Nov. 16, 1926. **1,606,930**

H. L. FISCHER

FOUNTAIN PEN

Filed April 25, 1925

Fig. 1

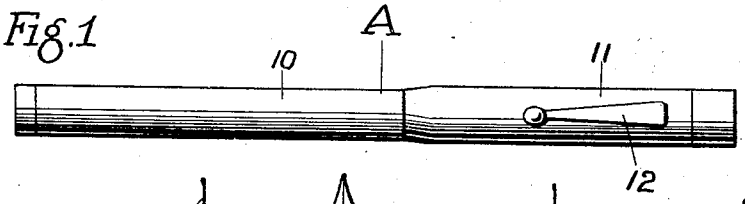



Fig. 3

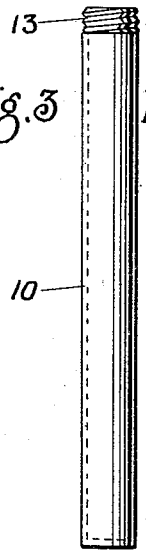



Fig. 2

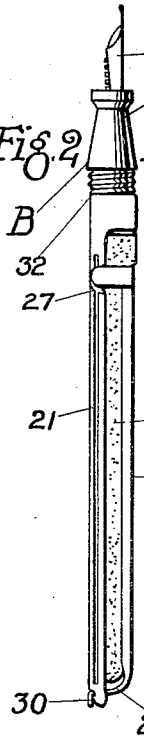



Fig. 4

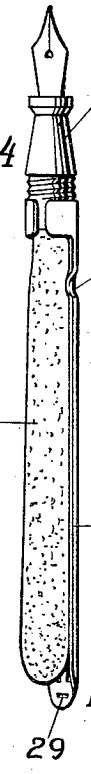



Fig. 5

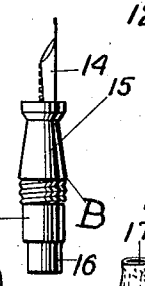



Fig. 6

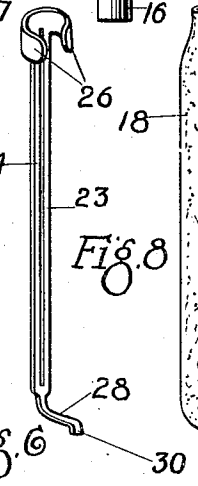



Fig. 8


Fig. 7

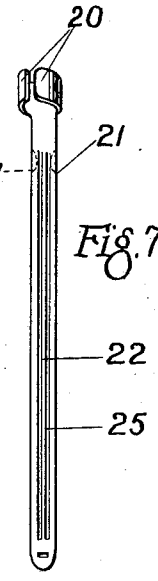
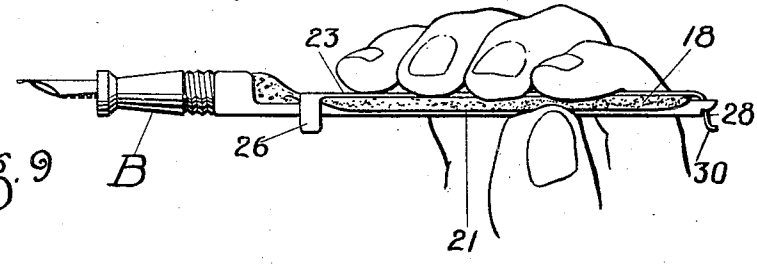



Fig. 9




Inventor

Hermann Fischer

Patented Nov. 16, 1926. 1,606,930

# UNITED STATES PATENT OFFICE.

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## FOUNTAIN PEN.

Application filed April 25, 1925. Serial No. 25,854.

My invention relates to fountain pens wherein it is desired to provide a particular means for operating the same so that it can be filled easily and quickly without any complicated mechanism.

My fountain pen is designed to use an ink sack made of rubber or other suitable flexible material, which sack is large enough so as to practically fill the barrel for concealing the sack. The barrel may be made of tubing having a thin wall or of any other suitable material, and for convenience applicant has illustrated the barrel made of tubing such as precious metal or other suitable metal tubing, which gives the finished pen a barrel of ordinary size, yet providing a very large ink sack which practically fills the inside of the barrel.

A feature of the invention resides in a filling means which is adapted to extend over the sack to be detachably secured to the pen assembly in a manner so that it can be taken apart and the ink sack can be renewed when it is desired. This filling means includes a pressure bar connected in a manner to freely move horizontally when engaged by the fingers and a bearing bar rigidly positioned and connected with the pen assembly in a manner to be detached therefrom when desired. The bearing bar is adapted to extend beyond the ink sack and is provided with an opening which engages with an operating tongue to lock one end of the pressure bar slidably connected to the outer end of the bearing bar and freely removable therefrom when it is desired to disassemble the parts. The simplicity of construction of my fountain pen is apparent and of an important nature. The sack compressing means of my pen provides a covering adapted to hold the sack in alignment with the bearing bar and sufficiently cover the sack so that it can be readily inserted into the barrel after it has been filled.

A feature of the invention resides in means including only two parts, simple in design, which can be stamped out by suitable dies from sheet material and which are so formed so as to be connected together in a manner to operate to compress the ink sack between the parts and thus practically fill the sack with ink. Ordinarly in fountain pens using a sack for the ink, either a very small sack is used because of the mechanism for operating to depress the same or only a portion of the sack is collapsed and thereby preventing a large amount of ink entering into the sack when it is filled. I overcome these features by completely collapsing the sack between the bearing bar and the pressure bar, which are held together as an operable unit in the assembled pen construction, yet are separable in a manner so as to facilitate easy assembly or replacement, or taking apart when it is desired to place a new sack on the pen assembly.

The invention includes other features which will be more clearly set forth in the specification and claims.

In the drawings:

Figure 1 illustrates my pen, having an ordinary outer appearance.

Figure 2 illustrates the pen assembly and filling unit removed from the barrel.

Figure 3 illustrates the assembly barrel for covering the filling means and sack.

Figure 4 illustrates the pen assembly with a portion of the filling means removed.

Figure 5 illustrates the pen assembly alone, having the sack and filling means removed.

Figure 6 illustrates the pressure bar removed.

Figure 7 illustrates the bearing bar removed.

Figure 8 illustrates the ink sack.

Figure 9 illustrates the pen assembly and filling unit as it would appear in operation in compressing the sack so that it can be filled with ink.

In the drawings the pen A is of ordinary outer appearance, having a barrel 10 and a cap 11 which carries the clip 12. The cap is removable in the ordinary manner from the barrel 10.

The barrel 10 is threaded at 13 which threads are adapted to engage with complemental threads in the cap 11 as illustrated in the drawings.

The pen assembly B is provided with a pen 14 which fits into the connector 15 in the ordinary manner and which is provided with a nipple 16 for receiving the neck 17 of the sack 18. The sack 18 is adapted to be sealed onto the nipple 16 in a suitable manner so as to form a tight nipple between the pen assembly and the sack 18. The shoulder 19 of a cylindrical shape is adapted to receive the spring gripping jaws 20 of the bearing bar 21.

The bearing bar 21 is formed with a lon-

gitudinally extending hollow shaped bearing bar portion 22 which forms a longitudinal recess into which the body of the ink sack 18 extends and thus permitting the bearing bar 21 to fit about the ink sack closely. The spring gripping jaws 20 frictionally engage the shoulder 19 in a manner so that the bearing bar can be easily removed when desired.

The pen A is provided with a pressure bar 23 which is formed with a longitudinally extending portion having a stiffening rib 24 formed therein to provide rigid construction and to stiffen the same. The bearing bar 21 is also provided with a longitudinally extending rib 25 which is adapted to stiffen and strengthen the bar so that it will extend approximately parallel in operation with the ink sack 18 and to provide the necessary rigidity to this member.

The pressure bar 23 is formed with engaging ears 26 which are adapted to fit around the neck of the sack 18 at a point spaced slightly away from the nipple 16 and these ears are adapted to engage in the recess 27 formed in the bearing bar 21, thus permitting the ends of the ears 26 to lie, as it were, countersunk into the bearing bar 21. The outer end of the pressure bar 23 is formed with a tongue 28 which is adapted to extend through the slot 29 and is provided with a shoulder end 30 formed by bending the end of the tongue at approximately right angles to the tongue 28. The shoulder 30 forms a stop and locking end to hold this outer end of the pressure bar 23 into engagement with the outer end of the bearing bar 21 and prevent disengagement of the tongue 28 from the slot 29 when the ears 26 are engaged about the neck of the sack and over the bearing bar 21.

When it is desired, the pressure bar 23 can be easily removed from engagement with the bearing bar 21 by pressing slightly to the side and slipping the ears 26 out of engagement with the bar 21 and the sack 18, and then by slightly rotating the pressure bar 23 from the point of engagement of the tongue 28 in the slot 29 the shoulder 30 can be unhooked from the slot 29 and the pressure bar 23 entirely removed, as illustrated in Figure 6. This construction permits the easy assembly of the pen operating parts and also the disassembly to facilitate the replacement of parts or for other purposes.

In operation the pen unit B is removed with the operating means by unscrewing the barrel 10 from the connector 15 which is threaded at 32 which engages with the threads 13 on the barrel. Then unit B with the operating means for the sack 18 is held in the hand, as illustrated in Figure 9, and by the fingers the pressure bar 23 is pressed against the sack 18 and the sack is collapsed on the bearing bar 21. The ears 26 and the shoulder 30 are moved out of engagement with the back of the bar 21, as illustrated in Figure 9, permitting the pressure bar to freely operate and to form a flat longitudinally extending stiff bar means for fully collapsing the sack for practically the entire length of the same. This permits the sack to be so completely collapsed and readily operated that the pen may be filled with a large amount of ink.

This form of construction of fountain pen provides a means for filling the same, making it necessary for the user to take the barrel 10 off of the sack, thus permitting the user to inspect the sack to readily see that it is in good order, perfectly resilient, and not dried out or cracked, so that it will perfectly receive the ink. The biggest detrimental features of fountain pens occur from these very conditions prevailing in a fountain pen without the operator knowing it and thus the ink is not drawn into the sack, or the sack is not in good live condition so as to receive the ink, and thus the pen is accused of not operating perfectly. My invention overcomes these features, permitting the operator to readily see at glance the condition of the sack and to know that the pen is not in good order, or is in need of parts.

It is quite imprtant to consider in my fountain pen that the operating parts of my pen are simple, inexpensive, to manufacture, formed of thin sheet material so as to take only a small amount of space in the barrel, and adapted to operate perfectly in such a simple manner that anyone can readily comprehend the operation.

In accordance with the patent statutes I have described the principles of operation of my fountain pen and while I have illustrated in the drawing a particular formation of the parts, I desire to have it understood that these are only illustrative, and that the invention can be carried out and applied to uses other than those above set forth and within the scope of the following claims.

I claim:

1. A fountain pen including a pen assembly unit having an ink sack, means for compressing the sack longitudinally throughout its length, said means including a bearing bar extending on one side of the sack and a freely connected pressure bar positioned opposite the bearing bar and slidably connected thereto to collapse the ink sack by squeezing the same between the bearing bar and the pressure bar.

2. A fountain pen operating means including a bearing bar extending along one side of the ink sack adapted to be detachably connected to the pen unit assembly and pressure bar means slidably connected to said bearing bar detachably secured thereto, adapted to bear against the opposite side from said

bearing bar on the ink sack to collapse the same.

3. A fountain pen having a barrel, a pen unit including an ink sack, and operating means, adapted to be concealed in said barrel, said operating means being exposed in a manner so that it can be engaged when the said barrel is removed from the pen assembly and including a pair of longitudinally extending pressure bar means adapted to extend over the ink sack and be slidably interconnected with each other against free disengagement in a manner so that when they are squeezed between the fingers the ink sack will be collapsed.

4. A fountain pen including a pen assembly, having an ink sack a pair of pressure bars adapted to collapse said sack by squeezing the same between the fingers, means for slidably connecting said bars with each other, means for attaching said bars to said pen assembly and a barrel adapted to cover said operating bars in a manner to conceal the same and to seal the ink sack from the outer atmosphere.

5. Ink collapsing mechanism for fountain pens including bars interconnected in a manner to be freely pressed together, said bars being shaped to fit over the ink sack of the pen and separable from each other and gripping spring finger means formed integral with one of said bars adapted to attach the same to the fountain pen.

6. A fountain pen operating means for the ink sack, comprising a pair of members, one of which is formed with spring fingers attached to connect the same to the fountain pen writing unit, the other member constituting a bar with a tongue on one end, a slot in the first member for receiving said tongue and a loop on the other end of said last bar member, adapted to encircle the ink sack and engage the first mentioned bar, whereby said second bar is free to be pressed toward said first bar in a manner to collapse the ink sack of said fountain pen, the ends of said presser bar being freely slidable in relation to said first bar.

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