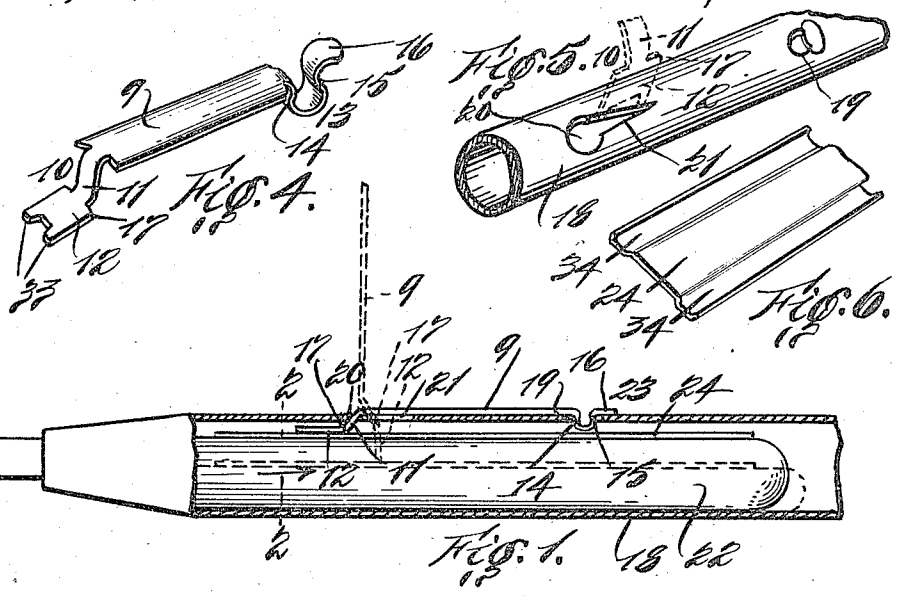
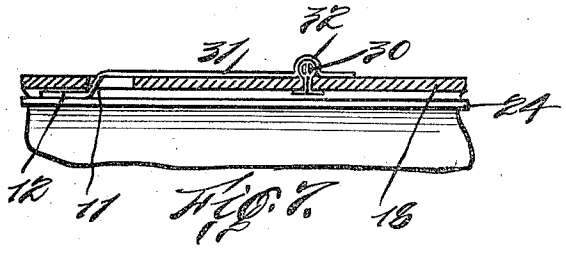
L. PLANCHER.

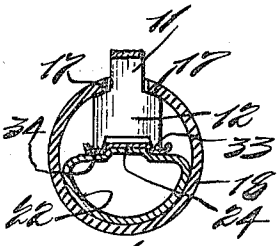
FOUNTAIN PEN.

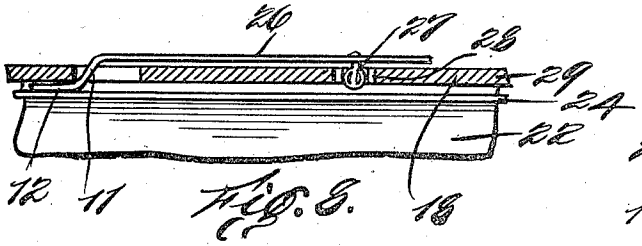
APPLICATION FILED APR. 17, 1918.

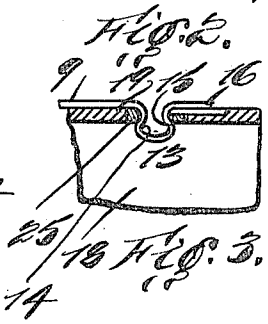
1,301,317. Patented Apr. 22, 1919.











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UNITED STATES PATENT OFFICE.

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FOUNTAIN-PEN.

1,301,317. Specification of Letters Patent. Patented Apr. 22, 1919.

Application filed April 17, 1918. Serial No. 229,057.

To all whom it may concern:

Be it known that I, LILLIAN PLANCHER, a citizen of the United States of America, residing at New York city, county and State of New York, have invented certain new and useful Improvements in Fountain-Pens, of which the following is a full, clear, and exact description.

This invention relates to improvements in fountain-pens of the self-filling variety having a compressible ink-sack or reservoir within the same. One of the objects of my invention is to provide improved means to compress the reservoir for the purpose of filling the same with ink, said means comprising a lever shiftably supported by but unattached to the barrel of the pen, the lever having an extension arranged to act upon the ink-sack. An advantageous feature of my invention is the fact that there are no pivot-pins or other means required to secure the lever to the barrel of the pen. Although the lever is arranged for radial movement, it is not secured to the barrel or any other element of the pen, but merely rests in contact with the barrel. Its novel formation permits it to be moved radially about a fulcrum-point, which is not a pin, or equivalent support, such as heretofore found necessary to pivotally mount the levers in this type of pens.

Another advantageous feature of my invention is the provision of novel means for releasably locking the lever in its normal closed position.

Other points of improvement will appear in the following detailed description, reference being had to the accompanying drawing, wherein—

Figure 1 is a fragmentary sectional view, partly in elevation, of a pen embodying my improvements;

Fig. 2 is an enlarged cross-sectional view thereof, the section being taken on a line 2—2 in Fig. 1;

Fig. 3 is an enlarged fragmentary sectional view illustrating the manner of locking the lever in closed position;

Fig. 4 is an enlarged detail perspective view of the lever;

Fig. 5 is an enlarged fragmentary perspective view of that portion of the barrel which is arranged to receive the lever;

Fig. 6 is a fragmentary perspective view of the presser-bar;

Figs. 7 and 8 are enlarged fragmentary sectional views of modified means for locking the lever in closed position.

Contrary to the usual practice, my improved lever is located exteriorly of the barrel, that is to say, not mounted in a slot. The extension of the lever is the only portion which is not located exteriorly of the barrel. To preclude any projections or raised portions, the lever is preferably made to conform to an arc, the radius of which is the same as the radius of the outside diameter of the barrel; hence the lever lies close against the barrel. The extension of the lever passes through an opening in the barrel located adjacent one end of the lever. The other end of the lever carries a catch or fastening means to engage an adjacent opening in said barrel, whereby the lever can be latched in closed position. It will be therefore apparent that the barrel of the pen is provided with openings that do not communicate, and not with a slot.

My improved lever consists of a body portion 9 having an extension 10 at one end comprising a neck 11 and having an enlarged or relatively broad portion 12. The opposite end of the lever carries a catch 13 formed by bending said end to provide a projection having yieldable walls 14 and 15, and a latch 16. It will be seen that the neck 11 extends away from the body portion in an angular direction and that said neck is somewhat narrower than the enlargement 12; hence shoulders 17 are provided, said shoulders acting as pivot points in combination with the barrel of the pen.

The barrel 18 of the pen is provided with an opening 19 and an opening 20 having in communication therewith a relatively short slot 21. Within the barrel 18 an ink sack or reservoir 22 is located, said sack being compressed by the extension 10 of the lever, when said lever is raised at the end 23 (Fig. 1) to its full extent. A shoe or presser-bar 24 is provided which may be cemented to the sack or otherwise mounted so as to protect same from contact with the extension 10. I do not deem it essential to employ any particular form of presser-bar.

To assemble the pen, the lever will be positioned to cause the projection 10 to aline with the slot 21 (see dotted lines, Fig. 5), after which the said projection will be passed through the slot and moved to the left (in

Fig. 5) to cause the neck to enter the opening 20, whereupon the lever will be given a half turn and moved radially to the position shown in Fig. 1. After the lever has been applied, the ink-sack can be inserted from the open end of the pen in the usual manner. The pen will now be ready to be filled.

To fill the pen, the lever will be raised at the end 23, causing the projection 10 to compress the sack as indicated in Fig. 2. The action of compressing the sack will force the shoulders 17 against the wall of the pen (see Fig. 2). In other words, as soon as the end 23 is lifted, the shoulders 17 will contact with the barrel and thereafter constitute pivot points. When the lever is released, the inflowing ink will expand the sack and fill the same. To lock the lever in closed position, the latch 13 will enter the opening 19 or a bushing 25 in said opening (Fig. 3). As the latch 13 consists of resilient members, they will slightly yield when forced in the opening or bushing; hence they will be placed under tension, thereby firmly holding the lever closed.

Instead of providing the catch 13, I may provide the lever (indicated by 26, Fig. 8) with a yieldable button-head 27 to engage a bushing 28 in the barrel 29 of the pen; or I may provide the barrel of the pen with a yieldable button 30 (Fig. 7) and the lever 31 with a recess 32 to engage same.

It will be apparent from the foregoing description that no pivot pins are used to pivotally mount the lever 9, fulcrum-points being provided by the special construction of lever, as has been set forth. If desirable, the enlargement 12 may be provided with teats 33 to engage channels 34 in the presser-bar 24, whereby said lever and said presser-bar are maintained in operative alinement.

It may here be stated that the neck 11 of the extension 10 is slightly wider than the slot 21, but the length of the slot exceeds the width of the neck; hence, after the said projection has been inserted and turned, the lever cannot be moved longitudinally of the barrel to any great extent, but can be slightly shifted to cause the enlargement to accommodate itself to the presser-bar. The pivotal engagement of the barrel and lever is of a shiftable nature, for the reason that the lever is not positively fixed, but can shift slightly, even after the fulcrum-points have been forced into contact with the barrel.

What I claim as my invention is:

1. In a fountain pen, a barrel having two openings in longitudinal alinement with each other, in combination with a sack contained in said barrel, a lever adapted to lie mainly along the outside of said barrel when not used and to be turned into upright position for bearing on said sack at will, one end of said lever being formed into a spring snap to enter one of said openings and engage the edges thereof and the other end of said lever being bent to enter the other opening and formed with a shoulder which provides a fulcrum for said lever by engagement with the wall of the latter opening, the latter end of said lever being adapted to bear downward on said sack when said lever is turned into upright position.

2. In a fountain pen, a barrel having two openings in longitudinal alinement with each other, in combination with a sack contained in said barrel, a lever normally lying flat against the outside of said barrel, but adapted to be turned into upright position for compressing said sack, and a device interposed between said sack and the operating end of said lever and normally covering most of the top of said sack, the said lever having a part adapted to snap into one of these openings for holding the lever flat against the outside of said barrel and also having a part which enters the other opening to force said device against said sack and also with a shoulder, which provides a fulcrum for said lever by contact with the wall of the latter opening.

3. In a fountain pen, a barrel having an elongated opening, in combination with a sack contained within said barrel, and a lever fulcrumed in said opening and adapted to be turned down flat against said barrel or turned upright for compressing said sack, the operative end of said lever being provided with a broadened part for acting on said sack and a bent narrower part connecting this broader part with the body of the lever, the width of said broader part being less than the length of said opening and the width of said narrower part being less than the width of said opening, the bent form of said narrower part providing a shoulder as a fulcrum substantially as set forth.

4. In a fountain pen, a barrel having an opening, in combination with a sack inclosed in said barrel and a lever loosely fulcrumed to said barrel in order that at will it may be raised to compress said sack or folded flat on the outside of said barrel, the said lever being provided with a bent resilient part for entering said opening as a catch to hold said lever flat and with a terminal part extending beyond said catch on the outside of the barrel for convenience in raising said lever.

5. In a fountain pen, a barrel having two openings, in combination with a sack within said barrel and a lever having near one end a bent part entering one of said openings and forming a shoulder which acts as a fulcrum, said lever also having a bent part forming a catch which engages in the other opening and a terminal part extending normally along the outside of said barrel beyond said catch substantially as set forth.

6. In a fountain pen, a barrel having two

openings, in combination with a sack contained in said barrel and a lever which is loosely fulcrumed in one of said openings and provided with a catch which engages the other opening, the said lever being adapted to be turned up on its fulcrum for compressing said sack or turned down against the barrel to engage the same without need for sliding longitudinally to reach either position.

Signed at New York city, N. Y., this 16 day of April, 1918.

LILLIAN PLANCHER.

Witnesses:

MAURICE BLOCH,

EDWARD A. JARVIS.