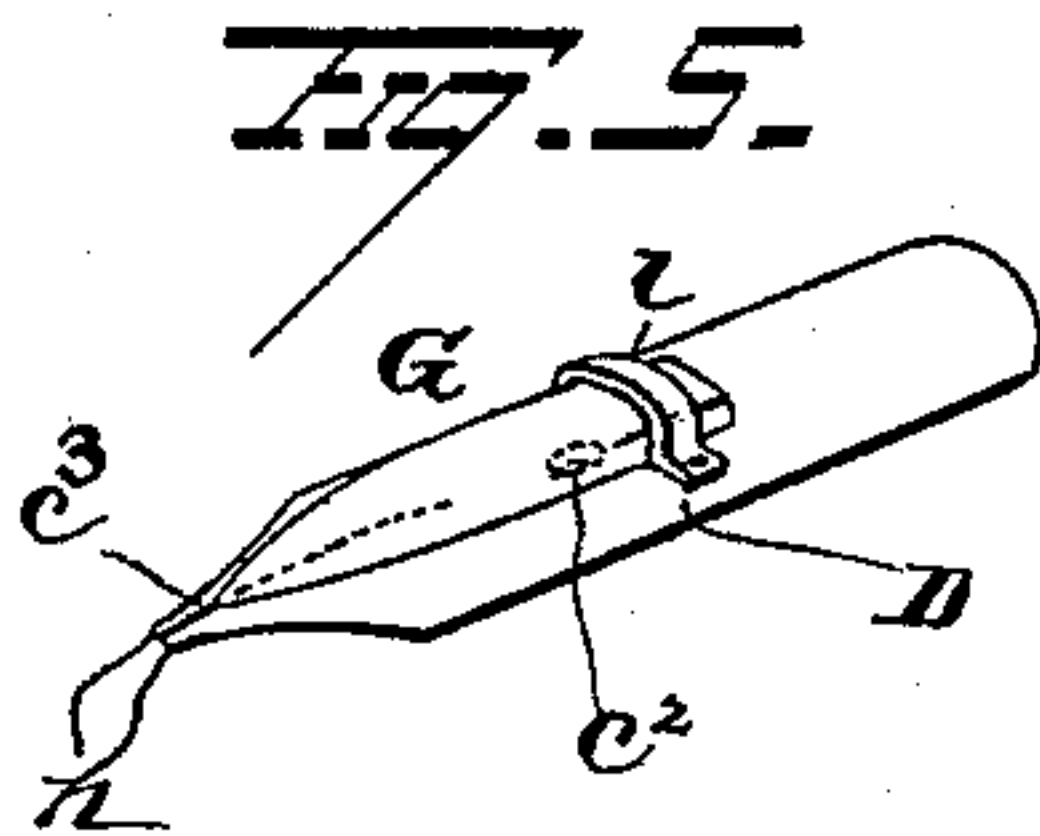
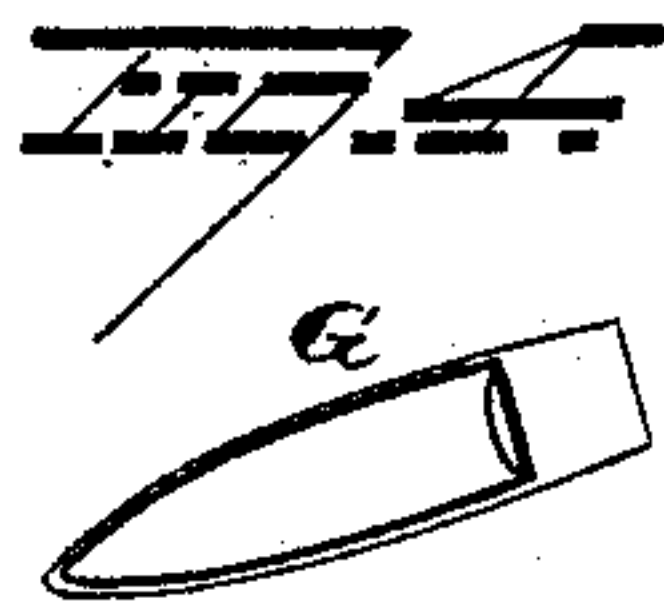
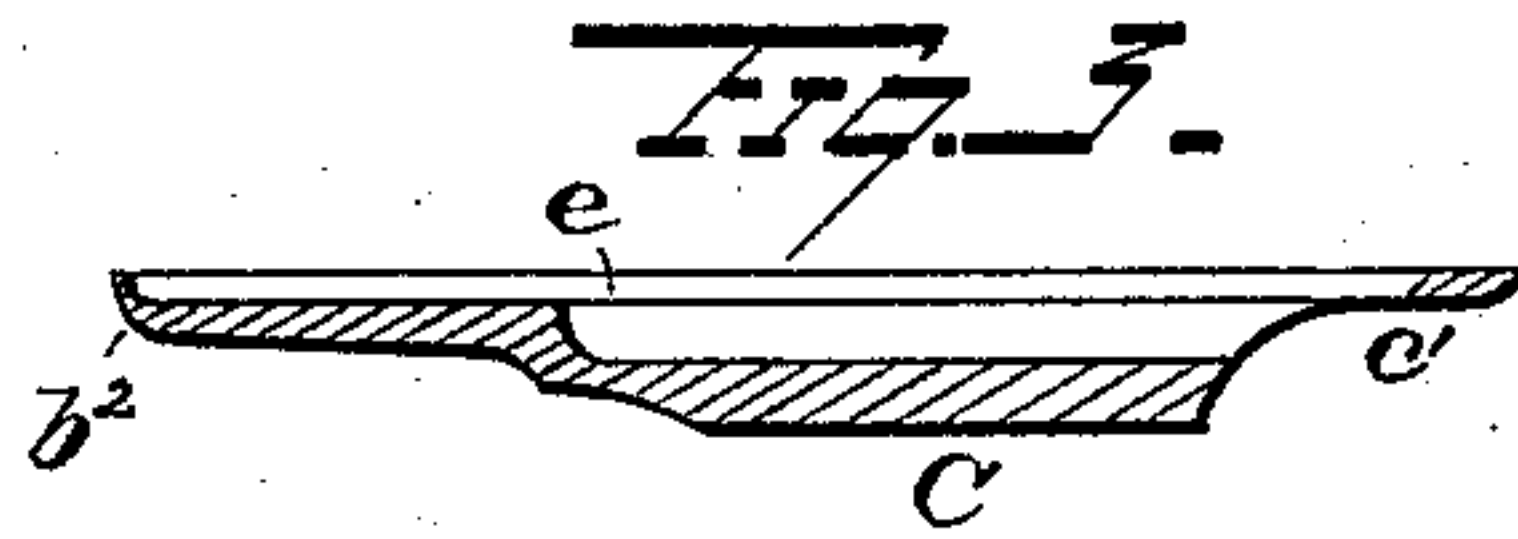
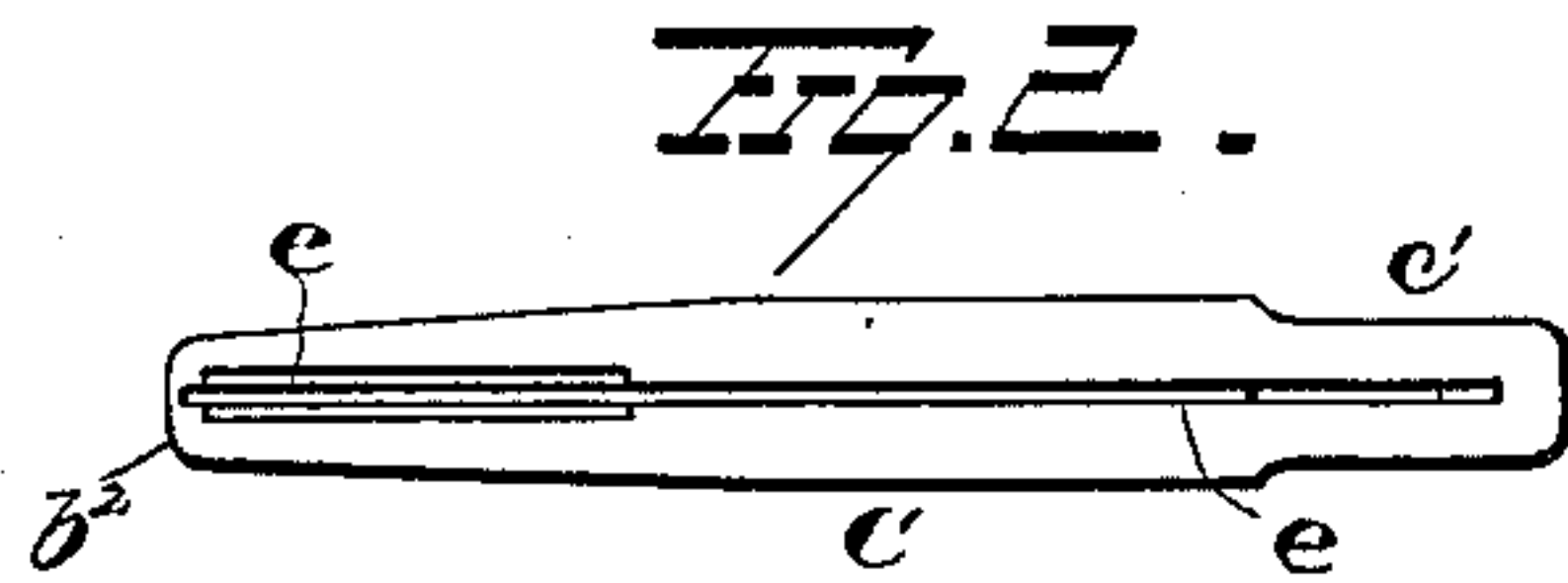
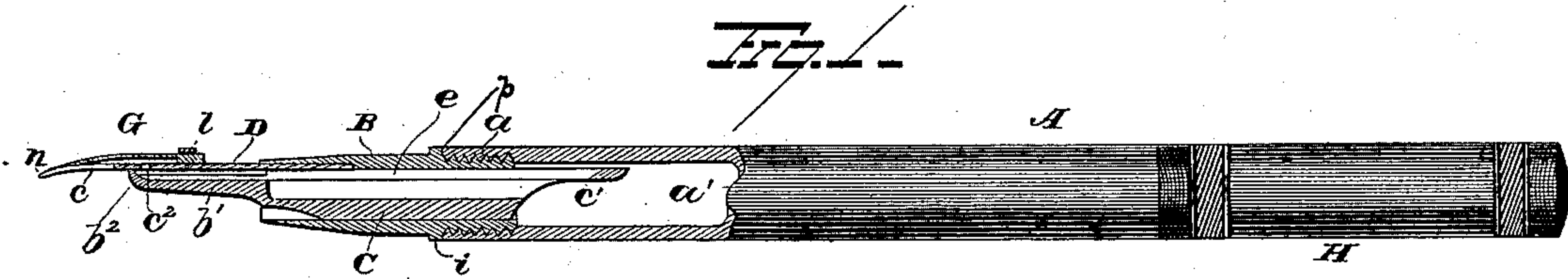


(No Model.)

C. W. TAYLOR.
FOUNTAIN PEN.

No. 361,468.

Patented Apr. 19, 1887.



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CLARENCE WALLACE TAYLOR, OF JANESVILLE, WISCONSIN.

FOUNTAIN-PEN.

SPECIFICATION forming part of Letters Patent No. 361,468, dated April 19, 1887.

Application filed November 12, 1886. Serial No. 218,690. (No model.)

To all whom it may concern:

Be it known that I, CLARENCE WALLACE TAYLOR, of Janesville, in the county of Rock and State of Wisconsin, have invented certain
5 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
10 the same.

My invention relates to an improvement in fountain-pens.

On the 20th of April, 1886, and on July 27, 1886, two patents, numbered, respectively,
15 340,166 and 346,330, were granted to me for improvements in direct-feed fountain-pens. In each of these patented devices an underfeed or conduit for the conveyance of ink from the interior reservoir in the handle to the under side
20 of an ordinary pen is shown, the object being to produce a practical and simple fountain-pen that permits the use of ordinary commercial steel pens or gold pens of different varieties in connection with a fountain-pen, thus obviating
25 the disadvantages incident to specially-constructed pens, or complicated devices that soon fill up with thickened ink or accumulated sediment.

The object of my present invention is to
30 overcome certain minor defects that practical use has manifested the existence of in my patented devices just mentioned. The under ink-feeding conduit in these improved fountain-pens has a tendency to supply intermittently
35 when swift and alternating heavy and light strokes of the pen are made in flourishing, and in heavy shading with which light hair-lines are combined.

As it is desirable in presenting a device to
40 supply a popular want that it should be reliable under all conditions, I have devised my present improvement, that I propose to use in combination with a prominent feature of my existing patented improvements, and thus
45 perfect their action by very simple means, and at a slight additional cost to manufacture.

In the accompanying drawings, Figure 1 is a view of the pen and a reservoir-holder in longitudinal section. Fig. 2 is a detached
50 view of the under feed ink-conduit. Fig. 3 is a modified form of constructing the conduit.

Fig. 4 is an enlarged view of the upper feed-ing-tongue. Fig. 5 is an enlarged sectional view of a pen with the top feed-tongue in place on it.

The handle or holder A of the pen is made
55 in the usual way, to contain a supply of ink. The holder A is threaded on its interior surface at the end *a*, and at the other extremity is reduced in the body to receive a cap, H, 60 that when the pen is not in use can be placed over it, a provision being made to permit the cap to make a smooth finish with the holder A when it is placed over the pen. A socket-piece, B, is threaded at one end to fit the
55 threaded socket end of the holder A, and has a collar, *i*, formed upon it, that comes flush with the body of the holder when it is inserted in it. A square shoulder, *p*, on the collar *i* abuts
70 against the end of the pen-holder to make an ink-tight joint at this point.

The socket or plug B is suitably reduced in its cylindrical body to give it lightness and proper proportion, and thus improve its appearance. Into the tubular passage that per-
75 forates this socket or plug B longitudinally is fitted the lower ink-conduit, C. This is securely inserted into the bore of the socket B, and has its inner end, *c'*, that penetrates the
80 ink-reservoir *a'* in the holder A, reduced upon the lower side to form a depositing-chamber at that point for sediment that may pervade the ink, as this will be the lowest point in the reservoir when the pen is in use.

The upper side of the ink-conduit C is flat
85 and has a continuous groove, *e*, made in it. This is shown in Fig. 2, and also in modified form in Fig. 3, the groove *e* being designed to convey a graduated supply of ink to the under side of the pen.

The portion *b'* that projects outside of the
90 socket B is made in the form of a tongue, that is as small in the body as can be made to effect the purpose for which it is designed, and it is preferably rounded upon its end and body to
95 have a neat and smoothly-finished exterior.

The length of the under feed-conduit, C, is made preferably of such proportion from the
socket-piece B that its rounded free extremity
100 *b''* or front end will come below a small perforation, *c''*, in the body of the pen D, that is inserted in the socket-piece B in a semicircu-

lar groove or space formed for its accommodation by the reduction of the body of the conduit longitudinally a short distance inward at this point.

5 A pen of the ordinary size is used, and at a point immediately over the outer extremity of the ink-feeding groove *e* in the conduit C below it, the perforation *c'*, before mentioned, is formed to permit ink to be conveyed through
10 it from the groove *e*.

The upper grooved surface of the ink-conduit C is made to bear closely upon the under surface of the pen D, and the perforation *c'* in the pen-body is preferably placed at a point a
15 short distance in the rear of the slit *c'*, that divides the pen-point into two nibs.

A transverse loop, *l*, of proper size, is rigidly affixed to the top surface of the pen between the hole *c'* and the end of the socket B,
20 in which the pen is inserted. The loop *l* is made of a metal that will not oxidize.

Immediately over the slit of the pen an elastic feeding-tongue, G, is inserted by its rear end into the loop *l*, so as to be held firmly in position.
25 The length of the feed-tongue G is so proportioned to the length of the pen-body projecting to form the nibs in advance of the loop *l* as to reach nearly to these points or nibs. The lower surface of the feed-tongue G is made to
30 come closely into contact with the upper surface of the pen, and is made concave to afford a capillary feed-channel throughout its length to convey ink through it to the points or nibs
35 of the pen. This feed-tongue G should be made of elastic and non-corrosive material, and should be neatly proportioned, and constructed to present a neat and ornamental appearance. In operation this feed will receive
40 a supply of ink from the conduit C, and as it is affixed to the upper surface of the pen will undulate with the flexible motion of the nibs and of the sloped sides near these points. This motion of the respective parts will have a tendency to draw ink from the lower conduit in
45 regulated quantity to supply requirements of service which will be continuous while there is ink in the reservoir.

The under feed-conduit, C, is useful as a means of supplying ink to the bottom, and
50 may be made to intersect the upper end of the slit in the pen to feed ink to the points; but in this case it is mainly intended to convey ink in graduated volume to the upper feed-tongue, G, and as the ink is protected from
55 the atmosphere it will be unoxidized and in a limpid state, free to flow from the pen's nibs.

The capillary action of the upper feed-tongue, G, together with the natural gravitation of the fluid ink to a low point, will furnish the requisite amount for the execution of
60 any style of chirography, whether coarse flourishing or fine hair-strokes, and permit these varying styles to be changed as rapidly

as necessary without failure of the proper ink-supply.

The protection of the ink from direct contact with the atmosphere till deposited upon the manuscript obviates liability to thicken. This is a particularly desirable feature in case copying-ink is used.

It is evident that slight changes may be made in the way of attachment of the top feeder to the pen-body, as it may be riveted or soldered in place, or a slit with lips from it may be made in the body of the pen, the lips
75 being turned up at an incline to the top surface of the pen to form a dovetail lock for the feeding tongue, and in this latter case the hole made would form a feed-orifice for the supplying of ink to the tongue or top feeder.
80 Upon account of these manifest changes and others that may be made that will be within the spirit and scope of my invention, I do not wish to restrict myself to the exact forms shown; but,

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a fountain-pen, the combination, with a pen, of a capillary top feeder secured to the
90 pen and adapted to yield to the action of the pen, a grooved or slit under feed or ink conduit, and an ink-reservoir, substantially as set forth.

2. In a fountain pen, the combination, with
95 a pen-holder having a socket therein for the pen, and a pen, of a capillary top feeder secured to the upper face of the pen, a grooved or slotted bottom ink-conduit communicating with the ink-reservoir and with the top feeder,
100 and a reservoir to supply ink, substantially as set forth.

3. In a fountain-pen, the combination, with a fountain pen-holder and a plug having a socket therein for a pen, of a pen, a top feeding-tongue secured to the pen, and a grooved
105 bottom ink-conduit communicating with an ink-holder and with the top feeder, substantially as set forth.

4. In a fountain-pen, the combination, with
110 a fountain pen-holder, of a plug having a socket therein for the pen, a pen having a perforation for the passage of ink, a top ink-feeder, a loop secured to the pen for holding the feeder in place, and a bottom feeding-conduit having a groove communicating with the
115 ink-reservoir and with the perforation in the pen, substantially as set forth.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

CLARENCE WALLACE TAYLOR.

Witnesses:

CHARLES E. PIERCE,
WM. SMITH.