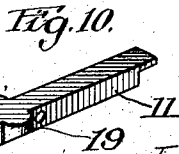
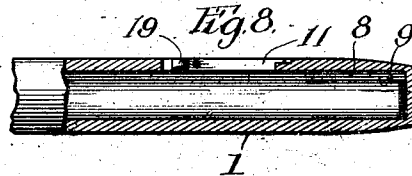
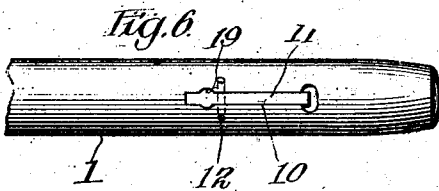
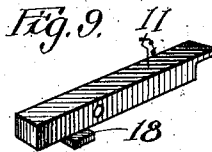
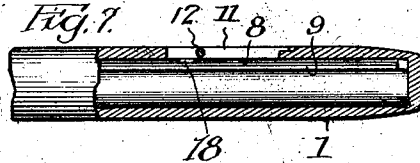
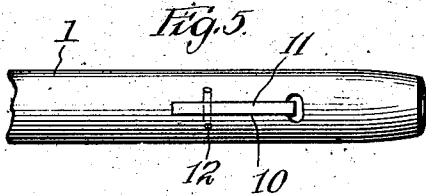
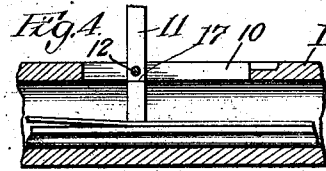
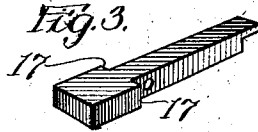
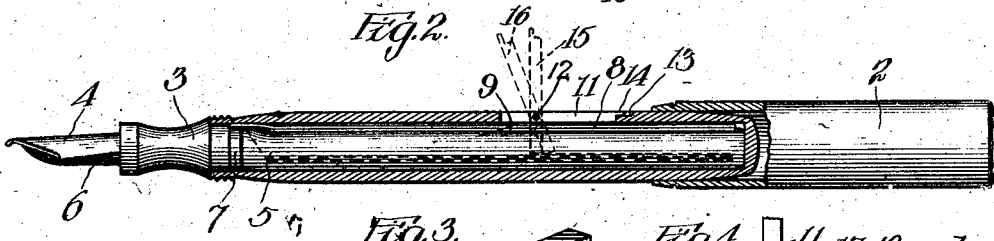
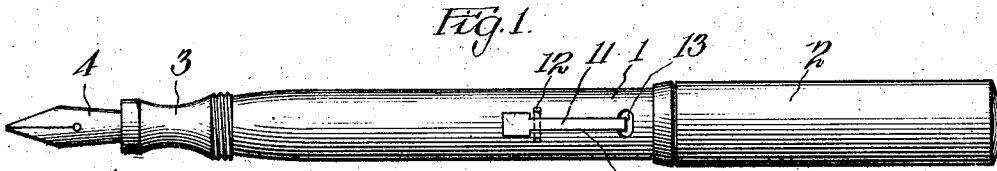


J. A. KRAKER.
 FOUNTAIN PEN.
 APPLICATION FILED NOV. 30, 1914.

1,170,825.

Patented Feb. 8, 1916.



Witnesses:
 Leo J. Durman.
 Arthur B. Frank.

Inventor:
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UNITED STATES PATENT OFFICE.

JOSEPH A. KRAKER, OF KANSAS CITY, MISSOURI, ASSIGNOR TO KRAKER PEN CO., OF KANSAS CITY, MISSOURI, A CORPORATION OF MISSOURI.

FOUNTAIN-PEN.

1,170,825.

Specification of Letters Patent.

Patented Feb. 8, 1916.

Application filed November 30, 1914. Serial No. 874,706.

To all whom it may concern:

Be it known that I, JOSEPH A. KRAKER, a citizen of the United States, residing at Kansas City, in the county of Jackson and State of Missouri, have invented certain 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 the same.

My invention relates to fountain pens equipped with compressible ink sacks, which sacks are filled by a suction of ink into the same after the sacks have been collapsed. It has been customary heretofore, to equip pens of this kind with pressure-bars or followers interposed between the ink sacks and the barrels of the pens, each follower being attached to a spring which will return the pressure-bar to its normal position when the compressing action is relaxed; and also to equip the barrels of such pens with levers actuating the pressure-bars (either directly or through the intermediate spring) to effect the said compression. In using such pens, it is important that the sack should be compressed as fully as possible when the tip of the pen is inserted into the supply of ink for filling the pen, as the sack otherwise will not receive its maximum supply of ink. To accomplish this maximum filling, it is desirable to stop the movement of the actuating lever in the position at which it affects the maximum compression of the ink sack, for which purposes pens have heretofore been made with stop formations either upon the pressure-bars or upon the springs carrying said pressure-bars, which formation would engage the inner end of the actuating levers to stop the latter. Such stop arrangements have the disadvantage that they impose a considerable strain upon the spring or pressure-bar parts of the pen, which parts are desirably made of quite thin material in order that they may occupy a minimum of space within the barrel of the pen, thereby permitting the use of a relatively large size of ink sack in proportion to a given size of barrel.

The prime object of my invention is to provide a fountain pen construction in which the stopping of the lever will be effected by the engagement of a portion of the lever itself with a portion of a barrel, where-

by the movement of the lever may be limited without imposing any strain whatever upon the spring or the pressure-bar of the pen and without requiring an exact alinement of the lever with the pressure-bar. This object, together with the auxiliary objects which will appear from the following specification and from the accompanying drawings, may be accomplished with substantially equal facility in a number of ways, as shown in the drawings, in which—

Figure 1 is a plan view of a fountain pen embodying my invention. Fig. 2 is a fragmentary vertical section through the same. Fig. 3 is an enlarged perspective view of the operating lever of the pen of Fig. 1. Fig. 4 is an enlarged fragmentary vertical section of the pen of Fig. 1 with the lever in its extreme pressure-actuating position. Figs. 5 and 6 are fragmentary plan views showing pens equipped with two other types of levers embodying my invention. Fig. 7 is a fragmentary vertical section of the embodiment of Fig. 5. Fig. 8 is a fragmentary vertical section of the embodiment of Fig. 6. Fig. 9 is an enlarged perspective view of the lever of Figs. 5 and 7. Fig. 10 is an enlarged perspective view of the lever of Figs. 6 and 8.

While my invention may be applied to pens having various types of pressure-bars and of supports for the latter, it is particularly adapted for use in connection with the spring-supported pressure-bar invented by Harvey G. Craig and shown in his copending application, Serial No. 830,636. In this construction, the fountain pen consists of a barrel 1 having a closed end adapted slidably to receive a cap 2, and an open end which latter is interfitted by the pen-carrying section 3, which section carries a nib or pen point 4. Mounted upon the inner end of the section 3 is a collapsible soft rubber ink sack 5, which is connected to the nib 4 through a suitable feeder tube 6. The part of the section 3 housed by the open end of the barrel 1 also carries a collar 7, integral with a spring bar 8 which latter is secured through the rear end of the barrel to a pressure-bar 9. The spring-bar 8 (thus interposed between the pressure-bar or ink-sack follower 9 and the barrel) faces a slot 10 extending longitudinally of the barrel in one side of the latter, which slot substantially houses a lever 11 pivoted upon a pin 12 extending through the barrel transversely of

the said longitudinal slot and intermediate of the ends of the latter. The lever 11 is preferably of such thickness as to project only slightly, if at all, into the interior of the barrel when the lever is in its normal position in which position the outer surface of the lever is substantially flush with the surface of the barrel. Adjacent to the longer end of the lever, the barrel 1 is equipped with a depression 13 permitting a finger nail or any sharp instrument to be inserted under the extreme end 14 of the lever for raising the lever, while the shorter end of the lever is considerably longer than the thickness of the latter, so that this shorter end will project transversely into the barrel when the lever is moved into its operative position as shown in dotted lines at 15 in Fig. 2.

It will be evident that if the lever were moved still farther (as shown by dotted lines 16), the short end of the lever would no longer project as far into the barrel, hence the maximum compressing of the ink sack would no longer be effected. To avoid such an excessive movement of the lever, I equip the latter with at least one stop formation substantially out of the path of the spring-bar 8 when the lever is in its normal position, but so disposed as to engage a portion of the barrel 1 when the lever is moved to its right-angle position 15. In the embodiment of Fig. 1 two such stop formations are shown, consisting of the shoulders 17 formed adjacent to the pivotal mounting of the lever by widening the shorter end of said lever, the extra width being housed by the correspondingly widened portion of the forward end of the slot 10. It will be evident from Fig. 4 that the shoulders 17 will engage inner surfaces of the barrel at opposite sides of the slot 10 and directly under pivot 12 when the lever has been moved to its maximum pressure-actuating position, thereby stopping the lever in the position in which it is most effective for filling the sack of the pen.

Instead of widening the entire short end of the lever, the stop formation may be produced upon the same by widening only an inner portion presenting at least one arm 18 extending into the barrel directly underneath the shorter end of the lever and adjacent to the pivotal mounting of the latter as shown in Figs. 5, 7 and 9. Or, the widening may be effected by swaging a portion of the short end of the lever, as shown in Figs. 6, 8 and 10, thereby providing plugs 19 which will also present shoulders adapted to engage inner surfaces of the barrel 1 at opposite sides of the slot to limit the movement of the lever. This latter construction has the advantage that the widened part of the slot may be cheaply made by boring a hole radially of the barrel and somewhat larger in diameter than the width of the slot,

while the lever of Fig. 3 will require a slot having a wide portion of rectangular section.

It will be evident in each of the cases illustrated; that the stopping is effected by the simultaneous engagement of portions of the lever with parts of the barrel at opposite sides of the slot, thereby avoiding any tendency toward a twisting of the lever and a consequent over-straining of the necessarily delicate pivotal mounting; also that the stopping in each case is entirely independent of the spring or pressure-bar construction, thereby avoiding the strain imposed upon the latter when equipped with means for stopping the lever. Thus in the Craig construction, shown in the above mentioned copending application, the stopping of the lever by engagement with a part of the operating spring would (in case the lever was moved with too great a pressure) tend to slide the collar 7 forcibly off its normal engagement with the section 3, and possibly would cause the edge of the said collar to damage the forward end of the ink sack. With my construction, no such strain will be imposed upon the mounting of the pressure-bar, as the strain is entirely taken by the barrel of the pen. However, I do not wish to be limited to the use of my invention in connection with compressing arrangements of the type invented by Mr. Craig nor to the details herein disclosed, as it will be evident that these may be modified in many ways without departing from the spirit of my invention.

I claim as my invention:

1. In a fountain pen, the combination with a barrel having a slot in one side thereof, of a compressible ink sack and a follower for said sack both housed by the barrel, the follower facing said slot; and a lever of the first class pivoted to said barrel and normally having at least its longer end housed by said slot; the shorter end of said lever engaging said follower when the lever is moved about its pivot, thereby actuating the follower to compress the sack; said lever having a portion wider than the part of the slot housing the longer end of the lever, said wider portion so disposed as to engage the barrel adjacent to the last named part of the slot, when the lever is moved to actuate the follower, thereby limiting the said follower-actuating movement of the lever.

2. In a fountain pen, the combination with a barrel having a slot in one side thereof, of a compressible ink sack and a follower for said sack both housed by the barrel, the follower facing said slot; and a lever of the first class pivoted to said barrel and having at least its longer end normally housed by said slot; the shorter end of said lever engaging said follower when the lever is moved about its pivot, thereby actuating

the follower to compress said sack; said lever having a portion wider than the part of the slot housing the longer end of the lever, said wider portion so disposed as to engage the barrel adjacent to and at both sides of the last named part of the slot, when the lever is moved to actuate the follower, thereby limiting the said follower-actuating movement of the lever.

19 3. In a self-filling fountain pen equipped with a sack-collapsing element, an actuating lever for said element pivotally secured between its ends in a longitudinal slot in the

barrel of said pen and housed by said slot when in closed position, said lever equipped with a lateral projection adapted to engage a peripheral surface of the wall of the barrel to limit the pivotal movement of said lever in one direction. 15

In testimony whereof I have signed my name in presence of subscribing witnesses. 20

JOSEPH A. KRAKER.

Witnesses:

J. C. SEATON,
CHARLES BRIEAR,
H. G. CRAIG.