May 25, 1926. 1,585,805

J. C. WAHL ET AL

FOUNTAIN PEN

Filed July 15, 1922

Fig. 1

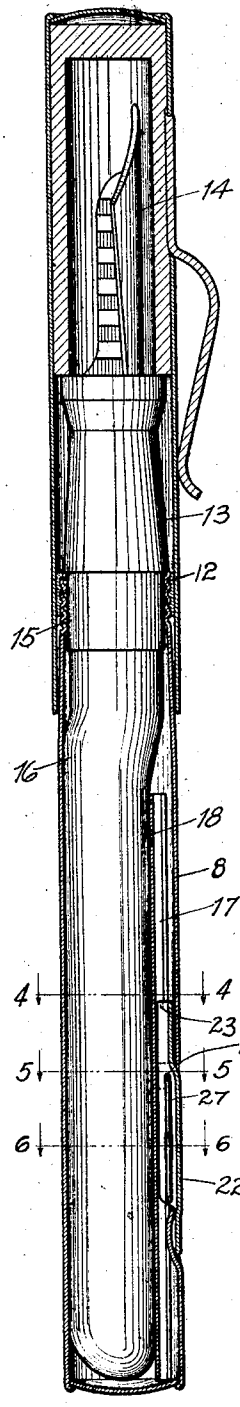


Fig. 3

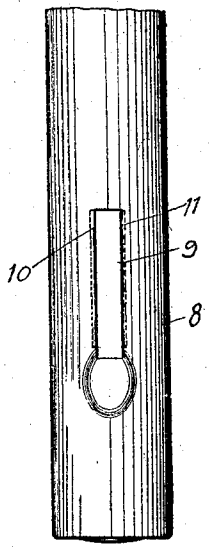


Fig. 2

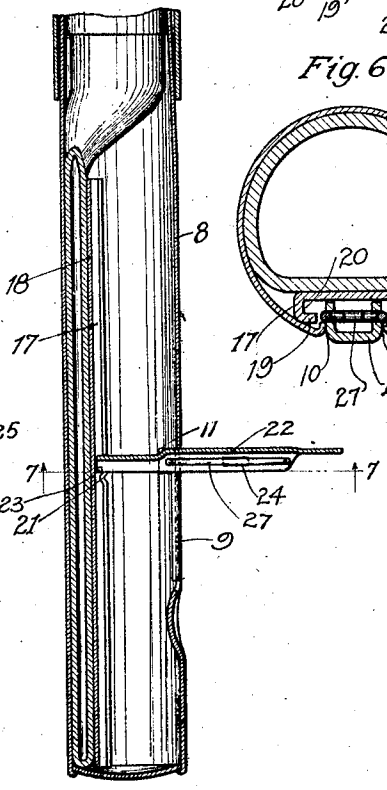


Fig. 4

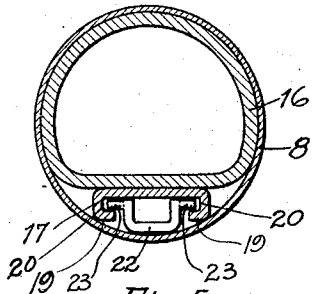


Fig. 5

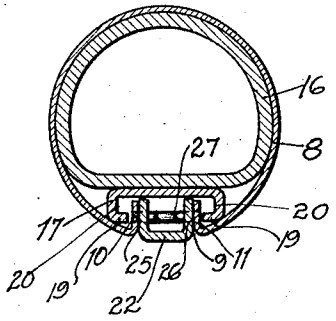
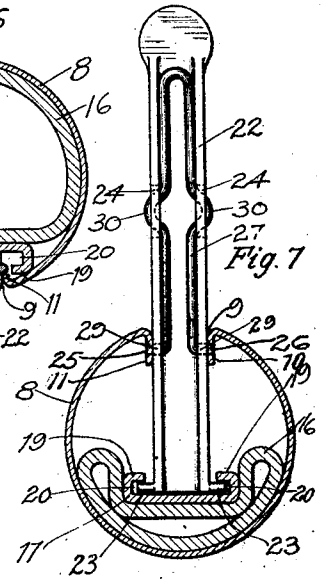


Fig. 6

Fig. 7



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UNITED STATES PATENT OFFICE.

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FOUNTAIN PEN.

Application filed July 15, 1922. Serial No. 575,432.

The invention relates to improvements in fountain pens, or such pen holders in which the pen is supplied with ink from a flexible reservoir mounted in the barrel thereof.

An object of our invention is to provide means for compressing the reservoir which shall be compact and effective, and improved means for holding the lever, which co-operates with the presser bar to deflate the ink reservoir, in closed position independent of the flexibility of said ink reservoir.

A further object of our invention is the provision of a filling device that is simple of construction, durable in use, efficient in operation and inexpensive to manufacture.

The invention consists in certain details in the construction, arrangement and combination of various parts of the device whereby the objects contemplated are attained, as hereinafter more fully set forth, pointed out in the claims, and illustrated in the accompanying drawings in which:

Fig. 1 is a central longitudinal sectional view of a fountain pen embodying my improvement,

Fig. 2 is a central longitudinal sectional view of that part of a fountain pen containing the ink reservoir showing the lever in opened position,

Fig. 3 is a top view of the lever mounted in the pen barrel,

Fig. 4 is a cross sectional view on the line 4—4 of Fig. 1,

Fig. 5 is a cross sectional view on the line 5—5 of Fig. 1,

Fig. 6 is a cross sectional view on the line 6—6 of Fig. 1, and

Fig. 7 is a cross sectional view on the line 7—7 of Fig. 2.

Referring to the drawings, the numeral 8 indicates a pen barrel having a longitudinal slot 9 stamped therein, said pen barrel being deflected inwardly at the forward end by the formation of the corrugations 12 functioning as threads. During the process of forming the heretofore mentioned slot, flanges 10 and 11 located at the forward end of said slot are depressed inwardly, said flanges having aligned apertures 25 and 26 punched therein, the purpose of apertures being more fully described hereinafter. The usual pen section 13 with a pen nib 14 is provided. At the rear end of the pen section 13 is a plug 15 which is adapted to be inserted in the pen barrel 8 and held therein by friction.

Fixedly attached to the plug 15 at the rear end of the open section 13 is an ink reservoir 16, preferably made of rubber, extending practically the entire distance within the barrel 8. Suitable means for conveying the ink from the ink reservoir 16 to the pen nib 14 are provided. Between the outer wall of the ink sack 16 and the inner wall of the casing or barrel 8 is a presser bar 17 comprising a base portion 18 having inturned edges 19 forming the grooves 20. The inturned edges 19 are slightly indented as at 21, the purpose of which is to prevent a further forward movement of the lever 22 after it has acquired a position at right angles with the pen barrel. When the projections 23 at the forward end of the lever 22 which ride in the grooves 20, formed by the inturned edges 19, reach the indentations 21 in the grooves 20, the lever will have reached a position at right angles to the barrel and the ink sack will be completely compressed.

In numerous filling devices used in connection with self-filling fountain pens now on the market, the resiliency of the ink sack when it is filled with ink, is relied upon to hold the lever in closed position. In time, the rubber loses its resiliency, consequently the presser bar which is held against the inner wall of the barrel will drop down and rest upon the ink sack, causing the co-related end of the lever to be pulled down with it and cause the free end of the lever to be raised beyond the circumferential surface of the barrel. In addition to opening the lever, the weight of the presser bar on the ink sack causes an undue pressure to be placed upon it, and our invention is directed to eliminate this feature. Intermediate the free end of the lever 22 and its pivotal connection with the casing, aligned slots 24 are stamped in the sides thereof. A spring wire 27 is first bent centrally of its length thus forming two prongs, the ends of these prongs are bent outwardly so as to engage the aligned apertures 29 in the sides of the lever. At a pre-determined point the prongs are curved outwardly so as to engage the slots 24 in the sides of the

lever 22 in effect forming the projections 30. When the spring wire is thus formed, and the curved portion forming the projections 30 extend through the slots 24 in the sides of the lever and the outwardly bent forward ends pass through the apertures 29 of the sides of the lever, said lever is inserted in the slot 9 at right angles to its final positioning therein, and in turning the lever to its correct position, the projections 23 will engage the grooves 20 formed by the sides of the presser bar, and simultaneously the ends of the spring wire will snap into the apertures 25 and 26 in the flanges 10 and 11 in the slot 9.

Not only will the spring wire form a pivotal connection about which the lever is fulcrumed to depress the ink sack, but also serves the purpose of holding the lever in closed position due to the fact that when the lever is being closed, the projections 30 will come in contact with the sides of the slot 9 and will be pressed inwardly to flush with the sides of the lever, and when that portion of the lever containing the slots passes through the slot 9 in the barrel, the projections 30 will again spring outwardly, thus locking the lever in closed position under the edges of the slot, and will remain so until exterior force is applied.

It is within the conception of applicants that spring wire or spring bar 27 may be utilized not only as shown herein for both pivoting and locking the lever, but may be used without the locking lugs and merely serve to effect a pivoting relation or it may be used without pivot members and with locking members. This matter of single or double service utility is a matter optional with the manufacturer.

While we have illustrated and described the preferred form of construction for carrying our invention into effect, this is capable of variation and modification without departing from the spirit of the invention. We, therefore, do not wish to be limited to the precise details of construction set forth, but desire to avail ourselves of such variations and modifications as come within the scope of the appended claims.

Having described our invention, what we claim as new and desire to secure by Letters Patents is:—

1. In a fountain pen, in combination, a casing, provided with a longitudinal slot therein and with pivot seats adjacent the slot, a lever in the slot, provided with pivot seats therein, a resilient member associated with the lever, fashioned with pivot and locking members, active through the tension of the resilient member to effect seating of the pivot members in the pivot seats respectively, on the lever and the casing, to pivotally relate said members and to effect locked relation between the locking members and the casing when the lever is in closed position.

2. In a fountain pen, in combination, a casing provided with a longitudinal slot therein and with pivot seats adjacent the slot, a lever in the slot, provided with pivot seats therein, a resilient member associated with the lever and functioning with respect thereto and with the casing to effect a permanent pivotal relationing therebetween, and also to effect releasable interlock of the lever with the casing when the former is in closed position.

3. In a fountain pen, in combination, a casing, provided with a longitudinal slot therein and with pivot seats adjacent the slot, a lever in the slot, provided with pivot seats therein and including in its structure depending flange members, the latter having clearance openings therein, a resilient member associated with the lever, comprising parts relatively expansible, said parts being fashioned at spaced distances of their length with pivot and locking members functioning with respect to the lever and casing to cause permanent pivotal relationing therebetween and to effect releasable interlock of the lever with the casing when the former is in closed position.

4. In a fountain pen, in combination, a casing, provided with a longitudinal slot therein and with pivot seats adjacent the slot, a lever in the slot, provided with pivot seats therein and including in its fashioning, depending flange members having transverse slots therein and an expansible spring member tensionally related to the lever and fashioned to provide pivot and locking members normally active, through the tension of the resilient member, to effect seating of said pivot members in the pivot seats, respectively, on the lever and the casing and to effect projection of the locking members through the slots of the lever flanges, whereby a permanent pivoting of the lever, with respect to the casing, is effected and a releasable interlock is established between the lever and the casing when the lever is in closed position.

5. In a fountain pen, in combination, a casing, provided with a longitudinal slot therein, its marginal edges inturned and provided with a pivot seat and a locking edge portion, a lever, fashioned to present lateral downwardly directed flanges, provided with transverse pivot seats and clearance slots, a U-shaped spring member, tensionally disposed between the flanges of the lever, its free ends fashioned to present lateral pivots for register with the pivot seats in the lever and casing, respectively, to establish pivotal relation therebetween and with laterally outturned portions for register with and normal lateral projection through the slots in the flange members to

afford releasable interlock with the casing flange seat when the lever is in closed position.

6. In a fountain pen, in combination, a slotted casing, pivot seating members associated therewith, a lever provided with pivot seats and a flexed spring member tensionally held in the lever provided with pivot and locking members thereon and including a relationing of the spring member to the lever, the casing and the pivot seats, whereby through normal expansive action of the spring, its pivot members will engage the pivot seats respectively in the lever and on the casing and a releasable interlock will establish the resilient action of the spring member between the lever and the casing when the former is in closed position.

7. In a fountain pen, a casing having a longitudinal slot therein, the marginal portions of said slot having pivot seats formed therein, a lever in said slot, said lever having an angular projection on each edge formed with pivot seats to register with the first mentioned pivot seats respectively, a spring like member on said lever having pivot members normally seating in said pivot seats to pivot the lever in the slot, said spring-like member also having a pair of laterally extending projections longitudinally spaced from the pivot seats, and the lever also having a pair of slotted marginal projections longitudinally spaced from the pivot seats to receive the lateral projections on the spring-like member.

8. In a fountain pen, a casing having a longitudinal slot therein, a lever pivotally mounted in said slot, said lever having a pair of flange-like angular projections along its marginal edges, said projections each being provided with an opening, a spring-like member positioned between the said flange-like projections and having lateral extensions which pass through the openings in said flange-like extensions so that when the lever is moved into closed position the lateral extensions on the spring-like member will be moved inwardly a slight distance and then snapped outwardly to releasably lock the lever in closed position.

In witness whereof, we have hereunto subscribed our names.

JOHN C. WAHL.
IVAN D. TEFFT.