C. W. BOMAN.

FOUNTAIN PEN.

APPLICATION FILED SEPT. 30, 1916.

**1,205,847.** Patented Nov. 21, 1916.

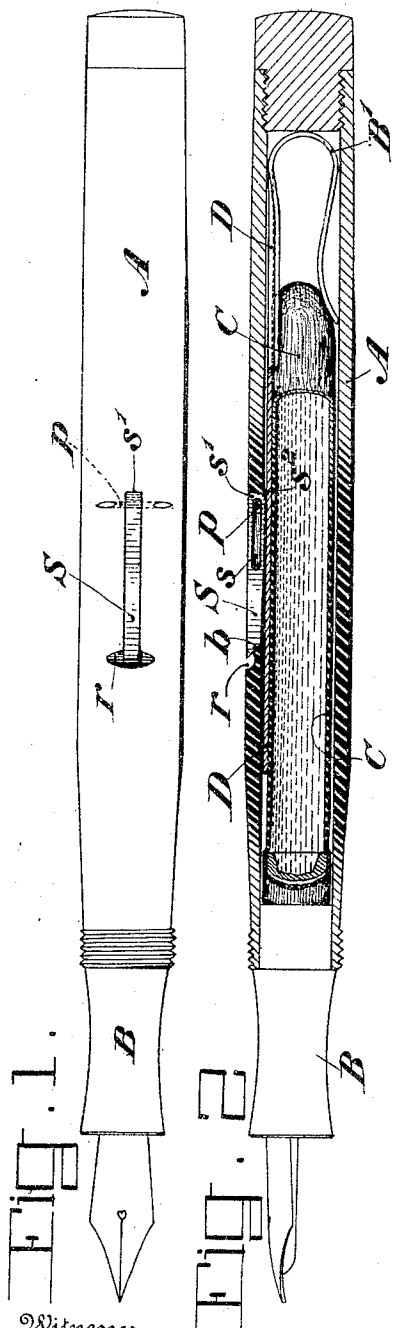

Fig. 1.



Fig. 2.

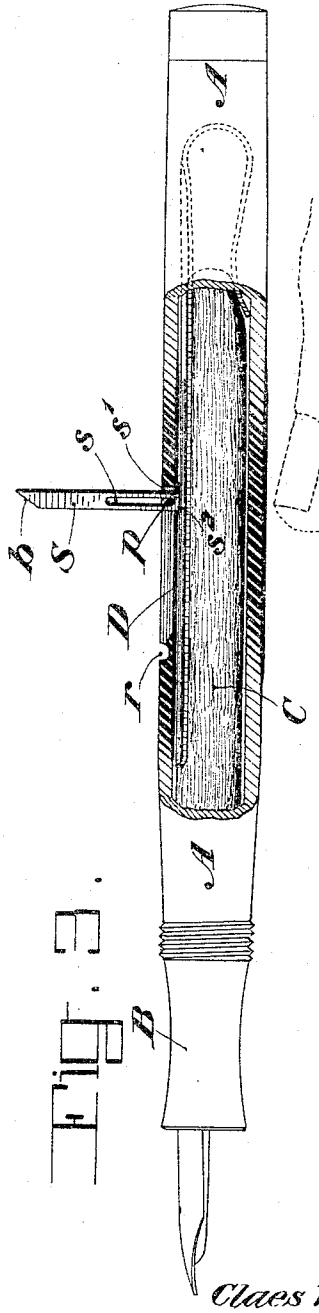

Fig. 3.

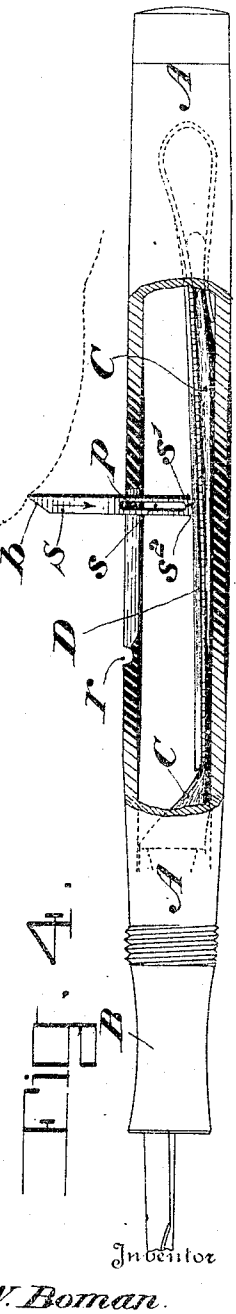

Fig. 4.

Witnesses

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# UNITED STATES PATENT OFFICE.

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## FOUNTAIN-PEN.

1,205,847. Specification of Letters Patent. Patented Nov. 21, 1916.

Application filed September 30, 1916. Serial No. 123,121.

*To all whom it may concern:*

Be it known that I, CLAES W. BOMAN, a citizen of the United States, and a resident of Brooklyn, in the county of Kings, State of New York, have invented a new and useful Improvement in Fountain-Pens, of which the following is a specification.

My invention relates to self-filling fountain pens of that type in which an inwardly movable presser bar, extending lengthwise of a collapsible ink bag and interposed between it and the tubular pen handle in which the ink bag is housed, can be reached and operated through an opening in the side of the handle.

My invention consists of a novel construction and arrangement of the operating means for actuating the presser bar to compress the collapsible ink bag, designed to produce a device simple and effective in action, and which can be conveniently and securely applied to, and fitted and held in assured position on, the pen handle. The improvement will first be described in connection with the drawing forming part of this specification, and will then be more particularly pointed out in the claim.

In the drawings—Figure 1 is a plan view of a fountain pen embodying my improvement in its preferred form. Fig. 2 is a longitudinal axial section on enlarged scale of the same partly in elevation in the plane of the operating stem S showing the parts in the position they assume with that stem in folded down position. Fig. 3 is a similar section partly in elevation with the stem turned up at right angles to the pen handle and its inner end resting upon the presser bar D, in the position it occupies when the ink bag is uncompressed. Fig. 4 is a similar sectional elevation to the preceding figure with the operating stem in the position it assumes when it has been pushed inward from the position shown in Fig. 3 to compress the ink bag.

In Figs. 3 and 4 the end portions of the pen are shown in elevation and only the intermediate portion of it in which my improvement is embraced is shown in section.

A is the tubular pen handle with the usual nozzle B, which holds the feed bar and pen, fitted into its front end. Within the handle is the collapsible, resilient, vulcanized soft-rubber ink bag C having its mouth fitted upon the rear end of the nozzle B; and interposed between the ink bag and the handle is the presser bar D extending as customary lengthwise of the ink bag in position to be pressed inwardly by a device operating through a suitable opening in the handle. The presser bar may be held in its position relatively to the ink bag in any known way and by any suitable or preferred means. In the present instance it is made of spring metal and has its rear portion bent into U-shape, as indicated at B′, this U portion serving to hold the presser bar into place and also acting as a spring to return the presser bar to its normal outer position from the inward position to which it is forced in order to compress the ink bag. The resiliency of the ink bag aids in this return movement of the presser bar. Thus far there is nothing new in the pen.

I come now to the means for operating the presser bar in which my present invention is comprised, these means consisting of an operating stem S longitudinally slotted as at *s*, and a pin *p* secured in or to the handle in a position to extend crosswise of the longitudinal slot *a* therein, in which the operating stem snugly fits and lies flush with the handle when in its turned-down inoperative position as in Fig. 2. The pin is located at or near one end of the slot *a*, in this instance the rear end. In this position it passes through the slot *s* in the operating stem whose free end is at the opposite end of the slot *a* as shown, the stem being capable either of turning on the pin as a pivot or of sliding bodily upon it as a guide according to its position. It turns upon the pin as a pivot in moving from its folded-down position in Fig. 2 to its turned-up position in Fig. 3. After having been brought to the upright position shown in the last mentioned figure with its slotted front or inner end resting on the presser bar and the pin *p* at the inner end of a slot *s*, the stem is then pushed bodily inward to cause the presser bar to compress the ink bag as shown in Fig. 4, the pin *p* during this movement serving simply as a guide for the slotted stem. When pressure is removed from the stem, the latter, by the resilient action of both the presser bar and the ink bag, is pushed bodily outward to the position in Fig. 3 from which it started, where it may again be folded down flat into the slot *a* in the handle upon the pin *p* as

a pivot, thus returning to the position shown in Fig. 2.

The front or inner end $s'$ of the operating stem is perferably flat and square so that it will take a square flat bearing on the presser bar when the stem is in upright position. The heel $s^2$ of this end will, in conjunction with the outwardly spring-pressed presser bar D against which it rests, form a spring detent to hold the operating stem from accidental displacement in either its open or shut position somewhat after the fashion in which the blade of a jack knife is held. The inward depression of the presser bar which takes place as the heel $s^2$ moves it when the operating stem is turning from open to shut position or vice versa is very slight and not sufficient to cause the appreciable ejection of any of the contents of the ink bag.

The compression for fitting purposes is effected only after the operating stem has been brought to upright position at right angles to the pen handle as shown in Fig. 3. The inward movement of the operating stem from this position to that shown in Fig. 4 for thus compressing the ink bag is effected, as before said, by hand pressure, the stem under this pressure moving bodily in a right line in the direction of its length and being assured in its upright position while thus moving by the guiding contact of the pin $p$ with the walls of its solt $s$ as well as by the bearing which its squared inner end $s'$ takes against the presser bar.

The free or handle end of the oprating stem may be formed in any suitable way to furnish a hold by which it can be lifted from shut to open position. In this instance this end of it is beveled as shown at $b$ and at the point of the bevel there is a recess $r$ in the handle to allow the finger nail or some equivalent instrumentality to be inserted between the handle and the beveled tip of the stem.

Having described my invention and the best way known to me of carrying the same into practical effect, I state in conclusion that I do not limit myself narrowly to the structural details hereinbefore shown and set forth in illustration of my invention, since manifestly the same can be varied in a number of particulars without departure from the spirit of the invention; but

What I claim and desire to secure by Letters Patent is as follows:

In a self-filling fountain pen, the combination with a tubular handle, nozzle, collapsible ink bag, and presser bar interposed between the ink bag and the handle and extending lengthwise of the said bag in line with an opening in the side of the handle through which it may be reached; of an operating stem fitting said opening, and longitudinally slotted at one end for a portion of its length; and a pin mounted in the handle to extend crosswise of the side opening therein and through the slot in the operating stem, said pin when the stem is in shut position being at or near that end of the slot farthest removed from the handle end of the stem, whereby the stem in moving from shut to open position or vice versa will swing on said pin as a pivot and, after reaching its upright position, when pushed inward to force the presser bar to compress the ink bag will move bodily in that direction upon the pin as a guide.

In testimony whereof I affix my signature

CLAES W. BOMAN.