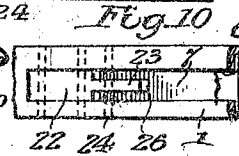
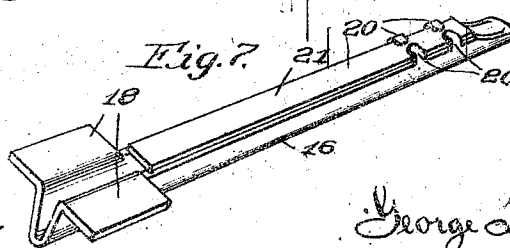
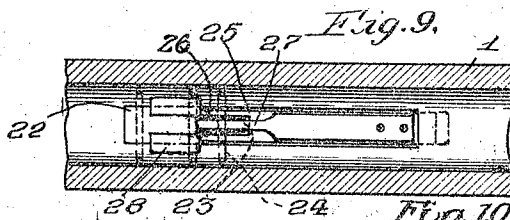
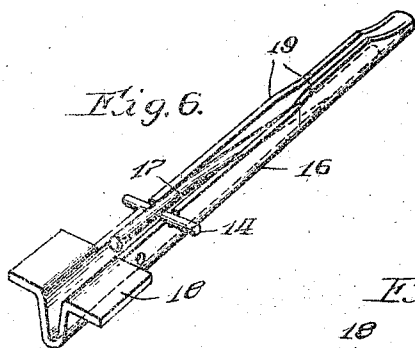
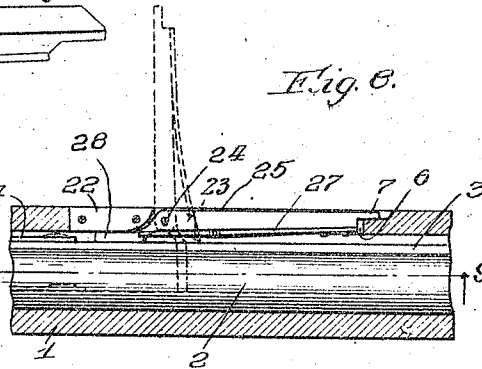
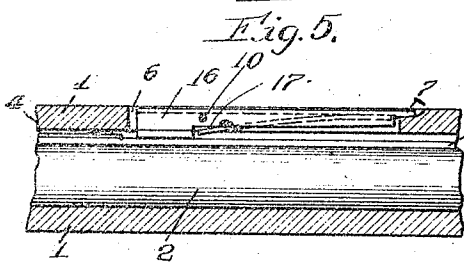
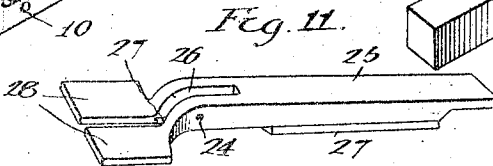
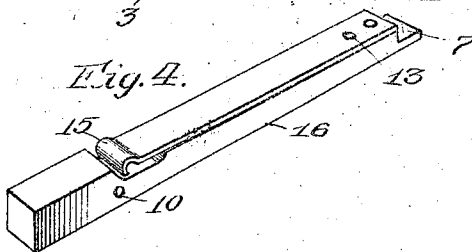
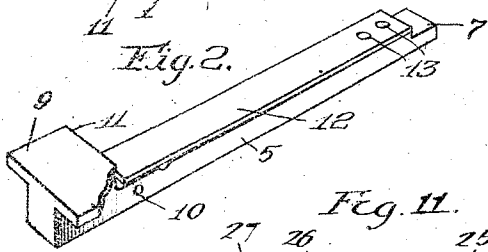
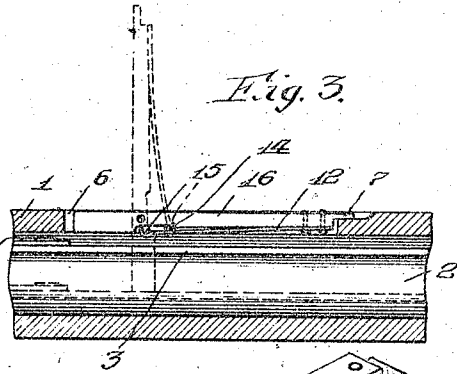
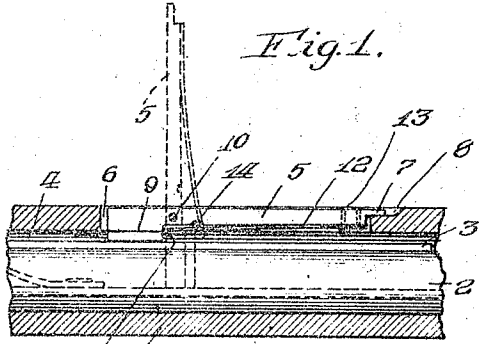


G. M. KRAKER.
 FOUNTAIN PEN.
 APPLICATION FILED DEC. 23, 1914.

1,199,993.

Patented Oct. 3, 1916.



Witnesses:
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 M. M. Boyle

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UNITED STATES PATENT OFFICE.

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

FOUNTAIN-PEN.

1,199,993.

Specification of Letters Patent.

Patented Oct. 3, 1916.

Application filed December 23, 1914. Serial No. 878,747.

To all whom it may concern:

Be it known that I, GEORGE M. KRAKER, citizen of the United States, residing at 3034 Euclid avenue, 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.

This invention relates to improvements in fountain pens, and more particularly in so-called lever-filler or self-filling fountain pens, and has for its particular object to provide a fountain pen of this character in which the lever for actuating a sack-collapsing means is held firmly but yieldingly in open and closed positions respectively, by means other than and acting entirely independent of the said sack-collapsing means.

The invention consists in the features of construction and combination of parts hereinafter fully described and particularly claimed.

In the accompanying drawings illustrating the invention: Figure —1— is a fragmentary central longitudinal section through the barrel of a fountain pen equipped with a collapsible ink-sack and sack-collapsing means including a lever for actuating the latter embodying my invention. Fig. —2— is a detail perspective view on an enlarged scale of the lever employed, a part thereof being broken away to expose another part to view. Figs. —3— and —4— are views similar to Figs. —1— and —2— respectively, showing a modified form of a construction. Figs. —5— and —6— are views similar to Figs. —1— and —2— respectively, illustrating a further modified form of construction. Fig. —7— is a view similar to Fig. —6— illustrating a different method of securing the spring to the lever. Fig. —8— is a view similar to Fig. —1— showing a further modification in construction. Fig. —9— is a fragmentary section on the line 9—9 of Fig. —8—. Fig. —10— is a fragmentary detail plan view of the slotted portion of the barrel of a fountain pen showing the lever and a member associated therewith illustrated in Figs. —8— and —9—. Fig. —11— is a perspective view of the lever shown in Fig. —9—.

In lever filler fountain pens it is very de-

sirable that the lever be normally securely held so that no part thereof will project from the slot in the fountain pen barrel in which said lever is pivotally mounted, whereby the accidental catching of the lever in the lining of the pocket of the user and the consequent operation of said lever in withdrawing the pen from the pocket, whereby the ink sack would be collapsed and the ink ejected, is obviated. It is also desirable, though of less importance, that the lever be firmly supported in its open position to maintain the sack collapsed after the lever has been turned to this position, and until the inlet or nib end of the fountain pen has been inserted in an ink-well preparatory to permitting the same to slowly expand to draw in a supply of ink. It will be obvious, of course, that the lever may be digitally readily held in the last-named position without inconvenience, and that it is not very essential to provide means for maintaining the lever in this position, for the reason that an accidental closure of the lever would not result in any disaster such as would occur by the ejection of ink in the pocket of the clothing by an accidental opening movement of the lever in withdrawing the same from the pocket.

A further object of the invention is to provide means whereby the closing movement of the lever is resisted to overcome the tendency of the sack-collapsing means to turn the same to closed position, it being desirable to permit the sack to expand slowly by gradually releasing the collapsing pressure thereon as it has been found that when the operator releases the sack-collapsing means suddenly from engagement with the sack he does not allow for the slow expansion of the sack and removes the nib end from the ink-well before the sack has filled.

In the accompanying drawings illustrating the invention I have shown a fragmentary longitudinal section of a fountain pen barrel 1 in which is housed the ink sack 2 and the sack-collapsing means comprising the bar 3 and a spring carrier 4 for said bar. These elements constitute no part of the present invention and are, therefore, not illustrated in detail herein, the same being more fully illustrated in the patent to Kaufman, No. 827,022, dated the 24th day of July, 1906, and in the pending application of Joseph A. Kraker, Serial No. 821393, 110

filed February 27, 1914, and in the applica-
 tion of Harvey G. Craig, Serial No. 821358,
 filed February 27, 1914. The said bar 3 is
 adapted to be forced against the ink-sack 2
 5 to collapse the latter against the resistance
 offered by the elasticity of said sack and
 against the action of the spring 4 support-
 ing said bar within the barrel, by means of
 the lever 5, which is pivotally mounted be-
 10 tween its ends in a longitudinal slot 6 in the
 barrel 1 of the pen between the ends of said
 slot. The said lever 5 is of greater length
 than said slot and is provided at one end
 with a projection 7 engaged in a recess 8
 15 contiguous to one end of the slot and con-
 tacts with the bottom of said recess, the
 latter constituting a stop for limiting the
 movement of the lever in one direction.
 The said lever is provided at its other end
 20 portion on opposite sides with flanges 9
 which extend from the opposite end of the
 lever to a point contiguous to the pivot 10
 thereof. The last-named ends 11 of said
 flanges are adapted to engage the inner wall
 25 of the barrel 1 on either side of said slot 6
 to limit the movement of the lever in the
 other direction, the total movement of said
 lever being substantially through an arc of
 ninety degrees. When the projection 7 con-
 30 tacts with the bottom of the recess 8, the
 lever is in its so-called closed position and
 when the ends of the flanges 9 contact with
 the inner wall of the barrel on either side of
 said slot 6, the lever is in its so-called open
 35 position and is shown in said position in
 dotted lines in Fig. —1—. Secured in any
 suitable manner to the inner face of the lever
 contiguous to the end thereof provided
 with said projection 7 is a flat spring 12,
 40 which extends substantially to the ends 11
 of said flanges 9, or to a point contiguous to
 the pivot 10 of said lever and normally lies
 upon the inner face of said lever over the
 entire length of said spring. In the in-
 45 stance illustrated said spring 12 is secured
 to the lever by means of the rivets 13, but
 obviously the same may be otherwise se-
 cured without departing from the inven-
 tion.

50 Spanning the slot 6 contiguous to the pivot
 and between the same and the secured end
 of the spring 12 is a pin 14 against which
 the free end portion of the spring 12 bears
 to yieldingly hold the projection 7 in con-
 55 tact with the bottom of the recess 8 and like-
 wise to hold the flanges 9 in contact longi-
 tudinally with the inner wall of the barrel
 on either side of said slot 6. The said pin
 serves to normally maintain the spring 12
 60 slightly separated at its inner end from the
 face of the lever, or in other words, out of
 its normal position, thus causing the secured
 end of the spring to draw the contiguous
 end of the lever into the slot to hold the
 65 said projection 7 in contact with the bottom

of said recess 8. It will be obvious, of
 course, that the said stop consisting of the
 bottom of said recess 8 may be omitted as
 the flanges 9 will afford a sufficient stop to
 limit the inward movement of the lever and
 70 vice versa, the said flanges 9 may be omitted
 as a stop for limiting the inward movement
 of the lever and only the stop formed by
 the bottom of the recess 8 may be used for
 that purpose. The said spring 12 will re-
 75 sist movement of the lever to open position
 until the said lever has been turned through
 an arc greater than the angle formed be-
 tween a line intersecting the axis of its
 pivot and the axis of said pin 14 and a line
 80 perpendicular to the axis of the barrel 1
 intersecting the axis of said pivot 14, and
 thereafter said spring will act to auto-
 matically turn said lever to the open posi-
 tion indicated in dotted lines in Fig. —1—. 85
 In turning the lever to closed position the
 spring will similarly resist the movement
 thereof until said lever has turned through
 an arc equaling its total movement less
 the angle previously referred to, and there-
 90 after it will automatically return the lever
 to its closed position. The said spring acts
 in conjunction with the pivot pin 10 and
 the pin 14 similarly to the spring of a
 pocket knife and is ordinarily termed a 95
 "jack-knife spring." The spring may be
 of any suitable form in cross-section, and
 may be secured in any suitable manner to
 the lever. The same may also be applied
 to a lever devoid of the flanges 9 or similar 100
 stop for limiting the opening movement of
 the lever, and as shown in Figs. —3— and
 —4—, the inner end of the spring may be
 provided with a flange 15 which engages
 the pin 14 as the lever attains its open posi- 105
 tion and serves as a stop for limiting
 further movement of said lever in that di-
 rection.

The lever 5, illustrated in Figs. —1— and
 —2— and the lever 16 illustrated in Figs. 110
 —3— and —4— are shown as composed of
 a block of metal, but the same may also be
 made of sheet metal as illustrated in detail
 in Figs. —6— and —7—, the body of the
 lever 16 there shown being U-shaped in cross 115
 section and the respective flanges thereof
 provided with outwardly extending flanges
 18 corresponding to the flanges 9 illustrated
 in Figs. —1— and —2—. As shown in Fig.
 —6—, the spring 17 used may be secured to 120
 the lever by inserting the outer end of the
 spring between the flanges 19 of the body
 of the lever and pinching the same therein
 by contracting said end of said lever. The
 said flanges 19 of the lever may also, as illus- 125
 trated in Fig. —7—, be provided with pro-
 jections 20 integral therewith between which
 the flat spring 21 is received and which will
 bend over upon the same to secure it to the
 lever. The construction may be further 130

modified as shown in Figs. —8— and —9—, in which there is mounted in the slot 6 in the barrel 1 a member 22 provided with a projection 23 extending from one end thereof midway between its side faces beyond the pivot 24 of the lever 25 and into the slot 26 in the opposed end of the latter and into engagement with the spring 27 carried by said lever 25. The said lever is provided at one side of each of the arms bordering the slot 26 therein with a flange 28 corresponding to one of the flanges 9, shown in Figs. —1— and —2— or one of the flanges 18 shown in Figs. —6— and —7—. The invention may be further modified within the skill of the mechanic without departing from the invention as defined in the appended claims.

I claim as my invention:

1. In a fountain pen, having a barrel and a collapsible ink-sack, the combination with a bar for collapsing the ink-sack, of a lever fulcrumed in a slot in the barrel and adapted to be turned to force said bar against said sack to collapse the latter, of a spring carried by said lever, and a projection on the barrel disposed in the path of said spring for resisting the pivotal movement of said lever from open to closed position and vice-versa, said projection and said spring coacting to yieldingly hold said lever in either of said positions.

2. In a fountain pen, having a barrel and a collapsible ink-sack, the combination with a bar for collapsing the ink-sack, of a lever fulcrumed in a slot in the barrel and adapted to be turned to force said bar against said sack to collapse the latter, of a bar-spring carried by said lever and extending substantially parallel with one face thereof, a projection on the barrel engaged by said spring for yieldingly holding the lever in closed position, said projection disposed farther from the pivot of said lever than the nearest point in the spring and adapted when said lever is turned to force the spring outwardly therefrom until the arc of movement of the lever exceeds the angle formed between a line perpendicular to the spring intersecting the pivot of said lever when the latter is in open or closed position and a line intersecting the axes of said pivot and said projection, whereupon said spring will coact with said projection to complete the movement of said lever through an arc of approximately ninety degrees.

3. In a fountain pen, having a barrel and a collapsible ink-sack, the combination with a bar for collapsing the ink-sack, of a lever fulcrumed in a slot in the barrel and adapted to be turned to force said bar against said sack to collapse the latter, of a bar-spring secured at one end to one end of said lever, a projection in the slot in the barrel interposed between the lever and the free end portion of the spring and nearer one end of

said slot than the pivot of said lever, said spring engaging said projection to hold the lever in closed position and adapted to yieldingly resist movement of said lever from closed to open position and vice-versa until the latter has traveled through a given arc.

4. In a fountain pen, having a barrel and a collapsible ink-sack, the combination with a bar for collapsing the ink-sack, of a lever fulcrumed in a slot in the barrel and adapted to be turned to force said bar against said sack to collapse the latter, of a bar-spring secured at one end to one end of said lever, and normally bearing at its other end portion upon the other end portion of the bar, a projection within the slot engaging the face of the spring opposing the lever at a point between the pivot of said lever and one end of the same, said projection holding said spring out of normal position whereby the same yieldingly holds said lever in closed position.

5. In a fountain pen, having a barrel and a collapsible ink-sack, the combination with a bar for collapsing the ink-sack, of a lever fulcrumed in a slot in the barrel and adapted to be turned to force said bar against said sack to collapse the latter, of a bar-spring secured at one end to one end of said lever, and normally bearing at its other end portion upon the other end portion of the bar, a projection within the slot engaging the face of the spring opposing the lever at a point between the pivot of said lever and the end thereof to which said spring is secured, and a stop for limiting the pivotal movement of said lever, said stop and said projection relatively disposed to maintain said spring out of its normal position whereby to hold the lever in engagement with said stop.

6. In a fountain pen, having a barrel and a collapsible ink-sack, the combination with a bar for collapsing the ink-sack, of a lever fulcrumed in a slot in the barrel and adapted to be turned to force said bar against said sack to collapse the latter, and stops for limiting the pivotal movement of said lever in both directions, of a bar-spring secured at one end to one end of said lever, a projection in the slot in the barrel interposed between the lever and the free end portion of the spring and nearer one end of said slot than the pivot of said lever, said spring engaging said projection to hold the lever in engagement with one of said stops and adapted to yieldingly resist movement of said lever from closed to open position and vice-versa until the latter has traveled through a given arc.

7. In a fountain pen, having a barrel and a collapsible ink-sack, the combination with a bar for collapsing the ink-sack, of a lever fulcrumed in a slot in the barrel and adapted to be turned to force said bar against said sack to collapse the latter, and stops for

limiting the pivotal movement of said lever in both directions, of a bar-spring secured at one end to one end of said lever, and normally bearing at its other end portion upon the other end portion of the bar, a projection within the slot engaging the face of the spring opposing the lever at a point between the pivot of said lever and the end thereof to which said spring is secured, and a stop for limiting the pivotal movement of said lever, said stop and said projection relatively disposed to maintain said spring out of its normal position whereby to hold the lever in engagement with said stop.

8. In a self-filling fountain pen provided in its barrel with a longitudinal slot, a lever fulcrumed between its ends within and between the ends of said slot, a spring secured at one end to said lever and normally bearing at its other end upon the same, and means on the barrel interposed between the last-named end of said spring and said lever and disposed contiguous to the fulcrum of the latter and coacting therewith to yieldingly hold said lever in either of two positions.

9. In a self-filling fountain pen, a sack-collapsing lever fulcrumed in a slot in the barrel thereof and adapted to lie with one edge flush with a wall of the latter when open and to extend substantially transversely thereto when open, a spring secured at one end to one end of said lever, the other end thereof being free and normally bearing upon said lever, and a projection on the barrel interposed between the free end of said spring and said lever and positioned relatively to the pivotal axis of the latter so that a line intersecting said pivotal axis and projection will intersect the normal arc of movement of said lever from one of said positions thereof to the other between the ends of said arc, whereby said spring will act to yieldingly maintain said lever in either its aforesaid open or closed position.

10. In a self-filling fountain pen having a longitudinally slotted barrel, a sack-collapsing lever pivotally secured between its ends within said slot and provided at one end with a lateral projection for engaging the inner wall of said barrel for limiting the arc of movement of said lever relatively to said barrel, a spring carried by said lever,

and a projection carried by the barrel and engaged by said spring and coacting with the latter and said lateral projection on said lever for yieldingly holding the latter in its respective aforesaid positions.

11. In a self-filling fountain pen having a longitudinally slotted barrel, a lever pivotally mounted between its ends in the slot in said barrel, an ink-sack and sack-collapsing means within the barrel, the latter adapted to be actuated to collapse the sack by a movement of said lever in one direction, and means including a spring operatively engaged with said lever and said barrel independently of said sack-collapsing means for holding said lever yieldingly in either of two positions.

12. A fountain pen including a barrel having a longitudinal slot, a lever pivotally mounted between its ends in said slot and adapted to engage said barrel at one limit of its pivotal movement in one direction, and a jack-knife spring associated with and engaging said lever and barrel and secured to one of said parts for throwing the said lever into either of two positions and there holding the same after said lever has been turned through an arc exceeding one-half its normal movement.

13. A fountain pen including a barrel having a longitudinal slot, a lever pivotally mounted between its ends in said slot and adapted to engage said barrel at one limit of its pivotal movement in one direction, a spring associated with said lever and barrel and secured to one of said parts, a fulcrum member rigid with the other of said parts and engaged by said spring between its ends, and adapted to slide longitudinally thereof as said lever is turned, said fulcrum member disposed contiguous to the pivot of said lever and acting, as the latter is turned on said pivot, to force said spring outwardly from said pivot as the lever approaches a point midway between the limits of its movement.

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

GEORGE M. KRAKER.

Witnesses:

ALBERT SCHEIBLE,
M. M. BOYLE.