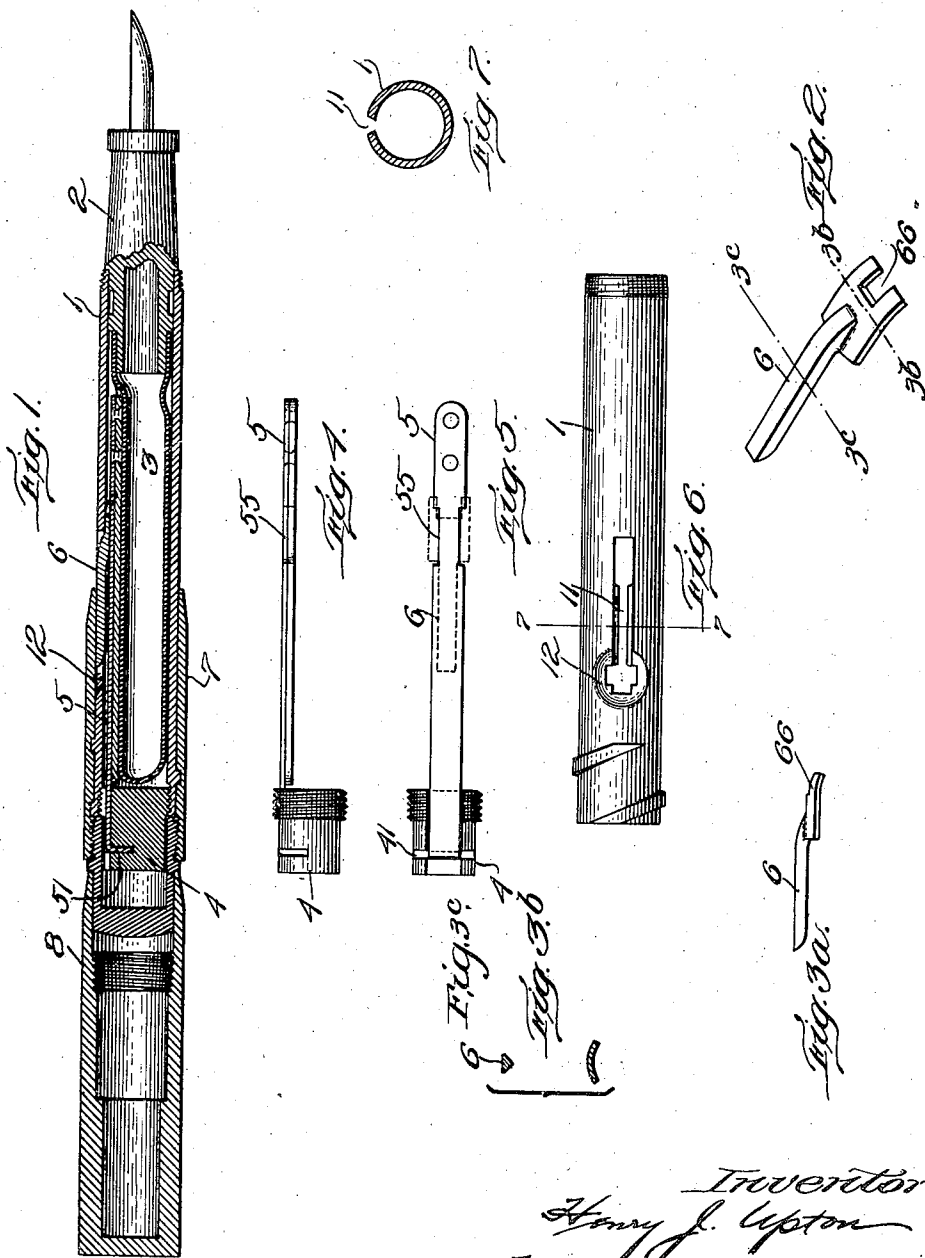


H. J. UPTON.  
FOUNTAIN PEN.  
APPLICATION FILED OCT. 25, 1916.

1,247,037.

Patented Nov. 20, 1917.



Inventor:  
Henry J. Upton  
By Mitchell, Chadwick & Kent  
Attys.

# UNITED STATES PATENT OFFICE.

HENRY J. UPTON, OF SOMERVILLE, MASSACHUSETTS, ASSIGNOR TO VAUGHN-UPTON COMPANY, OF BOSTON, MASSACHUSETTS, A CORPORATION OF MASSACHUSETTS.

## FOUNTAIN-PEN.

1,247,037.

Specification of Letters Patent.

Patented Nov. 20, 1917.

Application filed October 25, 1916. Serial No. 127,578.

*To all whom it may concern:*

Be it known that I, HENRY J. UPTON, a citizen of the United States, residing at Somerville, in the county of Middlesex and State of Massachusetts, have invented new and useful Improvements in Fountain-Pens, of which the following is a specification.

My invention is an improved self-filling fountain pen and consists in novel mechanism and in novel organization of the parts by which the ink sack is collapsed.

In the drawings:—

Figure 1 is a longitudinal section of a fountain pen embodying my invention;

Fig. 2 is a perspective view of the lever;

Fig. 3<sup>a</sup> is a side view of the lever;

Figs. 3<sup>b</sup> and 3<sup>c</sup> show cross sections of the lever on lines 3<sup>b</sup>—3<sup>b</sup> and 3<sup>c</sup>—3<sup>c</sup> respectively of Fig. 2;

Fig. 4 is a detail of the presser bar and its holding plug, the plug being in section;

Fig. 5 is a plan view of Fig. 4;

Fig. 6 is a view of barrel showing the slot; and

Fig. 7 is a cross section on line 7—7 of Fig. 6.

Self-filling pens in which the ink is contained in a soft rubber sack within the handle or barrel of the pen, and in which the filling of the pen with ink is accomplished by collapsing the sack and permitting it to expand by the resiliency of its material, while the pen point to which it is hermetically secured is immersed in ink, are old and well known and various means and mechanism have been employed to collapse the ink sack. The object of my invention is to simplify the collapsing mechanism and cheapen the cost of manufacture and assembly.

To this end I have devised an assembly of the presser bar, which is in immediate contact with the ink sack, so that it is positioned and secured in place without the use of rivets, pins, or other positive securing means and have devised an organization by which the lever may be secured in place without pivot pins or the like.

In the drawings 1, is the barrel which is a cylinder open at both ends, 2 the point section, to the inner end of which is secured the sack 3. At the rear open end of the barrel 1, is fitted a cylindrical plug 4, which is flattened upon one side to receive one end of the presser bar 5. The presser bar 5 is

bent or hooked at one end and this angular portion 51 is inserted in a corresponding slot 41 in the plug 4. It will be obvious that when the presser bar is hooked into the plug and the plug inserted into the open rear end of the barrel the presser bar will be securely held in position between the flat surface of the plug and the inner surface of the barrel, as indicated in Fig. 1, so that it can neither be moved sidewise nor longitudinally. In inserting the presser bar the plug is turned so that the bar is brought beneath the slot 11, where it is supported, longitudinally of the barrel, directly beneath the slot and between the ink sack and the inner surface of the barrel. The pen section 2, with its attached ink sack 3, having been inserted at the end of the barrel opposite the plug 4, the lever 6, is next placed, the forked end being turned so that its width corresponds with the length of the slot. The forks are pressed against the presser bar and forced downward until the shank of the lever is within the slot, when the lever is turned, leaving the forks, 66, straddling the presser bar and the broad end of the lever within the barrel. It will be observed (see Fig. 3<sup>a</sup>) that the shank of the lever is triangular in cross section and the broad end curved. When the lever is turned in such fashion that the curved side of the forked portion and the point of the triangular-shaped shank are toward the plug 4. The lever is then moved to the end of the slot toward the point section, the lever being retained in place by the upward pressure of the presser bar and the engagement of the forked portion with the inside of the barrel. When the lever is moved to proper position at the end of the slot the forks 66 are immediately over a narrowed portion 55 of the presser bar, the forks resting in two notches in the edge of the presser bar (see Fig. 5). These notches are so designed and positioned that when the shank of the lever is raised, to collapse the ink sack, the forks 66 will come into contact with the end of the respective slots, thus stopping the lever in vertical position and preventing it from being by accident pushed too far. It will be observed that when the lever is in an upright position, the forked portion depresses the presser bar, and that when the lever is thrown down the triangular shank lies in the V-shaped slot 11, while the forked por-

tion rests against the upper, inner surface of the barrel. In either position the lever is retained in place by the resiliency of the ink sack and the presser bar, or either of them and performs its functions without being secured in place by pins or other connecting means.

In operation, when the lever 6 is lifted, it and the forks 66 pivot upon the shoulders formed by the junction of the broad portion 66 of the lever with the shank 6 of the lever, which shoulders coact with the inner surface of the barrel. The forks 66 swing in one direction upon these shoulders as a center while the shank 6 swings in the opposite direction, the inner end of the slot between the forks 66 pressing upon the presser bar and depressing it as the inner end of the slot swings about the center or fulcrum point formed by the engagement of the shoulders with the inner surface of the barrel.

The outer surface of the barrel 1, at the end in which plug 4 is mounted, is provided with a screw thread, with which a corresponding thread on the inner surface of sleeve 7 engages, so that, when sleeve 7 is rotated it is advanced or retracted on the barrel 1 and in this way, when it is desired to operate lever 6, the sleeve is retracted and the lever uncovered so that its free end may be manipulated and the lever raised to collapse the sack, while, after this is accomplished and the lever is lying again in the slot 11, the sleeve 7 is advanced to cover the lever and lock it in position at the same time covering it. In order that the free end of the lever may be easily seized, a

recess 12 is formed upon the outer surface of the barrel, which sufficiently exposes the free end of the lever to enable the lever to be easily grasped by the fingers. A cap 8 of usual form is employed to cover the pen point when not in use and provision is made to mount this on the rear end of sleeve 7 when the pen is in use. The slot 11 for a portion of its length has slightly converging walls (see Figs. 6 and 7) against which the sides of the lever 6 abut when the shank of the lever is lying in the slot. This arrangement serves as a stop to prevent the accidental forcing down of the shank of lever 6 with the possible ejection of ink from the ink sack.

I claim:—

In a fountain pen, the combination of a loose lever having a narrow shank portion and a broader, forked end portion, the shank and forked end lying in different planes; a fountain or holder, slotted to receive the shank of the lever; an ink sack within the holder; a presser bar mounted between the ink sack and the holder beneath the slot and loose lever, and having a narrowed portion beneath the slot to form shoulders or stops upon the presser bar, the forked ends of the loose lever embracing the presser bar and fitting within the recesses, and engaging with the shoulders when the lever is raised, all organized substantially as and for the purpose described.

Signed by me at Boston, Mass., this seventeenth day of October, 1916.

HENRY J. UPTON.