

H. L. CARMAN.
SELF FILLING FOUNTAIN PEN.
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1,304,739.

Patented May 27, 1919.

Fig1.

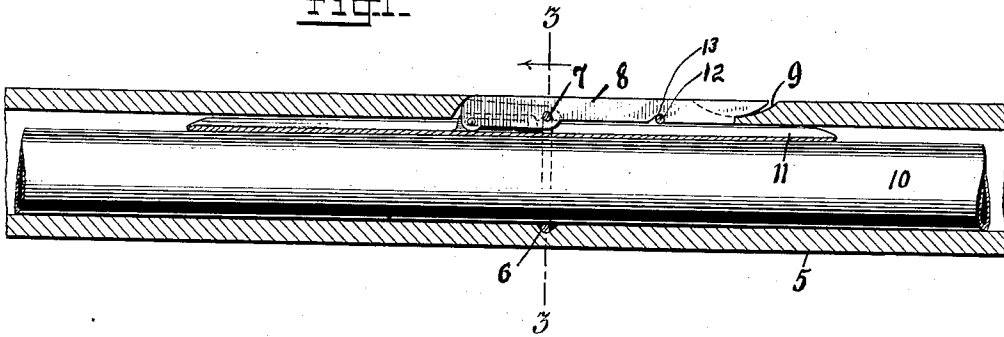


Fig2.

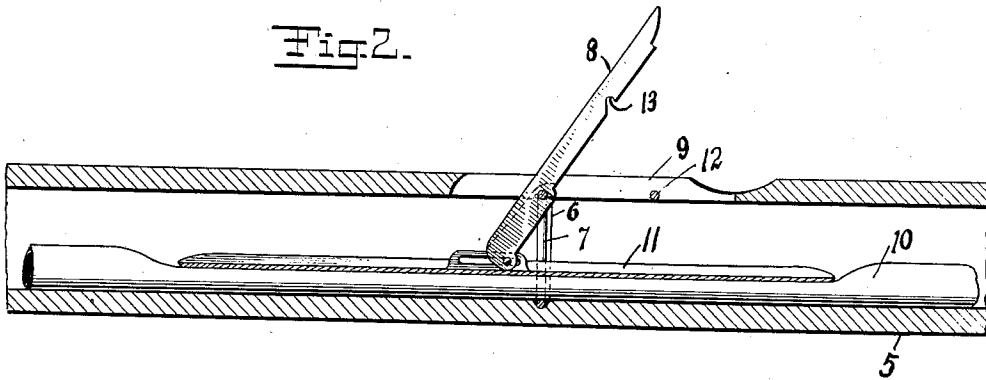


Fig3.

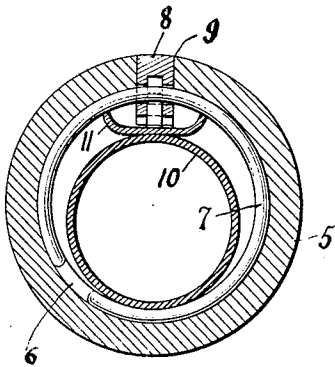
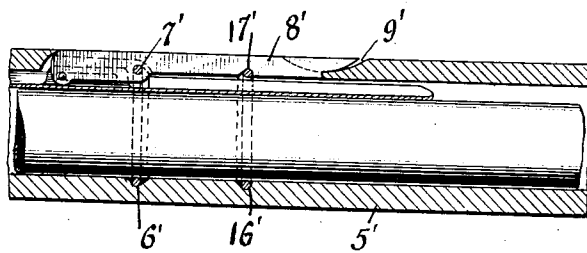



Fig4.



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SELF-FILLING FOUNTAIN-PEN.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, HERBERT L. CARMAN, a subject of the King of England, a resident of the city of New York, county and State of New York, have discovered a new and industrially useful Self-Filling Fountain-Pen, of which the following is a specification.

My invention relates to fountain pen fillers of the type which comprises an elastic ink sack adapted to substantially fill the barrel of the pen, and means for compressing the sack to expel the air preparatory to inserting the nib end of the pen into an ink container. As in most fillers of this type, the pressing means comprise a presser bar lying within the barrel and adapted to be moved against the sack by means which lie exposed in the wall of the barrel.

In pens of this class it is necessary to provide against accidental movements of the pressing means, and this feature forms the subject of my invention, and it is characterized by the provision of means for locking the operating parts of the pressing means in rest position.

An illustrative embodiment of my invention is shown in the accompanying drawings in which—

Figure 1 is a longitudinal sectional view of a fragment of the barrel of a fountain pen equipped with a locking mechanism embodying my invention, the parts being shown in rest position.

Fig. 2 is a similar section showing the operating parts in unlocked position when emptying or filling the elastic sack.

Fig. 3 is a cross section on line 3—3 Fig. 1.

Fig. 4 is a longitudinal sectional view of a fragment of the barrel of a fountain pen showing the modified structure of the locking means.

Referring to the drawings in which the reference numbers indicate the same or corresponding parts in all the figures, and wherein 5 is a pen barrel, provided with an annular inner groove 6, into which an open yielding ring 7, may be snapped. The ring 7 forms the pivot or fulcrum of a lever 8. The barrel 5 has a slot 9 housing the lever. It also accommodates the elastic sack 10 and the presser bar 11 which is connected in the customary way to the shorter arm of the lever 8 in such manner that the outward

movement of the longer lever of the arm causes a compression of the sack. The barrel 5 is also provided with a locking pin 12 disposed across the slot 9 and which is adapted to snap into an oblique notch 13 provided in the longer arm of lever 8. The position of the notch 13 and ring 7 is such that the movement of the lever 8 to the rest position causes the ring 7 to move slightly to the right as the notch 13 engages the pin 12. For this purpose the groove 6 is made slightly wider than the ring as will be seen from Fig. 2; the wider part of the groove being so formed as to provide an incline for the ring toward the locking pin 12. Because of the resiliency of the ring the same returns to its original position after the notch is fully engaged with the pin. In other words, the ring 7 constitutes a yielding pivot or fulcrum for the lever 8 and permits to the said lever a slight displacement relative to the barrel when the lever is locked or unlocked from the pin 12.

In lieu of using the fixed locking pin 12, I may utilize a yielding one which will be in the form of an open ring 17' similar to ring 7 as shown in Fig. 4. In said figure the barrel 5' is provided with 2 annular spaced inner grooves 6' and 16' one accommodating an open ring 7' and the other the open ring 17' each groove having a bevel, the bevel parts of the groove facing each other. In this arrangement the lever 8' will not move as much on its pivot for the locking pin formed by ring 7' is also free to yield when the lever is locked or unlocked.

I claim:

1. In a self-filling fountain-pen a barrel having a slot, an operating lever in said slot, a yielding pivot for said lever, said barrel having means for supporting the pivot so that the pivot has a limited longitudinal movement relative to the barrel, and a member in the barrel adapted to engage the lever when retaining the same in the slot.

2. In a self-filling fountain-pen a barrel having a slot and a groove in the barrel intercepted by the slot, an operating lever in said slot, an open ring in the groove engaging the lever and forming the pivot for same, said groove having means adapted to contract the ring when pressure is applied to the ring whereby the lever is caused to move longitudinally of the barrel, said op-

erating lever having a notch, and means in the barrel for engaging the notch when said lever is brought into the slot.

3. In a self-filling fountain-pen a barrel 5 having a slot and an inner groove intercepted by the slot, an operating lever in said slot, an open yielding ring in the groove forming a yielding pivot for said lever in the slot, said groove having a sloping side 10 to cause the ring to contract when lateral pressure is applied to the ring, said lever having an oblique notch, and a member in said slot adapted to engage said notch in the lever when the said lever is brought into 15 the slot.

4. In a self-filling fountain-pen a barrel having a slot, an operating lever in the slot, means in the barrel forming a yielding pivot for the lever and mounted to have a limited 20 longitudinal movement in the barrel, said operating lever having a notch, and means associated with the barrel for engaging the notch in the lever when the same is brought into the slot.

5. In a self-filling fountain-pen a barrel 25 having a slot and annular inner grooves intersected by the slot and spaced from one another, an operating lever in said slot, an open yielding ring in one of the grooves forming a yielding pivot for said lever in 30 the slot, and another open yielding ring in the other groove, said grooves having sloping sides to allow the rings a slight displacement along the barrel when pressure is applied to the rings laterally of same, said 35 lever having an oblique notch adapted to engage said second ring to lock the lever in the groove.

6. In a self-filling fountain-pen a barrel having a slot, an operating lever in the slot, 40 a yielding pivot for said lever mounted in the barrel to have a slight movement longitudinally of the barrel, and means in the barrel to engage the lever when the same is brought into the slot, to retain the lever in 50 the slot.

HERBERT L. CARMAN.