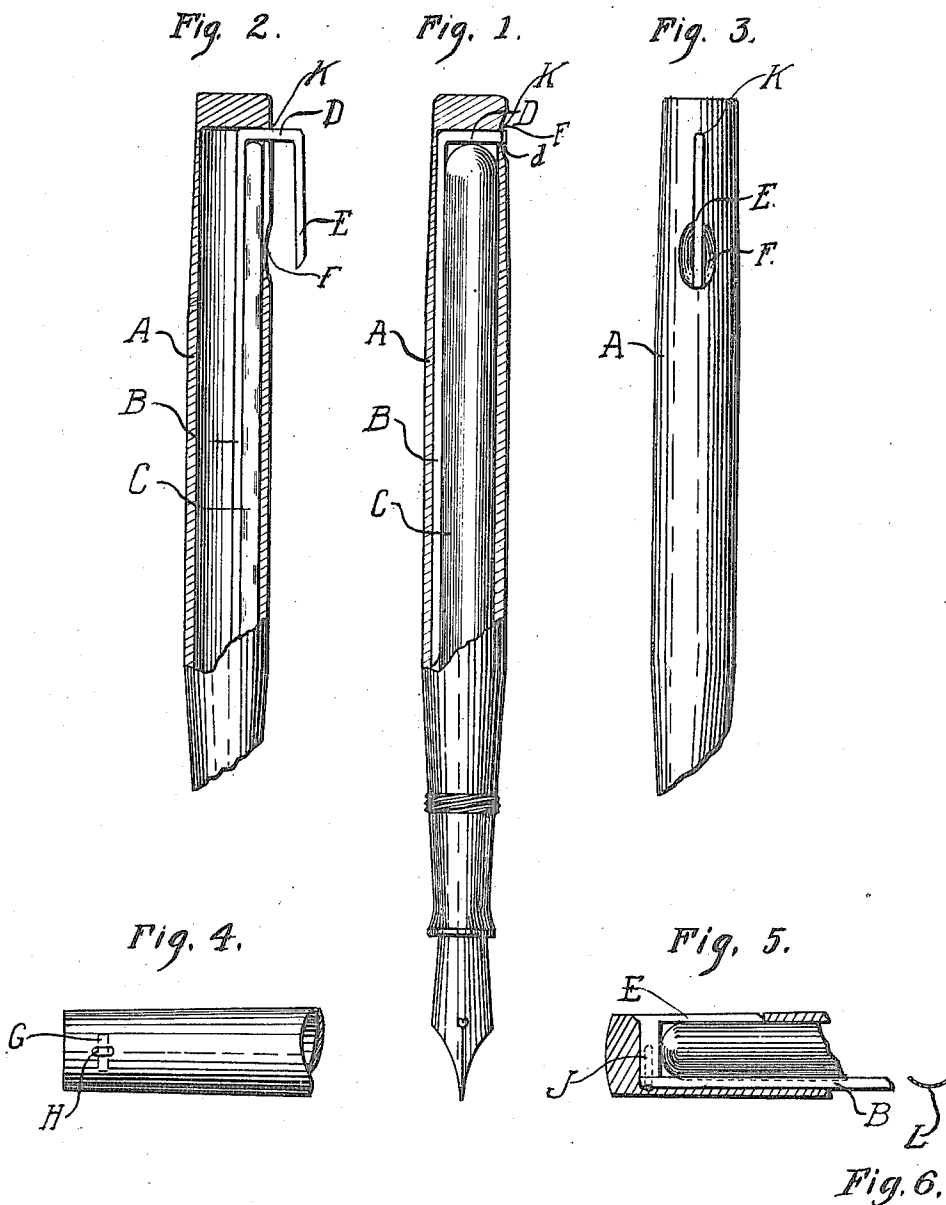


J. G. RIDER.
SELF FILLING WRITING INSTRUMENT.
APPLICATION FILED NOV. 8, 1915.

1,264,684.

Patented Apr. 30, 1918.



WITNESSES.
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SELF-FILLING WRITING INSTRUMENT.

1,264,684.

Specification of Letters Patent.

Patented Apr. 30, 1918.

Application filed November 8, 1915. Serial No. 60,414.

To all whom it may concern:

Be it known that I, JAY G. RIDER, residing at 115 South Henriette avenue, in the city of Rockford, county of Winnebago, and State of Illinois, have invented a new and useful Improvement for Self-Filling Writing Instruments, of which the following is a specification.

My invention relates to certain improvements in means for compressing flexible ink reservoirs, commonly used in self filling fountain pens, and has for its object to provide a means of this nature which will be simple in construction, comparatively inexpensive to manufacture and more efficient in action than those heretofore proposed.

With these and other objects in view the invention consists in the novel details of construction and combinations of parts more fully hereinafter disclosed and particularly pointed out in the claims.

Referring to the accompanying drawings, forming a part of this specification, in which like characters designate like parts in all the views:—

Figure 1 is a longitudinal view, partly in section, of a fountain pen provided with my invention;

Fig. 2 is a view similar to Fig. 1, a portion of the barrel being broken away, and showing the parts in their deflated condition, the deflating bar being of a slightly modified form over that shown in Fig. 1;

Fig. 3 is a plan view of the parts shown in Fig. 2, the parts being at rest or in their inflated condition;

Fig. 4 is a detail view of one end of the pen barrel showing a modified form of offset for the pull bar;

Fig. 5 is a sectional detail view of one end of a pen barrel showing a still further modified form of deflating pull bar; and

Fig. 6 is an end elevational view of the body portion of the pull bar showing the same to be curved in cross section.

A designates a pen barrel of any suitable construction, provided with any suitable compressible sack or reservoir C, adapted to hold ink and connected at its end nearest the pen point, with an outlet to said pen point in any suitable manner not shown. The upper end of the sack C is preferably closed as illustrated.

Between the sack C and the inner surface

of the barrel A is located the deflating bar B which may be of any suitable cross section, but the curved cross section illustrated in Fig. 6, in many cases, is to be preferred. The said bar B may have an integral extension as shown at D, or it may have the modified form of the extension as shown at J, Fig. 5, which is attached thereto, and which extension extends across the body of the sack C and through an opening such as K in the wall of the pen barrel as illustrated.

The outer end of the extension D which protrudes through the casing or barrel A may be provided with any suitable lug or means by which it may be grasped, such for example, as the lug *d*, Fig. 1, or the extension E, Figs. 2, 3 and 5. In said Fig. 5, the construction of the said gripping piece or lug E is preferably made integral with the extension J as shown. When a lug such as *d* is employed a scooped out or cutaway place F may be provided on the casing or barrel A, in order to facilitate the grasping of the said lug *d*, as will be clear from Fig. 1. On the other hand, when the extension E is employed, the said scooped out, or cutaway place F may be conveniently located farther from the end of the casing or barrel A, as will be clear from Figs. 2 and 3. In the last named figures I also prefer to provide a slot not lettered, connecting the space F with the orifice K.

In Fig. 4, the orifice H through the barrel is somewhat elliptical in shape, and a gripping lug such as G extends across the same as shown. In the form shown in Fig. 5, the cutaway portion F may be omitted but a slot for the accommodation of the member E is preferably provided. In all cases that portion of the deflating bar B which lies between the inner wall of the barrel and the sack C is preferably extended a convenient distance along the barrel to accomplish the efficient deflation of the sack C but it is terminated short of the open end of said sack as is indicated in Fig. 1.

In no case is it desired to hinge or otherwise permanently attach the body portion of the deflating bar B to the barrel of the pen, but merely to let the same lie loosely inside the barrel as illustrated.

The operation of my invention will be clear from the foregoing, but may be briefly summarized as follows:—When it is desired

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to deflate the sack C and thus cause it to suck up ink, it is only necessary to seize one of the lugs such as E or *d* and pull the deflating bar B bodily away from its position shown in Fig. 2, whereupon the said bar will move parallel to itself and thus deflate a maximum portion of the sack C. By this means the said sack is caused to take up a maximum quantity of ink when said bar is released, and the natural resiliency of said sack, combined with the fluid forced thereinto, will automatically return the bar B from the position shown in Fig. 2 to the position shown in Fig. 1.

15 It will thus be seen that in all the forms I have provided a simplified means of compressing the ink reservoir that gives a maximum of efficiency with a minimum number of parts.

20 In its simplest form, the deflating bar is conveniently made of ordinary plated wire, fairly stiff, but of course other suitable material may be employed when desired. In all cases it is preferred to so proportion the parts that the gripping members such as E and *d* will return flush with or slightly inside the outer surface of the casing A and thus avoid all liability of accidentally operating the bar B. It is also preferred to so arrange the parts that during the deflating operation the gripping members such as E and *d* will be pulled away from the casing, as illustrated, rather than be pushed toward said casing, for I am thereby enabled to still further lessen the liability of accidentally deflating or bringing pressure on the sack C.

It is obvious that those skilled in the art may vary the details of construction as well as the arrangement of parts without departing from the spirit of the invention, and therefore, I do not wish to be limited to the above disclosure except as may be required by the claims.

45 What I claim is:—

1. In a self filling writing instrument, the

combination of a casing; a deflatable reservoir in said casing provided with a closed end; a deflating bar provided with a body portion located between said casing and said reservoir and with an extension transverse to said body portion overlying said closed end; and means rigid with said extension, located on the outside of said casing for forcibly pulling said bar and extension in a direction transverse to said body portion for deflating said reservoir, substantially as described.

2. In a self filling writing instrument, the combination of a casing; a deflatable reservoir in said casing provided with a closed end; a deflating bar provided with a body portion located between said casing and said reservoir free from connection with said casing, and having an extension transverse to said body portion overlying said closed end; and gripping means extending lengthwise of said casing and rigid with said extension for forcibly moving said bar parallel to its length and said extension transverse to said body portion for deflating said reservoir, substantially as described.

3. As a new article of manufacture a self filling pen provided with a casing; a deflatable reservoir having a closed end in said casing; a deflating bar having a body portion extending lengthwise of the pen barrel and disconnected therewith; an extension rigid with and at substantially right angles to said body portion normally overlying said closed end and terminating on the outside of said casing; and gripping means associated with said extension for moving said body portion parallel to its length substantially as described.

In testimony whereof, I have signed my name to this specification in the presence of two subscribing witnesses.

J. G. RIDER.

Witnesses:

EDWIN M. ETHLEN,
FRED E. CARPENTER.