

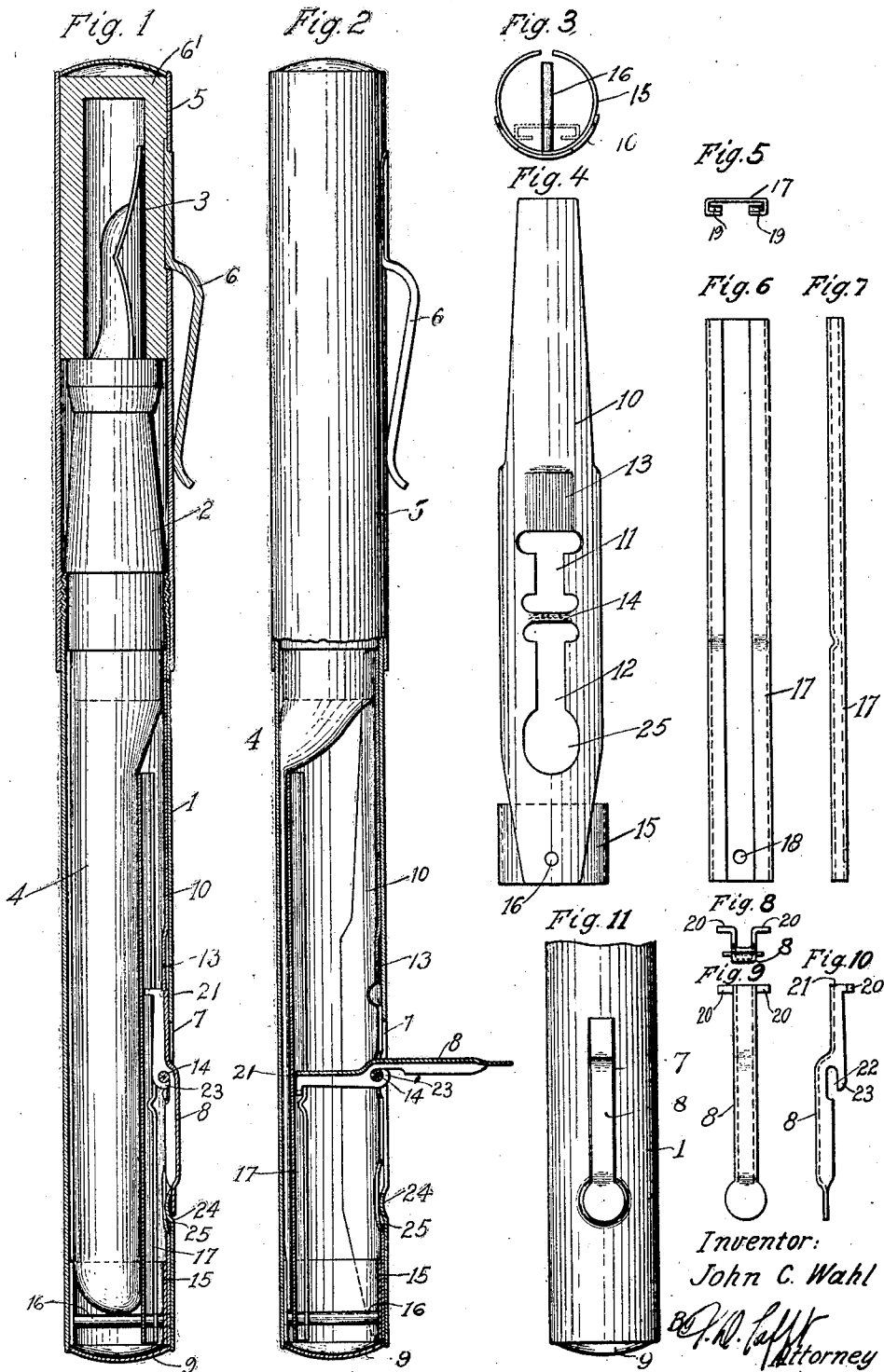
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J. C. WAHL

FOUNTAIN PEN

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UNITED STATES PATENT OFFICE.

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FOUNTAIN PEN.

Application filed October 27, 1921. Serial No. 510,812.

To all whom it may concern:

Be it known that I, JOHN C. WAHL, a citizen of the United States, and a resident of the city of Chicago, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Fountain Pens, of which the following is a specification.

My invention relates to self filling all metal fountain pens and primarily relates to a filling device, the medium through which the pen is filled with ink. The primary object of my invention is the provision of a filling device that will take up very little space within the pen barrel and thus permitting the use of a larger ink sack. The use of a relatively thin metal barrel without an inner lining of rubber or some other material, necessitates a change in the filling devices that heretofore appeared on the market. Heretofore the lever which cooperates with a pressure bar in compressing the ink sack within the barrel has been pivotally mounted in a slot in said barrel by means of a pin extending through the walls of the barrel on each side of the slot and being fixed therein by means of riveting. Inasmuch as the walls of the all metal pen barrel are exceedingly thin, it is practically impossible to fix a pin to which the lever is adapted to be fulcrumed therein and other means must necessarily be resorted to to fulcrum the lever within the slot. My invention relates to another means for fulcruming the filling device lever within the slot in the barrel and a new and improved means for locking said lever in a closed position.

Other objects will appear as this description progresses, reference being had to the accompanying drawings, in which—

Fig. 1 is a view of my device partly in section and partly in plan showing the filling device in closed position.

Fig. 2 is a view partly in section and partly in plan showing the filling device in open position.

Fig. 3 is an end view of the filling device.

Fig. 4 is a top plan view of the filling device before assembly into the pen barrel.

Fig. 5 is an end view of the pressure bar.

Fig. 6 is a top plan view of the pressure bar.

Fig. 7 is a side view of the pressure bar.

Fig. 8 is a view of the lower end of the lever.

Fig. 9 is a top plan view of the lever.

Fig. 10 is a side view of the lever, and

Fig. 11 is a fragmentary view showing the lever in closed position.

The pen itself is of the same general character as that disclosed in my application Serial No. 457,873 filed April 2, 1921, having a relatively thin metal barrel 1, a rubber pen section 2 adapted to frictionally engage the barrel 1, a pen nib 3 to which is attached a compressible ink sack 4. A cap 5 having a clip 6 fixed thereto is adapted to cover the rubber pen section 2 when the latter is not in use. Fixedly mounted within the cap 5 is a hard rubber shell 6' which is adapted to enclose the nib mounted within the pen section when the pen is not in position for use. A longitudinally extending slot 7 is stamped in the barrel wherein a lever 8 is fulcrumed.

Before the tassel 9 is spun into the barrel, the mechanism of the filling device, excepting the lever, is assembled in a manner that will be described hereafter. A semi-circular shell 10 is stamped out whereupon apertures 11 and 12 are stamped therein and a raised portion 13 is formed. The blank 14 between the apertures 11 and 12 is then rolled to form a bearing surface for the lever 8. Attached to the lower extremity of the shell 10 is a circular shell member 15 being split to form a frictional band. The attachment of the shell 10 to the shell 15 is accomplished through the medium of a pin 16 which is so fixed as to cause its lower end to extend in a downward direction. This pin, when the shell is assembled into the barrel, has slidably mounted thereon a pressure bar 17, having an aperture 18 at one of its extremities which is adapted to engage the pin 16, thus holding the pressure bar 17 against longitudinal movement but permitting lateral movement when the filling device is assembled into the fountain pen. The pressure bar 17 has inturned flanges forming grooves 19 in which ride lugs 20 on the lever which will be hereafter described. Indentations are made in the flanges 19 at a predetermined point which act as a stop for the lugs of the lever.

In assembling the filling device the pres-

sure bar 17 is fixed on the pin 16 in the manner disclosed in Figs. 2 and 3, the member 15 is compressed and the shell 10, including the member 15, is inserted into the barrel in such a manner that the fulcrum 14 will be situated at a point directly below the slot in the barrel. The member 15 is then released and the shell is held in place by the friction of the split ring or band 15 bearing against the internal walls of the barrel and an indentation 24 in the barrel fitting into an aligned aperture 25 in the shell 10. A lever 8 is then fashioned in the following manner; the blank is stamped out and flanges formed thereon as illustrated in Figs. 8 and 10, lugs 20 are formed at the lower extremity of the blank and notches 22 are stamped in the flanges forming ears 23. A locking notch 21 is also stamped in the blank at the lower end thereof, the use of which will be more fully described hereinafter. The completed lever is then slipped into the slot until it engages the channel formed in the pressure bar. It is then turned to its natural position whereupon the lugs 20 will engage the grooves formed by the flanges 19 on the pressure bar. The lever is then raised and the fulcrum 14 is seated within the slots 22 whereupon the ears 23 are bent inward by means of pliers, thus seating the lever bar firmly within the slot in the barrel.

The operation of the filling device is as follows: The nib of the pen is inserted into ink, the lever is raised and being fulcrumed at 14, the pressure bar will be lowered and thus compress the ink sack. The lever is then released and the pressure bar is raised, thus allowing the pressure of air to force the ink into said ink sack. However, in time the ink within the rubber ink sack will cause said sack to shrivel and in turn will permit the pressure bar to drop down and thus raise the lever slightly from its closed position. This would prove disastrous inasmuch as the user would catch the slightly open lever on the edge of his pocket and thus cause the ink to be expelled into the cap, so other means are provided to hold the lever in a locked position, and in my device when the lever is closed the locking notches 21 spring over the inner edge of the raised portion 13 and cause said edge to engage said notches and thus lock the lever in closed position.

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

Having thus described my device, what I

claim and desire to secure by Letters Patent is—

1. In a fountain pen, in combination, a casing provided with a longitudinally extending slot therein, a shell segment fashioned with openings therein for register with the slot in the casing, a tensioning ring member, a post member serving to secure the segment and ring member together and depending within the ring member, a presser bar provided with a perforation for registering relation with the pin member, a lever pivotally related to the openings in the casing, a shell member co-actively related to the presser bar, and means consisting of a projection extending inwardly of the barrel, and aligned detent in the shell segment for preventing longitudinal or lateral movement of the said shell segment when the same is assembled in the barrel.

2. In a fountain pen, in combination, a casing provided with a longitudinally extending slot therein, a shell segment having relatively spaced openings in register with the casing slot, the intervening spacing member being fashioned as a pivot, a resiliently active ring member attached to the shell member, a presser bar and a lever pivotally related to the spacing member of the shell member and co-actively connected with the presser bar, and means consisting of a projection extending inwardly of the barrel, and aligned detent in the shell segment for preventing longitudinal and lateral movement of the said shell segment when the same is assembled in the barrel.

3. In a fountain pen, in combination, a casing provided with a longitudinal slot therein, a shell segment provided with an opening for register with the slot in the casing, a resiliently active open ring member, adapted to engage the casing, a post member uniting the shell and ring member and depending within the latter, a presser bar having a perforation therein for register with the post member to facilitate guiding action therebetween, and a lever pivotally related to the openings in the shell and casing and co-actively related to the presser bar.

4. In a fountain pen, in combination, a casing provided with a longitudinal slot therein, a shell segment fashioned with openings therein for register with the slot in the casing, a tensioning ring member, a post member serving to secure the segment and ring member together and depending within the ring member, a presser bar provided with a perforation for registering relation with the pin member, a lever pivotally related to the openings in the casing and shell member and co-actively related to the presser bar.

5. In a fountain pen, in combination, a

6 casing provided with a longitudinal slot therein, a shell segment fashioned with openings therein for register with the slot in the casing, a tensioning ring member, a post member serving to secure the segment and ring members together and depending within the ring member, a presser bar provided with a perforation for registering relation with the pin member, a lever pivot- ally related to the openings in the casing 10 and shell member and co-actively related to the presser bar, and means resiliently co-active in connection with the shell member and lever to hold the lever in closed position.

In witness whereof I have hereunto sub- 15 scribed my name.

JOHN C. WAHL.