W. I. FERRIS & E. F. BRITTEN, JR.

PRESSER BAR ACTUATING LEVER FOR SELF FILLING FOUNTAIN PENS.

APPLICATION FILED AUG. 17, 1914.

1,197,360. Patented Sept. 5, 1916.

Fig. 1.

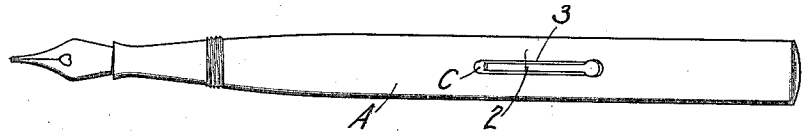

Fig. 2.

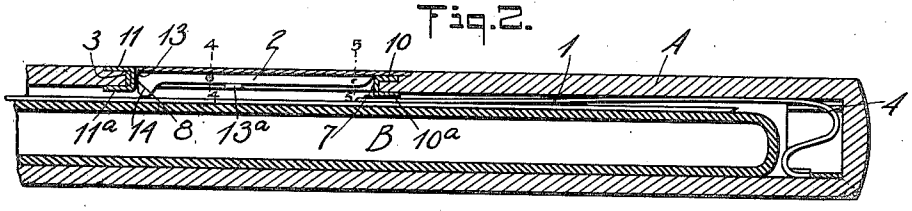

Fig. 3.

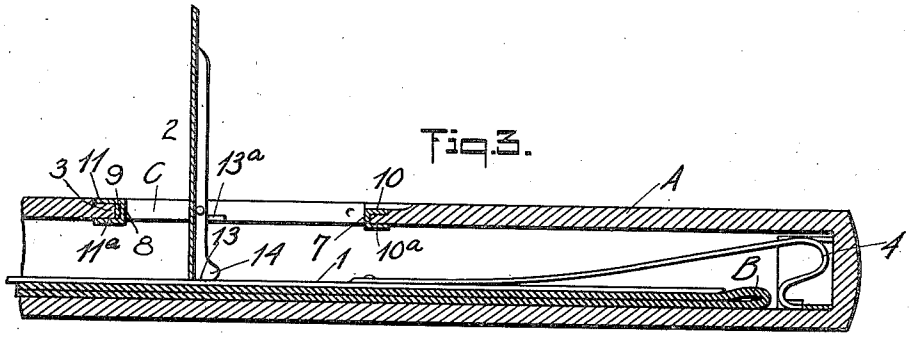

Fig. 4.

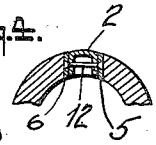

Fig. 5.

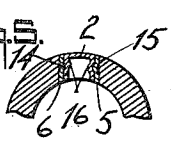

Fig. 6.

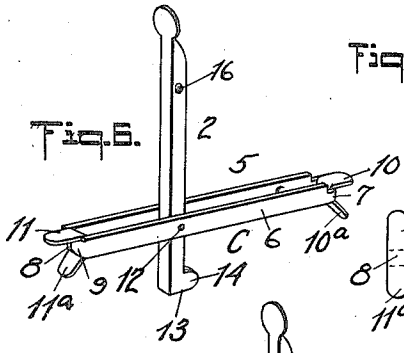

Fig. 7.

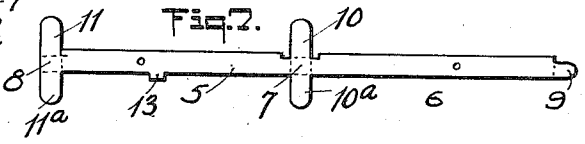

Fig. 8.

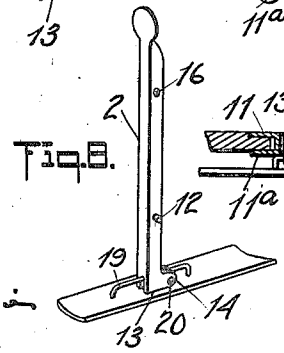

Fig. 9.

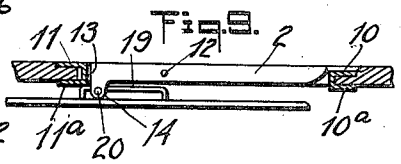

Fig. 10.

WITNESSES

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UNITED STATES PATENT OFFICE.

WILLIAM I. FERRIS, OF WESTFIELD, AND EDWIN F. BRITTEN, JR., OF JERSEY CITY, NEW JERSEY, ASSIGNORS TO L. E. WATERMAN CO., OF NEW YORK, N. Y., A CORPORATION OF NEW YORK.

PRESSER-BAR-ACTUATING LEVER FOR SELF-FILLING FOUNTAIN-PENS.

1,197,360. Specification of Letters Patent. Patented Sept. 5, 1916.

Application filed August 17, 1914. Serial No. 857,099.

To all whom it may concern:

Be it known that we, WILLIAM I. FERRIS and EDWIN F. BRITTEN, Jr., citizens of the United States, and residents, respectively, of Westfield, in the county of Union and State of New Jersey, and Jersey City, in the county of Hudson and State of New Jersey, have invented a new and Improved Presser-Bar-Actuating Lever for Self-Filling Fountain-Pens, of which the following is a full, clear, and exact description.

This invention relates to fountain pens of the self-filling type, and deals more particularly with improvements in the means for actuating the presser bar for deflating the ink sack.

The invention has for its general objects to improve and simplify the mounting for the presser bar actuating lever whereby boring of the barrel of the pen for the reception of the fulcrum pin for the lever is avoided, the lever being fulcrumed in a box-like frame which is set into the lever-receiving slot of the pen barrel.

A further object of the invention is the provision of a novel form of box or frame that constitutes the mounting for the lever, such frame being made of a blank punched from sheet metal and formed with lugs whereby the box or frame is retained in position in the lever slot of the pen barrel.

Still another object of the invention is to provide a presser bar actuating lever which has one end so shaped that when the presser bar is depressed the lever will occupy a dead center position perpendicularly to the presser bar, and whereby the presser bar when in normal position will act on the lever to hold the same within the box or frame and flush with the outer surface of the barrel of the pen.

A further object of the invention is the provision of catch means on the lever which is adapted to lock the same yieldingly in normal position, so that the lever cannot accidentally be operated in the ordinary use of the pen and force ink out of the sack.

Another object is to provide a stop means for limiting the throw of the lever in a direction to depress the presser bar.

The invention has as a further object the employment of a novel connecting means between the lever and presser bar whereby the restoring of the lever to normal position will positively raise the presser bar and thus cooperate with the spring of the presser bar to restore the latter to normal position.

With such objects in view, and others which will appear as the description proceeds, the invention comprises various novel features of construction and arrangement of parts which will be set forth with particularity in the following description and claims appended hereto.

In the accompanying drawings, which illustrate certain embodiments of the invention, and wherein similar characters of reference indicate corresponding parts in all the views, Figure 1 is a plan view of a fountain pen equipped with the invention; Fig. 2 is an enlarged longitudinal section through a portion of the barrel of the fountain pen with the presser bar and its actuating lever in normal position; Fig. 3 is a similar view showing the presser bar depressed by the lever; Figs. 4 and 5 are sectional views respectively on lines 4—4 and 5—5, Fig. 2; Fig. 6 is a perspective view of the lever and its mounting; Fig. 7 is a plan view of the blank from which is made the frame or box in which the lever is mounted; Fig. 8 is a modification showing the lever connected with the presser bar and occupying a position corresponding to the compressing of the ink sack; Fig. 9 is a longitudinal section of the modification, showing the lever and presser bar in normal position; and Fig. 10 is a detail sectional view showing a modified form of catch means for holding the lever yieldingly locked in normal position.

Referring to the drawing, A designates the barrel of a fountain pen in which is contained an ink sack B that is deflated by the usual presser bar 1. The presser bar is actuated by a lever 2 pivotally mounted in the barrel and is disposed within a slot 3, the lever being normally flush with the outer surface of the pen barrel, as clearly shown in Fig. 2. The presser bar is provided with

a spring 4 which raises it when the lever is returned to normal position, so that the sack can expand and draw in a charge of ink.

The operating lever 2 is mounted within a frame C that is of such size as to fit in the slot 3 of the barrel. The frame or box is made from a blank of the form shown in Fig. 7, and comprises bar-like sides 5 and 6 connected by the end wall 7, and on the bar 5 is the opposite end wall 8, there being on the outer end of the side wall 6 a lug 9 which is bent against the outer surface of the end wall 8. The blank when bent up forms a rectangular box, and on the end walls thereof are lugs 10, 10^a and 11, 11^a, respectively. These two pairs of lugs serve as means for retaining the box or lever mounting in place, the lugs 10 and 11 being at the outside of the barrel of the pen and the lugs 10^a and 11^a at the inside. In putting in the box or frame C the internal lugs may stand more or less perpendicular to the length of the box, so as to be let into the slot 3 from the outside, and then by a suitable instrument inserted into the empty barrel of the pen, the lugs 10^a and 11^a can be bent back. It will be understood that before the box C is applied to the barrel, the lever 2 is mounted in the box by means of a pivot pin 12 which passes through the side members of the box and through the lever nearer one end thereof than the other. On the bar or side 5 of the box is an inwardly-extending lug 13^a adjacent the fulcrum of the lever, so as to form a stop to limit the throw of the latter in a direction to depress the bar, as clearly shown in Fig. 3.

The lever, which is preferably made from a sheet metal blank, has a flat end 13 disposed at right-angles to the length of the lever so that when the presser bar is depressed by the lever, as shown in Fig. 3, the said flat surface 13 will bear aganst the presser bar and hold the latter depressed, the lever when in this position being on a dead center. The sack being in this manner deflated, it merely remains to place the pen point of the fountain pen in a bottle of ink and throw the lever out of its dead center position in order to allow the presser bar to be raised by the spring 4, and the sack to expand so as to draw in a charge of ink. The pressed bar engaging end of the lever has a projection 14 formed on its under side so that when the presser bar is in fully raised position it will engage this projection and thereby serve to hold the lever fully retracted in the box C, where it will be flush with the outer surface of the pen barrel. Instead, however, of relying on the presser bar to retain the lever in normal position, catch means are provided. According to one form the catch means comprises small projections 14 and 15 on the inner surfaces of the sides 5 and 6 of the box, which are adapted to enter depressions 16 in the sides of the lever 2, adjacent the operating end of the lever. By reason of this the lever after being thrown back from the position shown in Fig. 3 will be required to be pressed home into the box C, whereby the projections snap into the depressions 16. As the projections are forced into or out of the depressions the side members of the frame yield laterally. If desired, the lever may have yielding members 17, as shown in Fig. 10, which engage abutments 18 that may be formed by the sides of the slot in which the lever is mounted, or the box therefor. Obviously, other means may be devised to provide a catch to hold the lever yieldingly locked in normal position.

It may be desirable to utilize the lever 2 to raise the presser bar, and for this purpose the latter may be provided with a loop 19, as shown in Figs. 8 and 9, and on the lever is a pin 20 which slidably engages in the loop to thereby form a sliding hinge connection between the lever and presser bar. The lever will depress the presser bar in the manner hereinbefore described, but when the lever is restored to normal position the pin 20 by engaging the loop 19 will raise the presser bar.

From the foregoing description taken in connection with the accompanying drawings, the advantages of the construction and method of operation will be readily understood by those skilled in the art to which the invention appertains, and while we have described the principle of operation, together with the device which we now consider to be the best embodiment thereof, we desire to have it understood that the device shown is merely illustrative, and that such changes may be made when desired as are within the scope of the appended claims.

Having thus described our invention, we claim as new and desire to secure by Letters Patent:

1. A fountain pen including a barrel having a slot extending longitudinally thereof, an ink sack in the barrel, a lever mounted in the slot, members adjacent the side walls of the slot and yieldable laterally, and locking means including projections and depressions in the lever and members.

2. A fountain pen including a barrel having a longitudinal slot, a frame fitted in the slot and including side members yieldable laterally, a lever mounted in the frame, and locking means for holding the lever in normal position and depending for its locking action on the yielding of the said members.

3. A fountain pen comprising a barrel having a longitudinal slot, an ink sack in the barrel, an open rectangular frame fitted in the slot and having side members extending along the sides of the slot, a lever fulcrumed

in the frame and formed with side members adapted to lie adjacent the side members of the frame, the members of the frame and lever being relatively yieldable, and locking means on the frame and lever members and depending on the relative yielding thereof for holding the lever in normal position.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

WILLIAM I. FERRIS.
EDWIN F. BRITTEN, JR.

Witnesses:
IRVING E. JENNINGS,
FRED W. GRUNWALD.