

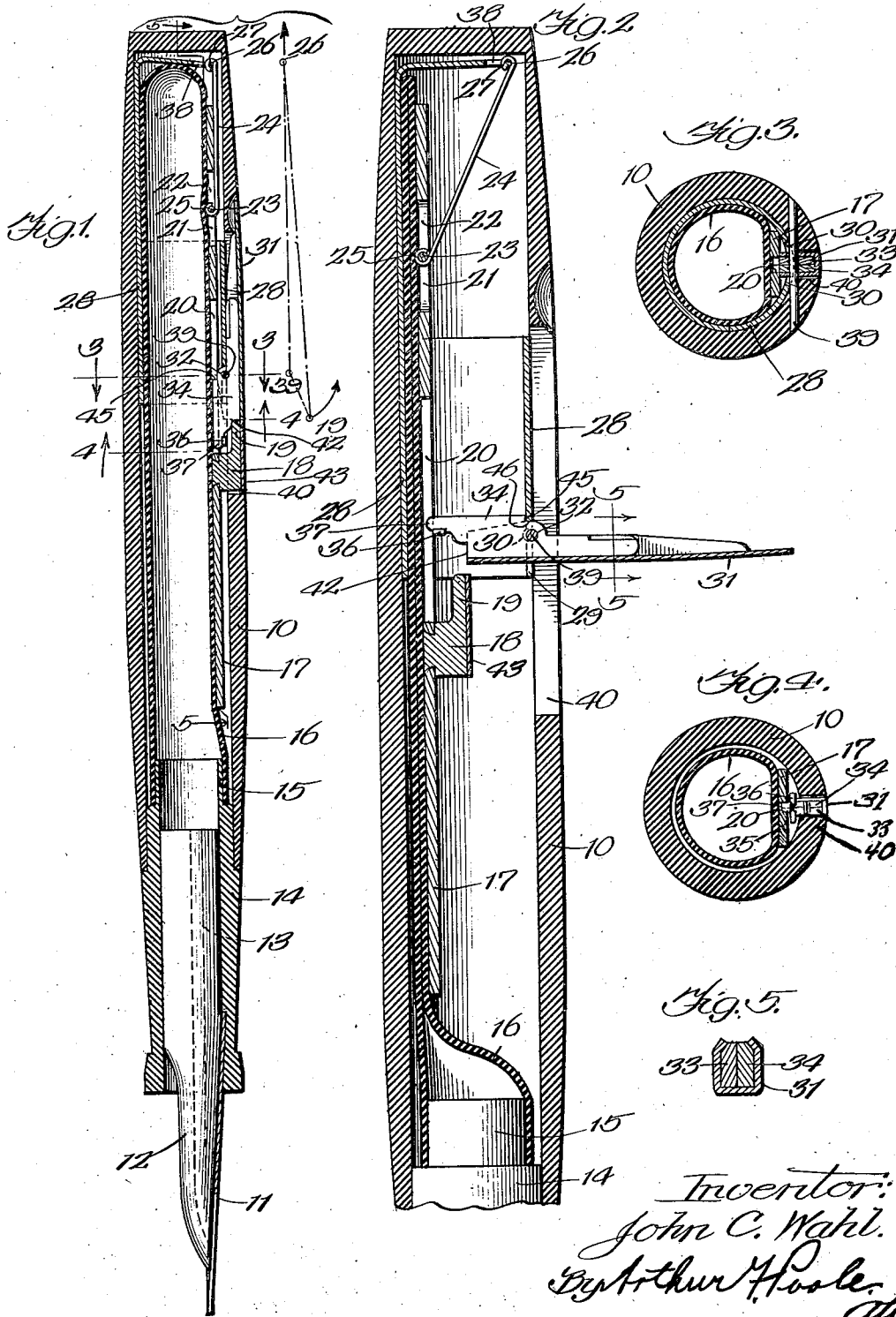
J. C. WAHL.
FOUNTAIN PEN.

APPLICATION FILED AUG. 27, 1917.

Patented Aug. 31, 1920.

2 SHEETS—SHEET 1.

1,351,591.



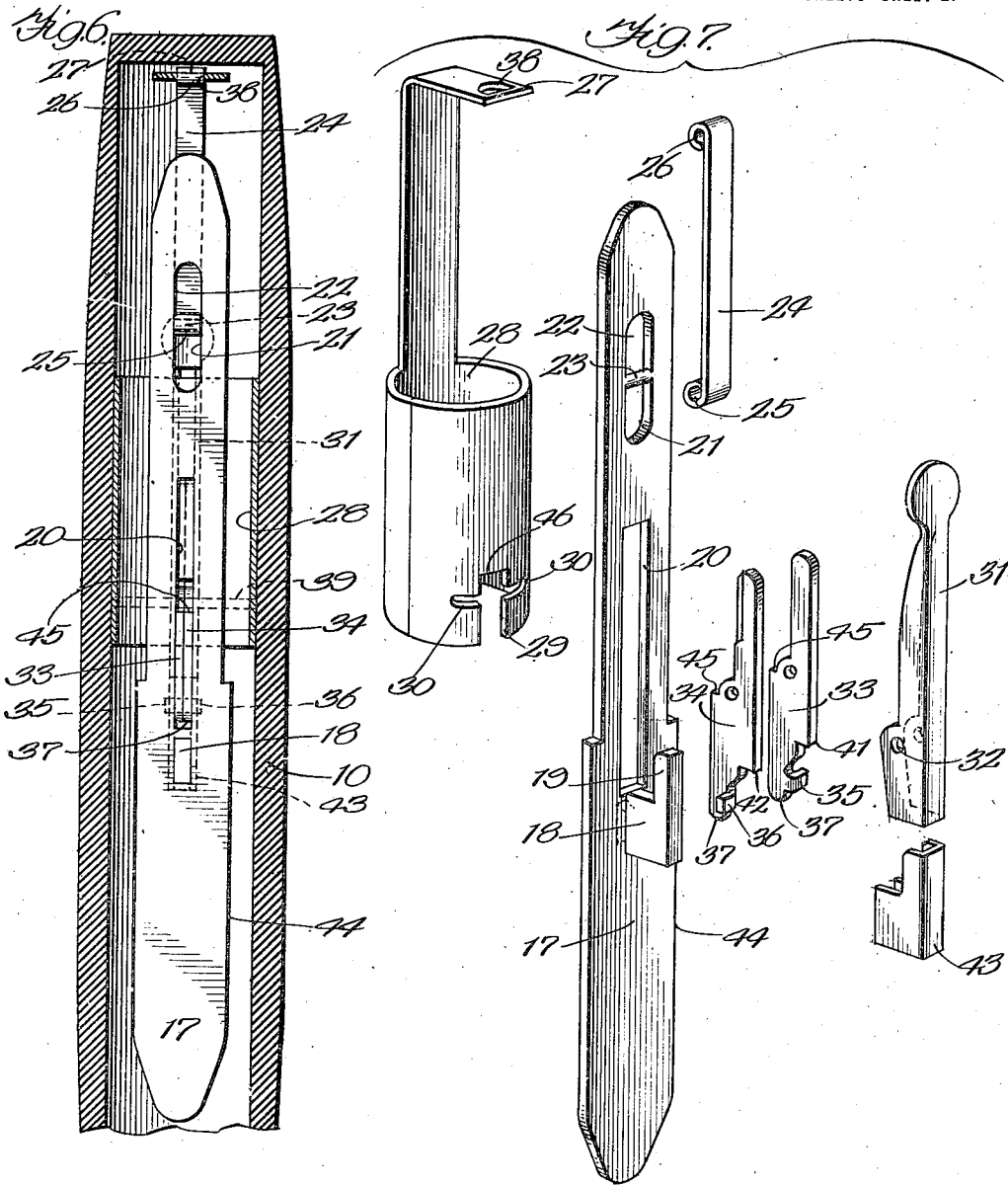
Inventor:
John C. Wahl.
By Arthur M. Hoole
att'y.

J. C. WAHL.
FOUNTAIN PEN.
APPLICATION FILED AUG. 27, 1917.

1,351,591.

Patented Aug. 31, 1920.

2 SHEETS—SHEET 2.



Inventor:
John C. Wahl.
By Arthur H. Hood, atty.

UNITED STATES PATENT OFFICE.

JOHN C. WAHL, OF CHICAGO, ILLINOIS, ASSIGNOR, BY MESNE ASSIGNMENTS, TO THE WAHL COMPANY, OF WILMINGTON, DELAWARE, A CORPORATION OF DELAWARE.

FOUNTAIN-PEN.

1,351,591.

Specification of Letters Patent. Patented Aug. 31, 1920.

Application filed August, 27, 1917. Serial No. 188,335.

To all whom it may concern:

Be it known that I, JOHN C. WAHL, a citizen of the United States, residing at Chicago, in the 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 is an improvement in fountain pens, particularly in the class in which the ink is contained in a flexible sack adapted to be collapsed by a lever mounted on the side of the pen casing when it is desired to refill the pen with ink.

The object of my invention is to provide a mechanism for the operation of the ink sack which shall be more easily constructed than those of the prior art and which shall be more certain and positive in its operation.

A further object of my invention is the improvement of various details in the mechanism constituting the lever and presser bar mechanism, particularly in the structure of the lever itself and in the method of mounting the same in the pen casing.

A further object of my invention is the provision of an improved lever structure which has the portion adapted to be operated by the user made of some metal of pleasing appearance, for instance, gold, and has the portions which serve to actuate the presser bar made of metal selected with a view to its durability, for instance, steel. The provision of this double lever structure is of great advantage, since I am able to make the acting parts extremely durable and accurate and at the same time maintain the pleasing appearance of the portion of the lever which is exposed to view.

The above and other objects of my invention will be apparent to those skilled in the art on inspection of the following specification and claims:

My invention may be best understood by reference to the accompanying figures, of which—

Figure 1 is a longitudinal section of my improved pen showing the lever in its closed position;

Fig. 2 is an enlarged longitudinal section of a portion of the pen showing the lever in its open position;

Fig. 3 is a transverse section along the line 3—3 of Fig. 1;

Fig. 4 is a similar section along the line 4—4 of Fig. 1;

Fig. 5 is a section of the lever along the line 5—5 of Fig. 2;

Fig. 6 is a top view partly in section of certain portions of the presser bar and operating means therefor, and

Fig. 7 contains detail views of the lever structure, the presser bar structure, the tension spring and the tubular mounting supporting these parts in the pen casing.

Similar numerals of reference refer to like parts in all the figures.

My improved mechanism is mounted in a casing 10, usually made of hard rubber, which serves as a support for the pen nib 11 and a feeder bar 12, said bar being provided with the customary feeding channel 13, these parts being supported in a plug 14, which is adapted to fit by friction into the front portion of the casing 10. The plug 14 is provided at its rear end with a nipple 15, serving as a support for a collapsible sack 16, which is preferably made of soft rubber. Ink contained in said sack flows through the channel 13 and thus the nib 11 is kept supplied. The precise structure of the aforementioned parts is not necessary to an understanding of my invention, since my invention had to do with the mechanism for collapsing the rubber sack for the purpose of refilling it with ink.

Coming now to the parts peculiar to my present invention, there is provided a presser bar 17 extending lengthwise of the casing 10 and provided with an upwardly projecting lug 18 having an ear 19, said lug 18 and attached ear 19 serving as the connecting means between the presser bar and its operating lever 31. Neglecting for a moment the description of the operating lever, it will be further noted that the presser bar 17 is provided with a slot 20 at its middle portion, and also that a pair of slots 21 and 22, which serve to delimit a cross piece 23, which serves as a point of attachment of a link 24, the ends of which are bent to form eyelets 25 and 26. The eyelet 25 is assembled over the bar 23, which is swaged to an approximately circular section. The eyelet 26 is attached to a tension spring 27, which extends from a formed support 28 (Fig. 7). Said support is formed from a single piece of spring metal, which

is first blanked, then formed into the shape shown. The support 28 is provided at its forward portion (Fig. 7) with a pair of slots 29 and 30, said slots extending transversely of each other. The operating lever to which I have given the general number 31, is formed from a flat piece of metal and is bent into a U section. The sides of this U have holes 32 through them, and said holes serve to locate a pair of operating lugs 33 and 34 (Fig. 7). The lug 33 has an ear 35 pointing in one direction, and the lug 34 has an ear pointing in the opposite direction. Said lugs are assembled in the lever 31, the sides of which are then turned down over the lugs 33 and 34, in order to hold them firmly in position (Fig. 5). This lever construction is for the purpose of providing an attractive appearance to the lever itself, such as would be given by making said lever of gold or silver and at the same time providing durable surfaces for the operating portions of the lever. The holes in the lugs 33 and 34, of course, register with the hole 32 in the lever 31. The lugs 33 and 34 are each provided with a nose 37, and I have given the same number to the nose on each of these lugs for the reason that when they are assembled in the lever both of the noses 37 act as a single piece. Said nose is adapted to enter the slot 20 of the presser bar and thereby hold the presser bar in its central position. When the lever 31 is in its closed position (Fig. 1), the slot 20 lies along the lower portion of the lugs 33 and 34, as is clearly indicated in Fig. 1. Thus the presser bar 17 is at all times held by the link 24 and the under surfaces of the lugs 33 and 34 in its proper position.

In order to assemble my improved device, the eyelet 25 is snapped over the cross piece 23. The eyelet 26 is attached to the end of the spring 27, a hole 38 being provided for that purpose, and the assemblage is then inserted into the interior of the casing 10, the circular portion of the support 28 being adapted to fit friction-tight in the interior of the casing. The parts are inserted until the slot 29 registers with a hole in the casing adapted to receive the pivot pin 39 (Figs. 2 and 3), which serves the double purpose both of a fulcrum for the lever 31 and a locating point for the support 28, said pin, of course, occupying a part of the transverse slot 30. The lever 31, which has had the lugs 33 and 34 previously assembled in it, is then inserted in the slot in the rubber casing 10, a recess 40 being provided in said casing to afford space for the lever when the same is in its closed position. The pivot pin 39 is now inserted, said pin, as previously noted, affording a fulcrum for the lever in the hole 32, and also by its engagement in the transverse slot 29 affording a means of securely

anchoring the mounting 28 in its proper position in the interior of the casing. When the lever 31 is thrown to the position shown in Fig. 2, the ears 35 and 37 will engage the part of the presser bar 17 adjacent to the slot 20 and will depress the same, thereby collapsing the rubber sack, the link 24 swinging on its bearings to allow such motion.

The lugs 33 and 34 are also provided with an offset or shoulder 45, which when the lever 31 is open is adapted to contact with the end 46 of the slot 29 and thereby determine the open position of the lever 31. It will be observed that by the expedient of making the operating portions of the lever 31 on a piece which is separate from the lever itself that the dimensions can be very accurately held to size, thus rendering it particularly adapted to manufacture in large quantities.

When the lever is returned to its normal position, the lugs 33 and 34 engage the ear 19 and thereby raise the presser bar to the position shown in Fig. 1. However, when the presser bar is fully raised, it will be thrown somewhat forward of its down position by contact of the ear 19 with shoulders 41 and 42 on the lugs 33 and 34, thus placing a tension on the spring 27. Since the point of application of said tension on the lever 31 is above the center of said lever, the tension of the spring 27 will hold the lever securely in its closed position. In Fig. 1, I have shown a schematic diagram of the above described toggle action. Referring to the triangle in dotted lines to the left of said figure, the pivot 39, the point of contact of the ear 19 with the shoulders 41 and 42 and the position of the eyelet 26 are indicated. It will thus be seen that a tension in the direction of the arrow will tend to rotate the line 39—19 in the direction of the arrow and consequently the lever 31 will be held closed.

I have provided a covering for the lug 18 and ear 19 in the form of a U-shaped piece 43, which is preferably made of the same material as the body of the lever 31. The parts are so proportioned that when the lever is closed said piece will contact with the end of the lever 31 and thereby present an unbroken line on the outside surface of the pen. The U-shaped piece 43 is held on the lug 18 by any suitable means, either by friction or it may be soldered thereto.

Another feature of my invention to which I would call attention is the fact that the presser bar 17 has a portion 44 which extends forward of the support 28 made wider than the rear portion of said bar. This is for the purpose of more completely collapsing the front portion of the ink sack.

The advantages of my herein described structure will be apparent to those skilled in the art and many departures may be made

from the structure herein described without departing from the spirit of my invention, since I claim:

1. In a self filling fountain pen, the combination of a pen casing with a slot therein, a pivot in said slot, and a lever revolving on said pivot, said lever being composed of two parts, one part consisting of an outer shell extending along said slot when said lever is closed, and being adapted to be operated by the user, and the other part arranged partly within the outer shell and comprising operating lugs arranged to move inside of the casing when said outer part is operated, both of said parts being arranged to turn on said pivot.

2. In a self filling fountain pen, the combination of a pen casing and a slot therein, and a lever pivoted in said slot, said lever being composed of an outer shell having a pair of operating lugs inserted therein.

3. In a self filling fountain pen, the combination of a pen casing and a slot therein, and a lever pivoted in said slot, said lever being composed of an outer shell and having operating lugs provided with oppositely projected ears held in said shell.

4. In a fountain pen, the combination of a casing, a slot in said casing, and a lever pivoted therein, said lever being formed of a U-shaped section and having operating lugs inserted in said U-shaped section and held thereby.

5. In a fountain pen, the combination with a casing, a slot in said casing, and a lever arranged to operate in said casing, said lever consisting of an outside section having a hole therein, an operating lug adapted to be inserted in said section, said lug having a hole adapted to register with said hole in said section to thereby locate the position of said lug in said outside sec-

tion, and a pivot bar common to both sections and said casing to form a pivot for both sections of said lever.

6. In a lever for a self filling fountain pen, the combination of a portion having a U-shaped section and formed from a single piece of metal, and having a pair of holes in the wings of said U, a lug immovably fixed in said section and having a hole adapted to register with the holes in said section, a pivot pin in said registering holes thereby locating said lug relative to said U portion, said lug also having a portion extending into the body of the lever and a second portion extending beyond the lever, said second portion being adapted to provide the operating surfaces of said lever.

7. In a fountain pen, the combination of a casing, a flexible ink sack contained in said casing, a lever pivoted in said casing, said lever consisting of two parts, always located in the same straight line, a pivot for said lever adapted to locate said two parts relative to each other, and a presser bar operated by one of said parts.

8. In a fountain pen, the combination of a casing, an outside casing, and a flexible sack located in the interior thereof, a lever pivoted in said casing, said lever consisting of two portions, an outside section and an inside operating lug, a pivot for said lever extending through said casing and serving to locate said two portions relative to each other, a presser bar for said flexible sack operated by one of the portions of said lever, and a slot in said presser bar, one of the portions of said lever being adapted to engage said slot, thereby retaining the presser bar in its proper position relative to said lever.

In witness whereof I have hereunto subscribed my name.

JOHN C. WAHL.