

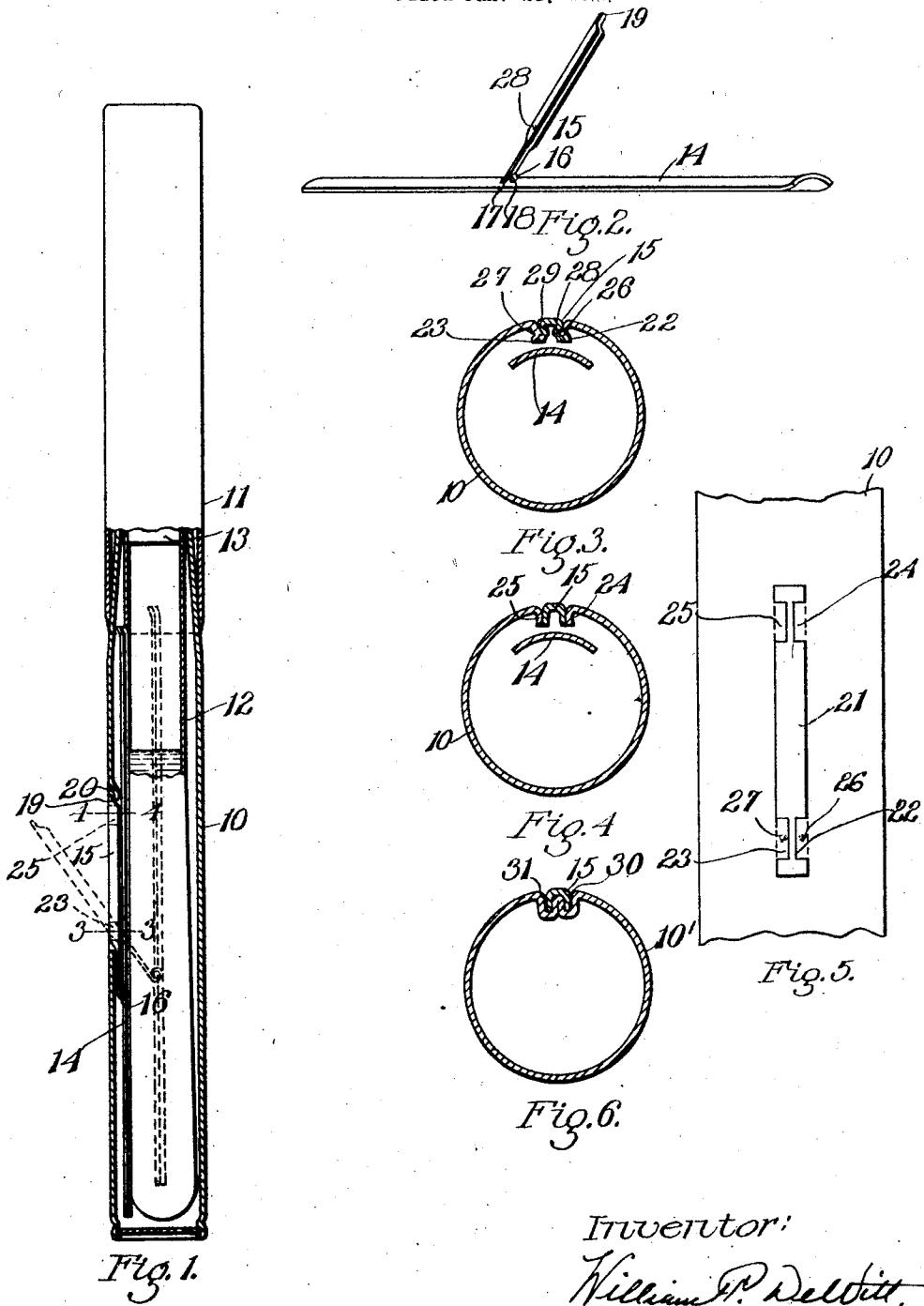
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W. P. DE WITT

LEVER FILLER FOR FOUNTAIN PENS WITH METAL CASINGS

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Inventor:

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UNITED STATES PATENT OFFICE.

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LEVER FILLER FOR FOUNTAIN PENS WITH METAL CASINGS.

Application filed January 21, 1922. Serial No. 530,742.

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 Lever Fillers for Fountain Pens with Metal Casings, of which the following is a specification.

This invention relates particularly to means for compressing the ink holding sack of a fountain pen, the object of the invention being to provide a cheap and easily constructed device, whereby the lever which actuates the presser may be pivotally and detachably connected directly to the casing without the necessity of any holes being drilled in the casing, or any pivotal pins being used.

The object of the invention is further to provide a device of the character set forth which can be struck up out of sheet material by certain tools, thus greatly reducing the expense and adding to the accuracy of the device.

The device of this invention is particularly adapted to be used in connection with metal casings for fountain pens in which a very thin wall of metal constitutes the casing and it is one of the objects of the invention to provide a device for the compression of the ink sack which will occupy a minimum amount of space in the casing and will embody the smallest possible number of parts.

In the device of this invention the part of the metal constituting the casing, which would otherwise be wasted in blanking out space for the sack compressing lever, is utilized as a hinge or pivot for the lever at one end thereof and as a lock to hold the lever in closed position at its opposite end.

The invention consists in a fountain pen having a metal casing and a sack compressing lever, one of said parts having a projection or projections extending transversely thereof and projecting into a recess or recesses provided in the other of said parts, whereby the lever is pivoted directly to the casing. Preferably the projection or projections are formed integral with the casing and the lever is made U-shaped in cross section. The invention further consists in providing the casing with an ear or a pair of ears projecting into the casing and pro-

vided with projections extending transversely of the casing and into recesses provided in the lever, whereby the lever is pivoted directly to the casing.

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 an elevation of a fountain pen and cap partly broken away and shown in section.

Fig. 2 is a perspective view of the sack compressor bar and the lever by which it is actuated.

Fig. 3 is a sectional elevation enlarged and taken on line 3—3, Figure 1.

Fig. 4 is a sectional elevation enlarged taken on line 4—4, Figure 1.

Fig. 5 is a plan view of a portion of the casing showing the slot which receives the lever prior to the operation whereby the ears are bent inwardly.

Fig. 6 is a sectional elevation illustrating a modified form of construction.

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

In the drawings, 10 is the casing of the fountain pen and 11 the cap. The casing and cap are both preferably formed of metal. 12 is a sack adapted to contain ink and 13 is a pen section to which the open end of the sack is attached in the manner well known to those skilled in this art. 14 is a presser bar which is pivotally connected to a lever 15 by a hook 16 formed on the end of said lever and projecting through two slots 17 and 18 provided in the presser bar 14. The lever 15 is U-shaped in cross section and it is provided with a finger piece 19 at its free end, which, when the lever is in its normal or closed position, as illustrated in Figure 1, projects into a recess formed in the casing 10, whereby convenient access is supplied to the user of the pen to manipulate the lever and move it from its closed position, as illustrated in Figure 1 in full lines, to its open position illustrated in dotted lines, Figure 1. A slot 21, see Fig. 5, is punched out of the casing, leaving ears 22, 23, 24 and 25 upon the casing and projecting into said slot. The ears 22 and 23 are at the same time provided with projections 26 and 27, said projections being

struck up outwardly when the ears 22 and 23 are in the position illustrated in Fig. 5, said ears are then bent inwardly to assume the relative positions illustrated in Fig. 3.

5 The ears 24 and 25 are also bent inwardly as illustrated in Fig. 4 and these ears engage the opposite sides of the U-shaped lever 15 and form a frictional locking means therefor when said lever is in closed position.

10 The lever 15 is provided with oppositely disposed indentations 28 and 29 struck up in the metal and adapted to receive respectively the projections 26 and 27 provided on the ears 22 and 23 as illustrated in Fig. 3.

15 The general operation of the device hereinbefore described is as follows:—Assuming the parts to be in the relative positions illustrated in Figure 1 and it is desired to fill the sack 12 with ink, the lever 15 is

20 pulled outwardly from the position shown in full lines, Figure 1, to the position shown in dotted lines, this operation being rendered easy and convenient by the construction hereinbefore described. When the lever

25 15 is thus operated the end 16 of said lever, which is pivotally connected to the presser 14 will force said presser inwardly and thus compress the sack. The pen is then inserted in the ink and the lever moved from

30 the dotted line to the full line position in Figure 1, whereupon the partial vacuum in the sack 12, caused by the operation of the lever hereinbefore set forth, will cause the ink to flow from its receptacle into the

35 sack in a manner well known to those skilled in this art.

It is evident that when the lever 15 is in closed position the ears 24 and 25 will press against the opposite sides of said lever and

40 lock the lever in closed position by friction.

In Fig. 6 a modified form of construction is illustrated wherein the opposite sides of the U-shaped lever 15 project into recesses

45 30 and 31 formed in a casing 10', whereby the lever is held in closed position by the casing projecting upwardly between the two sides of the lever.

In the foregoing specification the presser bar 14 is described as being pivotally connected to the lever 15 by means of a hook and the presser bar is, therefore, in this embodiment of my invention, supported upon the lever. It is evident, however, that without departing from the spirit of my invention the presser bar may be connected to

55 or supported upon the casing of the pen 10 in any desirable manner, as for example, in the manner illustrated in United States patent to S. Josselyn, No. 1,214,310, June 30,

60 1917 and if such a construction were used the free end 16 of the lever 15 would bear against the outer face of the presser bar instead of being connected to it.

It is evident that instead of the projections 26 and 27 being formed upon the ears

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22 and 23 and projecting into recesses 28 and 29 in the opposite sides of the lever 15, that the projections may be provided upon the lever and said projections may then project into recesses or indentations in the ears

70 26 and 27 without departing from the spirit of my invention.

I claim:—

1. A fountain pen having, in combination, a metal casing provided with a slot, an ear on said casing extending transversely thereof and projecting thereinto, at one side of said slot and a lever normally positioned in said slot, one of said last-named parts having a projection constituting a pivot thereon projecting into a recess provided in the other of said last-named parts and within the bore of said casing, whereby said lever is pivotally mounted directly on said casing and secured thereto.

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2. A fountain pen having, in combination, a metal casing provided with a slot, a pair of ears on said casing extending transversely thereof and projecting thereinto on opposite sides of said slot, a lever and a pair of oppositely disposed projections on said ears projecting into oppositely disposed recesses in said lever, whereby said lever is pivotally mounted directly on said casing.

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3. A fountain pen having, in combination, a metal casing provided with a slot, a pair of ears on said casing located upon opposite sides of said slot at one end thereof and projecting into said casing, a lever, and a pair of oppositely disposed projections on said ears projecting into oppositely disposed recesses in said lever whereby said lever is pivotally mounted directly on said casing and a pair of ears on said casing projecting thereinto at the opposite end of said slot and adapted to engage opposite sides of said lever to lock the same in closed position on said casing.

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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 and normally positioned in a slot provided in the wall of said casing and ears on said casing extending transversely thereof and projecting thereinto and constituting pivots for said lever.

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5. A fountain pen having, in combination, a metal casing provided with a slot, a pair of ears integral with said casing located on opposite sides of said slot and projecting into said casing, a lever U-shaped in cross-section and a pair of oppositely disposed projections on said ears projecting into oppositely disposed recesses in the opposite sides of said lever, whereby said lever is pivotally mounted on said casing.

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6. A fountain pen having, in combination, a metal casing provided with a slot, a pair of ears on said casing integral therewith and projecting thereinto on opposite sides of said slot adjacent one end thereof, a lever U-shaped in cross section and a pair of oppositely disposed projections on said ears projecting into oppositely disposed recesses provided in the opposite sides of said lever whereby said lever is pivotally mounted on said casing and another pair of ears on said casing integral therewith and projecting thereinto on opposite sides of said slot at the opposite end of said slot and adapted to engage the opposite sides of said lever when the same is in closed position and hold it frictionally locked to said casing.

7. In a self-filling fountain pen, an ink

reservoir shell formed of sheet metal, portions of said sheet metal being bent inwardly of the shell providing an opening through the shell and flanges at opposite sides of said opening, and a lever extending through said opening, said lever and flanges having parts which are integral therewith providing bearings and pivot extensions engaging within the bearings whereby the lever is pivotally mounted between said flanges.

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

WILLIAM P. DE WITT.

Witnesses:

FRANKLIN E. LOW,
KATHRYN M. JOYCE.