Jan. 31, 1933. J. L. SCHNELL 1,895,736

FOUNTAIN PEN

Filed May 27, 1932

Fig. 1

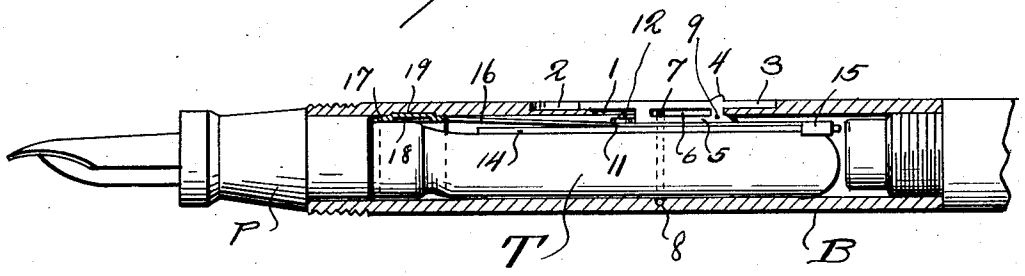


Fig. 2

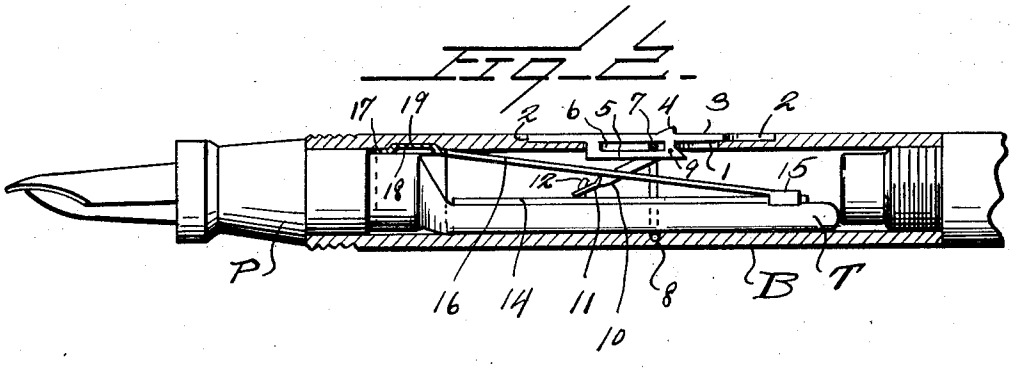
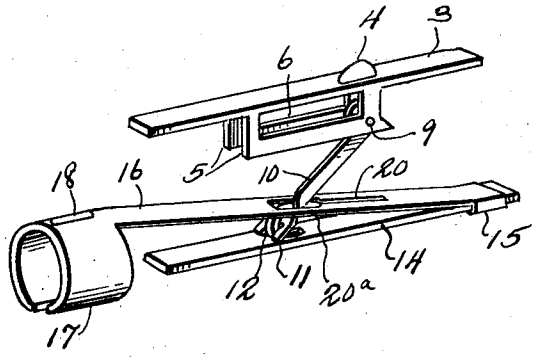


Fig. 3



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UNITED STATES PATENT OFFICE

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FOUNTAIN PEN

Application filed May 27, 1932. Serial No. 613,979.

This invention relates to fountain pens and primarily it is an improvement on the type of pen embodied in my already issued Patent #1,144,436 dated June 29, 1915.

In this former type of pen the slide or shifter, and more particularly the free end portion thereof, has a tendency to rise up beyond the circumference of the barrel and which action bends the front end portion of the shifter or slide upwardly. Furthermore, this action of the slide or shifter in the former type of pen had a tendency to develop play at the back end portion of the slide or shifter and which often results in pressure on the ink sac forcing out ink at the pen point, causing much trouble and great detriment to the pen. It is an object of the present invention to avoid these objectionable features.

Another object of the invention is to provide a fountain pen of this type embodying a filling means including a slide or shifter and wherein the shifter is held in desired position in a manner to avoid protrusion of either end portion of the slide or shifter beyond the periphery of the barrel and wherein the shifter or slide at all times moves evenly in a straight path of travel.

The invention consists in the details of construction and in the combination and arrangement of the several parts of my improved fountain pen whereby certain important advantages are attained and the device rendered simpler, less expensive and otherwise more convenient and advantageous for use, as will be hereinafter more fully set forth.

The novel features of my invention will hereinafter be definitely claimed.

In order that my invention may be the better understood, I will now proceed to describe the same with reference to the accompanying drawing, wherein:—

Figure 1 is a view partly in section and partly in elevation illustrating a fountain pen constructed in accordance with an embodiment of my invention;

Figure 2 is a view similar to Figure 1 showing certain of the parts in a second position with the reservoir collapsed;

Figure 3 is a view in perspective of the operating parts in assembled relation but free from the barrel.

As disclosed in the accompanying drawing, B denotes the barrel of a fountain pen with one end of which is adapted to be fitted in a well known manner a pen section P carrying a collapsible tube or reservoir T of rubber or other desired material for carrying a desired supply of writing fluid. A wall of the barrel B is provided therethrough with a longitudinal slot 1.

The periphery of the barrel B fore and aft of the slot 1 is provided with the grooves or channels 2 communicating with the slot, the bases of said channels 2 providing ledges substantially straight from end to end and substantially in parallelism with the axis of the barrel B. Extending across the slot 1 with its extremities working in the channels 2 is an elongated slide or shifter 3, the outer surface of which being substantially flush with the periphery of the barrel B when the slide or shifter 3 is in applied or working position except for a slight protuberance or projection 4 carried by the slide or shifter 3 to facilitate its movement in one direction as by the digit of a hand grasping the barrel of the completely assembled writing instrument.

The channels 2 together with the slot 1 are in alignment and of a combined length in excess of the length of the slide or shifter 3 and normally the slide or shifter 3 maintains a position at the limit of its movement away from the pen section S.

The central portion of the slide or shifter 3 is provided with the transversely spaced slotted flanges 5 which extend inwardly through the slot 1. The slots 6 of the flanges 5 are immediately adjacent to the slide or shifter 3 and have freely disposed therethrough a split ring 7 which seats within an annular groove 8 provided in the interior wall of the barrel B whereby the slide or shifter 3 is effectively maintained in applied position yet is free to have endwise movement.

Pivotally connected, as at 9, between the end portions of the flanges 5 remote from the applied pen section S is a relatively short

rigid link 10 provided at its opposite end with a fork 11 straddling and having direct contact with a curved lug 12 struck from the central part of an elongated presser bar 14.

This presser bar 14 is disposed within the barrel lengthwise thereof and its innermost portion is clinched or otherwise secured, as at 15, to an end portion of an elongated spring arm 16. This arm 16 is integrally formed at one end with a split collar 17 which snugly engages within the barrel B. This collar 17 has pressed outwardly therefrom a rib 18 received within a corresponding groove 19 in the internal wall of the barrel B whereby the spring arm 16 is maintained in desired position with respect to the slide or shifter 3.

The spring arm 16 is provided therealong with a slot 20 through which the short link 10 works. The outer portion of the slot 20, or that end portion of the slot 20 adjacent to the applied pen section, is transversely enlarged, as at 20*a*, so that the fork 11 will offer no hinderance or obstruction to the desired relative movements of the several parts. The resiliency of the arm 16 is such as to normally maintain the presser bar 14 in a position closely adjacent to the wall of the barrel B and also maintaining the slide or shifter 3 in its normal position as a result of the coaction between the fork 11 and the lug 12. At this time it is to be stated that the fork 11 coacts with the inbow face of the lug 12.

With the parts just referred to in such normal positions when the pen section S is applied the tube or reservoir T, or ink sac as it is also known, will readily enter the barrel B. By moving the shifter or slide 3 toward the end of the barrel B with which the pen section is engaged, the presser bar 14 will operate to compress the sac so that upon release of the shifter or slide 3 the collapsible tube will expand drawing the desired quantity of ink into the tube or reservoir, it being understood of course that the pen section has previously been dipped into the desired source of fluid supply.

From the foregoing description it is thought to be obvious that a fountain pen constructed in accordance with my invention is particularly well adapted for use by reason of the convenience and facility with which it may be assembled and operated, and it will also be obvious that my invention is susceptible of some change and modification without departing from the principles and spirit thereof and for this reason I do not wish to be understood as limiting myself to the precise arrangement and formation of the several parts herein shown in carrying out my invention in practice except as hereinafter claimed.

I claim:—

1. In combination with the barrel of a fountain pen having a slot in its wall, a presser bar within the barrel for coaction with a collapsible reservoir within the barrel, a shifter arranged exteriorly of the barrel and having a flange extending within the barrel through the slot, said flange also having a slot extending lengthwise thereof, means held within the barrel and freely inserted through the slot of the flange to hold the shifter in applied position, the slot in the flange allowing the shifter to have endwise movement in substantially a straight path of travel, and an operative connection between the shifter and the presser bar whereby upon movement of the shifter in one direction the presser bar will operate to collapse the reservoir within the barrel.

2. In combination with the barrel of a fountain pen having a slot in its wall, a presser bar within the barrel for coaction with a collapsible reservoir within the barrel, a shifter arranged exteriorly of the barrel and having a flange extending within the barrel through the slot, said flange also having a slot, means held within the barrel and freely inserted through the slot of the flange to hold the shifter in applied position, and an operative connection between the shifter and the presser bar whereby upon movement of the shifter in one direction the presser bar will operate to collapse the reservoir within the barrel, the shifter in all of its positions extending fore and aft of the slot.

3. In combination with the barrel of a fountain pen having a slot in its wall, a presser bar within the barrel for coaction with a collapsible reservoir within the barrel, a shifter arranged exteriorly of the barrel and having a flange extending within the barrel through the slot, said flange also having a slot, means held within the barrel and freely inserted through the slot of the flange to hold the shifter in applied position, and an operative connection between the shifter and the presser bar whereby upon movement of the shifter in one direction the presser bar will operate to collapse the reservoir within the barrel, the shifter in all of its positions extending fore and aft of the slot, the portions of the barrel fore and aft of the slot each having a channel in its periphery in alignment with the slot, the extremities of the shifter working within the channels.

4. In combination with the barrel of a fountain pen having a slot in its wall, a presser bar within the barrel for coaction with a collapsible reservoir within the barrel, a shifter arranged exteriorly of the barrel and having a flange extending within the barrel through the slot, said flange also having a slot, means held within the barrel and freely inserted through the slot of the flange to hold the shifter in applied position, and an operative connection between the shifter and the presser bar whereby upon movement of the shifter in one direction the presser bar will operate to collapse the reservoir within the

barrel, the shifter in all of its positions extending fore and aft of the slot, the portions of the barrel force and aft of the slot each having a channel in its periphery in alignment with the slot, the extremities of the shifter working within the channels, the base walls of the channels constituting ledges, said ledges being substantially parallel from end to end with the axis of the barrel.

5. In a fountain pen, a barrel having a slot in its wall, a presser bar within the barrel for coaction with a collapsible reservoir within the barrel, a spring arm having one end portion connected to an end portion of the presser bar, means for holding the opposite end portion of the spring arm within the barrel, said presser bar having a lug disposed toward the spring arm, a shifter carried by the barrel and moving lengthwise of the slot, a link operatively engaged with the shifter and contacting with the lug of the presser arm whereby movement of the shifter in one direction causes the presser bar to collapse the reservoir.

6. In a fountain pen, a barrel having a slot in its wall, a presser bar within the barrel for coaction with a collapsible reservoir within the barrel, a spring arm having one end portion connected to an end portion of the presser bar, means for holding the opposite end portion of the spring arm within the barrel, said presser bar having a lug disposed toward the spring arm, a shifter carried by the barrel and moving lengthwise of the slot, a link operatively engaged within the shifter and contacting with the lug of the presser arm whereby movement of the shifter in one direction causes the presser bar to collapse the reservoir, the resiliency of the spring arm automatically returning the presser bar to its initial position together with the shifter, said resilient arm also maintaining the link in contact with the lug.

7. In a fountain pen, a barrel having a slot in its wall, a presser bar within the barrel for coaction with a collapsible reservoir within the barrel, a spring arm having one end portion connected to an end portion of the presser bar, means for holding the opposite end portion of the spring arm within the barrel, said presser bar having a lug disposed toward the spring arm, a shifter carried by the barrel and moving lengthwise of the slot, a link operatively engaged with the shifter and contacting with the lug of the presser arm whereby movement of the shifter in one direction causes the presser bar to collapse the reservoir, the portion of the link engaging the lug being forked to straddle the lug.

8. In a fountain pen, a barrel having a slot in its wall, a presser bar within the barrel for coaction with a collapsible reservoir within the barrel, a spring arm having one end portion connected to an end portion of the presser bar, means for holding the opposite end portion of the spring arm within the barrel, said presser bar having a lug disposed toward the spring arm, a shifter carried by the barrel and moving lengthwise of the slot, a link operatively engaged with the shifter and contacting with the lug of the presser arm whereby movement of the shifter in one direction causes the presser bar to collapse the reservoir, the spring arm being slotted, the link working through said slot.

In testimony whereof I affix my signature.

JULIUS L. SCHNELL.