

M. BORBECK.
 FOUNTAIN PEN.
 APPLICATION FILED MAR. 23, 1918.

1,342,736.

Patented June 8, 1920.

Fig. 1.

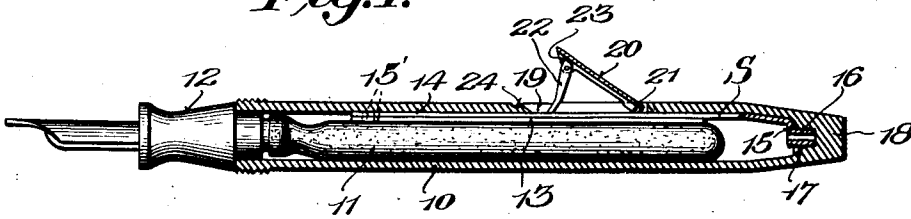


Fig. 2.

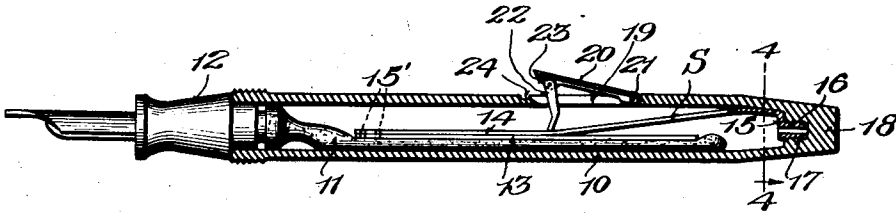


Fig. 3.

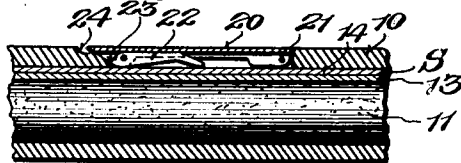


Fig. 4.

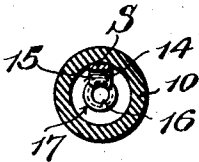
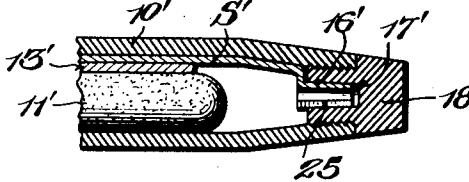


Fig. 5.



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MARTIN BORBECK, OF SIOUX CITY, IOWA, ASSIGNOR TO HOUSTON FOUNTAIN PEN COMPANY, OF SIOUX CITY, WOODBURY COUNTY, IOWA, A CORPORATION.

FOUNTAIN-PEN.

1,342,736.

Specification of Letters Patent.

Patented June 8, 1920.

Application filed March 23, 1918. Serial No. 224,266.

To all whom it may concern:

Be it known that I, MARTIN BORBECK, a citizen of the United States, and residing at Sioux City, Woodbury county, State of Iowa, have invented certain new and useful Improvements in Fountain-Pens, of which the following is a specification.

The present invention relates to fountain pens and more particularly to a means for returning the compressor bar in the type of pen having a collapsible ink reservoir arranged in the pen barrel. The principal object of the invention is to provide a spring for returning the compressor bar which may be manufactured at a small cost and secured in the pen barrel with a minimum of labor. Other objects and features of the invention will be apparent from the description taken in connection with the drawings in which,

Figure 1 is a longitudinal sectional elevation of a pen having the present invention embodied therein, the removable pen point section being shown in elevation;

Fig. 2 is a sectional view similar to Fig. 1, but showing the ink reservoir collapsed;

Fig. 3 is a partial longitudinal section through the pen showing the normal nested position of a device for collapsing the reservoir;

Fig. 4 is a transverse sectional view taken substantially on the line 4—4 of Fig. 2; and

Fig. 5 is a longitudinal sectional view of the head end of a pen showing a modified construction.

Referring to the drawings, it will be seen that the pen in which the present invention is embodied comprises a barrel 10 having a collapsible ink reservoir 11 therein, the reservoir being in the form of an elastic tube closed at one end and open at the other where it is secured to the usual removable section 12 carrying the pen point. As is usual in this type of pen, a compressor bar 13 is provided which extends longitudinally of the reservoir 10, and is interposed between the same and the inside surface of the barrel.

The present invention relates particularly to the means for returning the compressor bar 13 from the position illustrated in Fig. 2 to that shown in Fig. 1. For this purpose a spring S is provided which comprises a strip portion 14 having one end secured, as by means of rivets 15 to the end of the compressor bar adjacent the removable section 12. The opposite end of the spring is

formed with an offset 15 which has a boss 16 threaded into the central recess or bore 17 in the head of the pen. The offset 15 is constructed so that when the boss is secured in the head 18 in the manner indicated, the main portion of the spring will normally lie against the inner surface of the barrel as indicated in Fig. 1.

For the purpose of collapsing the reservoir any suitable device may be provided. Preferably a structure like that described and claimed in my application No. 141,015 filed January 6, 1917 is employed. As shown, the barrel of the pen is formed with an elongated slot 19 extending through its wall, a member or lever 20 of a length adapted to fit in the said wall being pivoted as at 21, near the end of the slot. This pivot may consist of a pin which projects from each side of the member, and is seated in the wall of the barrel. The lever 20 at the end opposite its pivot has an element 22 pivoted thereto, the free end of which is adapted to cooperate with the spring S to push the compressor bar transversely of the bore of the barrel and compress the same into collapsed position. The element 22 is arranged with respect to the lever 20, so that the angle to which they may open up is limited to less than 90°, a stop 23 being provided for this purpose. Thus when the parts have reached the positions shown in Fig. 2, the element 22 makes such an angle with the spring 14 that the force acting has a component, tending to move the end of the element toward the right as viewed in Fig. 2, this component being sufficient to overcome the friction and cause the element 22 to move toward the lever 20 thereby relieving the reservoir from the compressive force and permitting it to expand. As clearly shown in Fig. 3, the lever 20 and element 22 are adapted to nest in the slot 19, so that the outer surface of the lever is flush with the exterior surface of the barrel of the pen. At the end opposite the pivot 21, the slot may be formed with a slight recess or depression 24 to permit the member 20 to be easily manipulated to raised position.

In the operation of the pen with the particular type of collapsing device described, the pen is immersed in a supply of ink and the member 20 raised to the position shown in Fig. 1. The operator then presses the free end of member 20 inward toward the barrel

thus through the element 22 moving the compressor bar to compress the collapsible reservoir into the position shown in Fig. 2. With the continued application of force to the member 20, when the parts have reached substantially the positions shown in Fig. 2, the component of force between the end of element 22 and the spring S will be sufficient to overcome the friction between these parts, and swing the element 22 toward the lever 20, these two parts then assuming the position shown in Fig. 3. Of course the present invention is not limited to this type of collapsing means, as obviously any of the well known devices employed for this purpose might be used.

In assembling the parts of the pen, the collapsing device is first mounted in the barrel, then the spring S is inserted through the open end thereof, and the boss 16 screwed into the threaded recess 17 in the head 18, the offset 15 preferably being arranged with respect to the thread, so that it affords a stop in cooperation with the head 18 to position the spring S at the inner side of the aperture 19. Then the removable section 12 with the ink reservoir 11 is inserted in the open end of the barrel. It will be seen, therefore, that in addition to having provided an exceedingly simple spring device, it may be assembled in the pen with a minimum of labor.

In Fig. 5, a modified construction is illustrated for supporting the boss 16 in the pen. As shown, the pen barrel 10' has a removable head 18' threaded in the upper end thereof. This head is formed with a bore or recess 17' which is adapted to receive the boss 16' on the spring S. In order to securely hold these parts together, the boss 16' is made slightly tapered and split as at 25, so that, as it is forced into the slightly tapered recess 17', it will be slightly contracted and therefore securely held. In assembling this form of the pen after the collapsing device has been mounted on the barrel, the head 18' with the attached spring S' is screwed into the end of the barrel

until the spring is positioned at the inner side of the aperture for the collapsing device. Then the removable section carrying the pen point and collapsible reservoir is placed in position.

Having thus described my invention what is claimed as new and desired to be secured by Letters Patent is:

1. In a self filling fountain pen having a barrel formed with a central recess in its head of smaller diameter than the bore of the barrel, a collapsible ink reservoir, a presser bar and means for collapsing the reservoir, the improvement which consists of a spring for returning the bar having a part rigidly secured in said central recess in the head of the pen.

2. In a self filling fountain pen having a barrel formed with a central bore in its head of smaller diameter than the bore of the barrel, a collapsible ink reservoir, a presser bar and means for collapsing the reservoir, the improvement which consists of a spring for returning the bar, said spring comprising a narrow leaf portion having an offset at one end, and a boss on said offset secured in said central bore in the head of the pen.

3. As an article of manufacture a combined presser bar and spring for self filling fountain pens comprising a presser bar, a bar having one end secured to the bar, the opposite end of the spring extending beyond an end of the bar and formed with an offset having a circular boss, substantially parallel to said spring, said spring and boss projecting from opposite sides of said offset.

4. As an article of manufacture a combined presser bar and spring for self filling fountain pens comprising a presser bar, a leaf spring extending longitudinally of the bar having one end secured to the bar, the opposite end of the spring extending beyond an end of the bar and formed with an offset having an integral threaded boss.

In testimony whereof I affix my signature.

MARTIN BORBECK.