

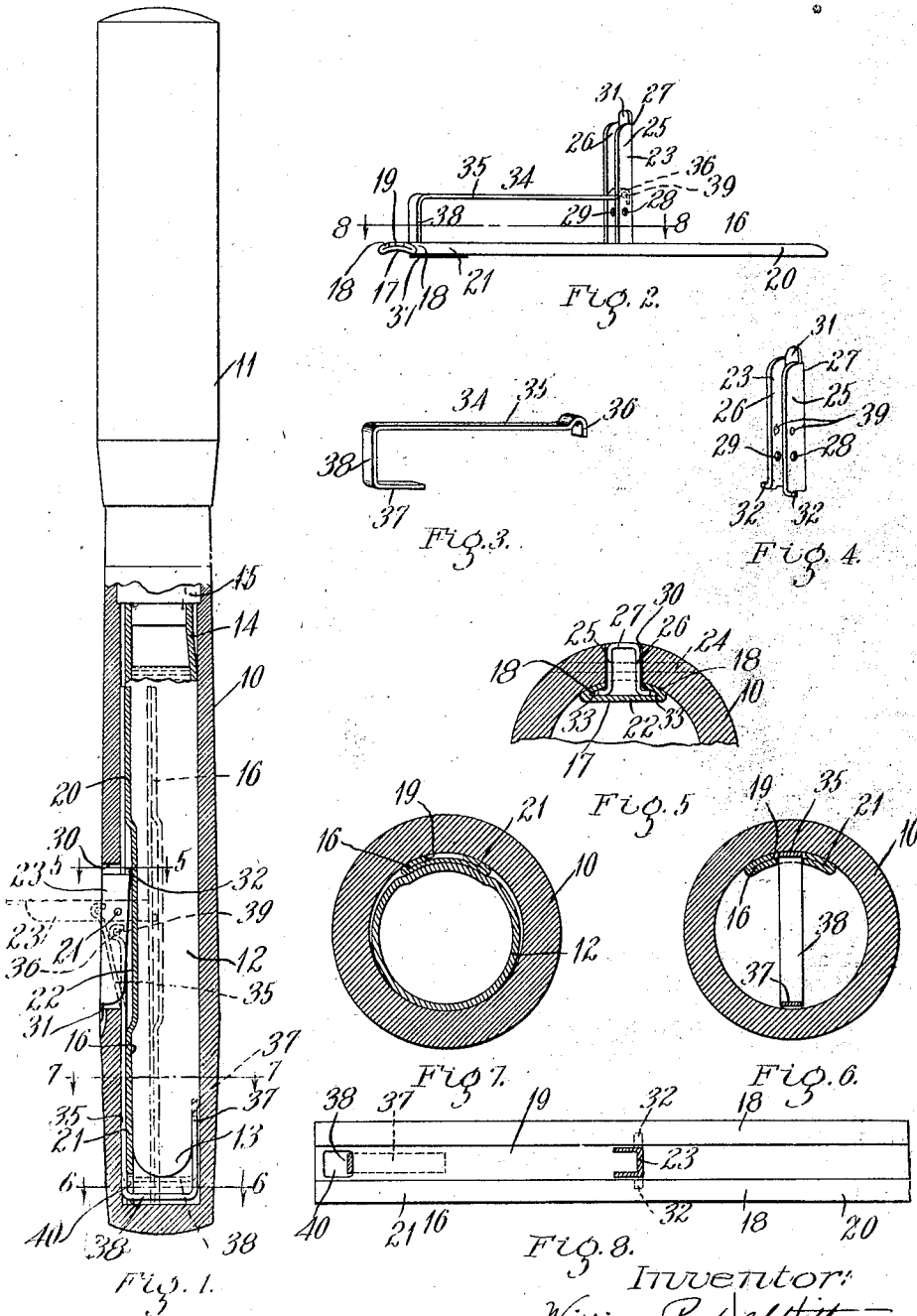
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W. P. DE WITT

FOUNTAIN PEN, LEVER FILLER

Filed March 22, 1923



Inventor:
William P. De Witt,
by his attorney,
Charles S. Gooding.

UNITED STATES PATENT OFFICE.

WILLIAM P. DE WITT, OF SOMERVILLE, MASSACHUSETTS.

FOUNTAIN PEN, LEVER FILLER.

Application filed March 22, 1923. Serial No. 626,963.

To all whom it may concern:

Be it known that I, WILLIAM P. DE WITT, 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, Lever Fillers, of which the following is a specification.

This invention relates particularly to the mechanism for compressing the ink sack of a fountain pen and the novelty of the invention resides particularly in the manner in which the spring is connected to the lever and to the presser whereby the lever is locked against opening movement beyond a right angle to the presser bar.

The invention further consists in certain specific details of construction of the presser and of the lever by which it is operated.

The invention further consists in the combination and arrangement of parts set forth in the following specification and particularly pointed out in the claims thereof.

Referring to the drawings:

Figure 1 is a sectional elevation of a fountain pen embodying my improved sack compressing mechanism.

Fig. 2 is a perspective view of the presser, the lever by which it is operated and the spring which controls the lever.

Fig. 3 is a perspective view of the lever spring.

Fig. 4 is a perspective view of the lever.

Fig. 5 is an enlarged detail section taken on the line 5—5 of Fig. 1.

Fig. 6 is another detail section taken on line 6—6 of Fig. 1.

Fig. 7 is a detail section taken on the line 7—7 of Fig. 1.

Fig. 8 is a detail sectional plan taken on the line 8—8 of Fig. 2, and particularly illustrating the presser for the ink sack.

Like numerals refer to like parts throughout the several views of the drawings.

In the drawings, 10 is the casing of a fountain pen and 11 the cap therefor. 12 is an ink sack of well known construction which has a closed end 13 and an open end 14 connected to a stationary member 15. 16 is a presser for the sack 12 and comprises a strip of sheet material consisting of a base 17 and a pair of oppositely disposed flanges 18 extending longitudinally thereof and also extending toward each other and above the base 17, the adjacent edges of the flanges being spaced apart to form a slot 19. The

base 17 is concavo-convex transversely thereof at the opposite end portions 20 and 21 and between the end portions 20 and 21 the base is made flat as at 22, so that relatively to the casing of the pen the base of the presser has a depressed portion 22 intermediate the end portions 20 and 21 thereof.

This intermediate portion 22 being flat forms a suitable bearing for the free end of a lever 23 to bear against when said lever is in the position illustrated in dotted lines, Fig. 1, and at that time the ink sack 12 is under compression. The lever 23 is pivotally mounted upon a pin 24 which extends transversely of the casing 10. Said lever is U-shaped in cross section and consists of two side portions or flanges 25 and 26 joined together by a cross piece 27, it being understood that the flanges 25 and 26 and the cross piece 27 are preferably integral, the lever being stamped out of sheet material. The pivot 24 extends through holes 28 and 29 in the flanges 25 and 26 respectively and into the wall of the casing 10 on opposite sides of a slot 30 in which the lever is normally positioned. At one end of the lever the cross piece 27 is formed to provide a finger piece 31. At the other end of the lever a pair of oppositely disposed ears 32 is provided and these ears project into the spaces 33 between the flanges 18 and the base 17 as illustrated in Fig. 5.

It will also be noted that the lever 23 is of such width as to form a loose fit in the slot 19 and thereby assists in positioning the presser against lateral movement relatively thereto. A spring 34 is provided for controlling the lever 23 and this spring is preferably formed of sheet metal and consists of an arm 35 which terminates at its free end in a hook 36. Another arm 37 and a cross piece 38 join together with the arm 35 and form a U-shaped end for the spring at that end thereof opposite to the hooked end of arm 36. The spring 34 is positioned in the rear end of the casing as illustrated in Fig. 1, the arm 35 projecting forwardly from the rear end of the casing and into the U-shaped lever 33, the hook 36 engaging a pair of oppositely disposed inwardly extending projections 39, and by this means the spring is pivotally connected at its hooked end to the lever 23 between the pivot 24 and the rear end of the lever when said lever is in its normal position, as illustrated in full lines, Fig. 1.

The cross bar 38 of the spring projects through the slot 19 and also through a hole 40 in the base of the presser as illustrated in Figs. 1 and 8. The end portions 20 and 21 of the base of the presser are made concavo-convex in order that they may take up as little space in the casing as possible and thus allow the sack to expand to the greatest possible extent and to this end the flanges 18 lie in close proximity to the base along the end portions 20 and 21.

The general operation of the device hereinbefore specifically described is as follows:—Assuming the different parts to be in the relative positions illustrated in full lines in Fig. 1 and it is desired to fill the sack with ink, the lever 23 is moved from the position illustrated in Fig. 1 in full lines to the position shown therein in dotted lines. This causes the end of the lever upon which the ears 32 are located, to force the presser 16 against the ink sack and laterally of the casing, thus expelling air from the ink sack in order that upon returning the lever from the position shown in dotted lines to its normal position shown in full lines, Fig. 1, the ink may enter the sack in a manner well known to those skilled in this art.

When the lever 23 is tipped from the position shown in full lines in Fig. 1 to the dotted position, the spring 34 will be moved from the position shown in full lines in said figure to the position shown in dotted lines, the hole 40 in the base of the presser allowing the spring to slide forwardly in the casing as illustrated. It will be seen that the spring arm 35 with its hooked end 36 will lock the lever in its dotted position against movement beyond a right angle to the axial line of the casing, and when the lever is in its normal position illustrated in full lines in Fig. 1, the hooked end of the spring arm 35 will also lock the lever in this position, that is, it will lock the lever in its open position against further movement toward the front and it will lock the lever in its closed position against accidental displacement.

In assembling the parts hereinbefore described, the spring is attached to the presser by inserting the short arm 37 and cross piece 38 through the hole 40 in the base of the presser and the arm 35 of the spring will then lie in the slot 19 of said presser. The lever 23 is then positioned in the presser as follows:—The lever 23 is inserted in the slot 19 with the ears 32 extending longitudinally of the presser. The lever is then turned until the ears 32 project between the flanges 18 and the base 17 as illustrated in Fig. 5. The hooked end 36 is then connected to the lever by hooking it over the inwardly extending projections 39 and the three parts, namely the presser, the lever and the spring are then connected together so that they can be slipped into the casing 10 to the relative po-

sitions illustrated in Fig. 1 and the pivot 24 is inserted through the flanges 25 and 26 and casing 10, whereupon the ink sack 12 and the member 15 to which it is attached are then inserted in the casing 10 and the parts are then in readiness for operation.

I claim:

1. A fountain pen having, in combination, a casing, a sack of flexible material adapted to contain liquid and enclosed within said casing, open at one end thereof and closed at the opposite end, a presser located within said casing and arranged to bear against said sack, a lever adapted to engage said presser, a pivot connecting the lever to said casing which normally is positioned in a slot provided in the wall of said casing and a spring positioned in said casing and pivotally connected at one end thereof to said lever at a point removed from its pivot.

2. A fountain pen having, in combination, a casing, a sack of flexible material adapted to contain liquid and enclosed within said casing, open at one end thereof and closed at the opposite end, a presser located within said casing and arranged to bear against said sack, a lever adapted to engage said presser, a pivot connecting the lever to said casing which normally is positioned in a slot provided in the wall of said casing and a spring positioned in said casing, one free end thereof terminating in a hook and pivotally connected to said lever at a point removed from its pivot.

3. A fountain pen having, in combination, a casing, a sack of flexible material adapted to contain liquid and enclosed within said casing, open at one end thereof and closed at the opposite end, a presser located within said casing and arranged to bear against said sack a lever adapted to engage said presser a pivot connecting the lever to said casing which normally is positioned in a slot provided in the wall of said casing and a spring positioned in said casing pivotally connected at one end thereof to said lever at a point removed from its pivot and extending rearwardly therefrom and terminating in a U-shaped portion adjacent the rear end of said casing.

4. A fountain pen having, in combination, a casing, a sack of flexible material adapted to contain liquid and enclosed within said casing, open at one end thereof and closed at the opposite end, a presser located within said casing and arranged to bear against said sack, a lever adapted to engage said presser, a pivot connecting the lever to said casing and a spring positioned in said casing pivotally connected at one end thereof to said lever at a point removed from its pivot and extending rearwardly therefrom and terminating in a U-shaped portion adjacent the rear end of said casing, the cross

piece of said U-shaped portion projecting through a hole in said presser.

5 5. A fountain pen having, in combination, a casing, a sack of flexible material adapted
 10 to contain liquid and enclosed within said casing, open at one end thereof and closed at the opposite end, a presser located within
 15 said casing and arranged to bear against said sack, a lever adapted to engage said
 20 presser, a pivot connecting the lever to said casing, and a spring terminating at one end thereof in a hook and pivotally connected
 25 thereby to said lever between the pivot of said lever and the rear end thereof, the opposite end of said spring terminating in a
 30 U-shaped portion adjacent the rear end of said casing and projecting through a hole provided in said presser.

6. A fountain pen having, in combination,
 20 a casing, a sack of flexible material adapted to contain liquid and enclosed within said casing, open at one end thereof and closed
 25 at the opposite end, a presser located within said casing and arranged to bear against said sack, a lever U-shaped in cross section
 adapted to engage said presser, a pivot connecting the lever to said casing which nor-

mally is positioned in a slot provided in the wall of said casing and a spring positioned
 in said casing, one end thereof projecting 30
 into said U-shaped lever and pivotally connected thereto at a point removed from said
 pivot, said spring extending rearwardly
 from said lever and terminating in a U-
 shaped portion adjacent the rear end of said 35
 casing.

7. An ink sack presser for fountain pens comprising a strip of sheet material consisting of a base and a pair of oppositely
 disposed flanges extending longitudinally 40
 thereof and extending toward each other above said base, their adjacent edges being
 spaced apart, said base being concavo-convex transversely thereof at its opposite end
 portions and flat at the central portion 45
 thereof.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

WILLIAM P. DE WITT.

Witnesses:

CHARLES S. GOODING,
 FRANKLIN E. LOW.

Certificate of Correction.

It is hereby certified that Letters Patent No. 1,490,735, granted April 15, 1924, upon the application of William P. De Witt, of Somerville, Massachusetts, for an improvement in "Fountain Pens, Lever Fillers," were erroneously issued to the inventor, said De Witt, whereas said Letters Patent should have been issued to *De Witt-La France Company, Cambridge, Massachusetts, a Corporation of Massachusetts*, said corporation being owner of the *entire interest* in said invention, as shown by the records of assignments in this office; and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 5th day of August, A. D. 1924.

[SEAL.]

WM. A. KINNAN,
Acting Commissioner of Patents.