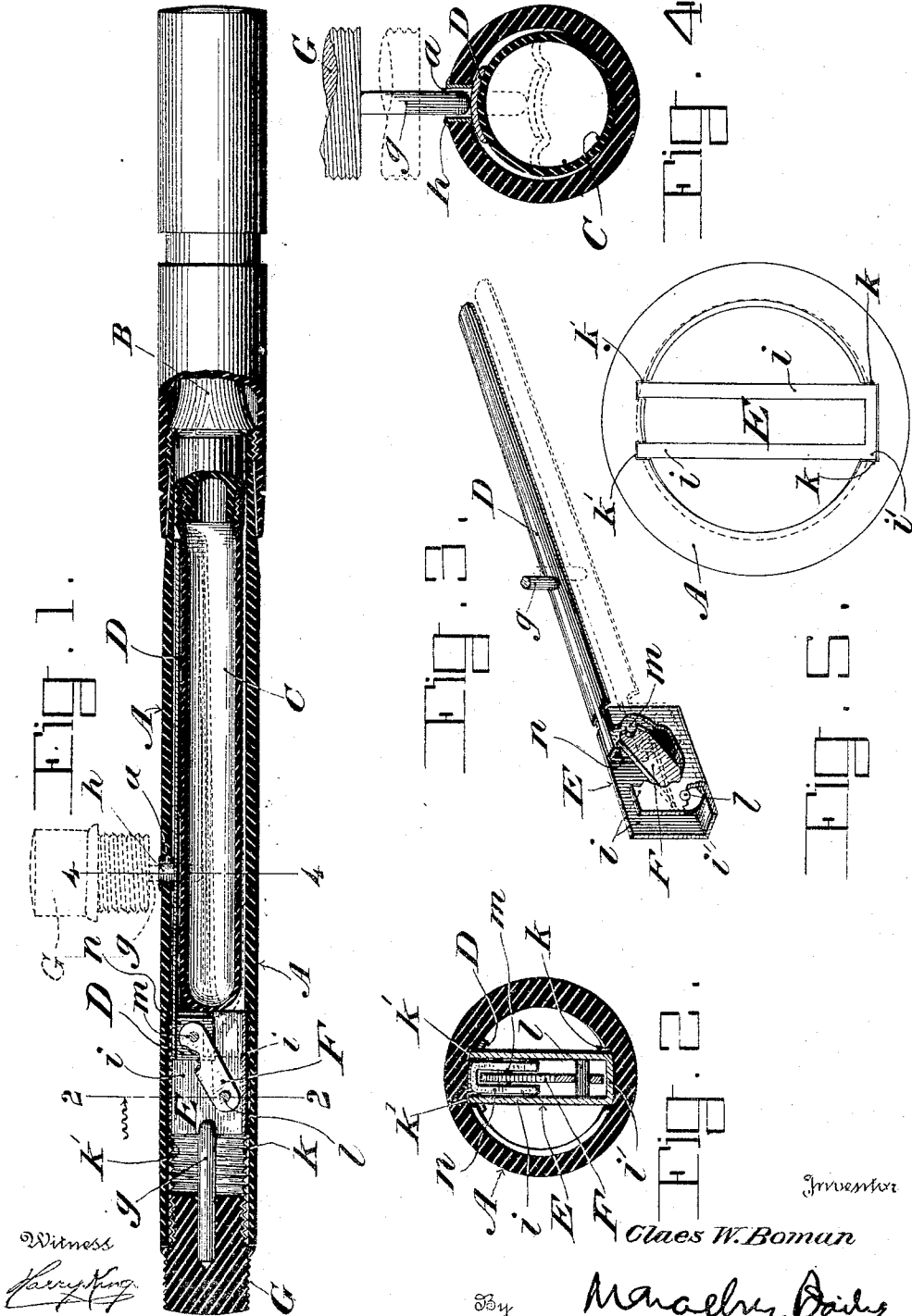


C. W. BOMAN.
FOUNTAIN PEN.

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1,198,994.

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FOUNTAIN-PEN.

1,198,994.

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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 extending lengthwise of a collapsible ink bag and interposed between it and the tubular pen handle or barrel in which the ink bag is housed can be reached and operated through an opening in the side of the handle.

The invention consists of a novel construction of the presser movement, designed to produce a device simple and effective in action, and which as a whole can be readily and securely applied to and fitted and held in assured position within the pen barrel.

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 claims.

In the drawing—in which all of the figures are on enlarged scale—Figure 1 is a longitudinal axial section partly in elevation of a self-filling fountain pen embodying my improvement—the presser being shown in dotted lines in the position it occupies when moved inwardly to compress the collapsible ink bag. Fig. 2 is a section on line 2—2 Fig. 1. Fig. 3 is a perspective view of the presser movement detached, the holder or carrier being partly broken away to expose the inside works. Fig. 4 is a section on line 4—4 Fig. 1. Fig. 5 is a diagram of the open rear end of the pen barrel, with the longitudinal guide grooves therein, and the holder E fitted in said grooves—the rest of the presser movement being omitted.

A is the hard rubber pen barrel or tubular 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 ink bag C made of vulcanized soft rubber, having its mouth fitted tightly upon the rear end of nozzle B. Thus far there is nothing new in the pen.

Within the handle A is the presser movement, comprising the presser D, the holder E and the link F pivoted at its front end

to the presser and at its rear end to the holder.

The presser D consists of a long narrow bar, made preferably of sheet metal, extending, as customary, lengthwise of the ink bag, and between it and the interior wall of the handle, in such position that when pressed inwardly it will flatten and compress the ink bag. To allow the presser bar to be reached for this purpose a suitable opening is provided in the side of the handle. An opening of a size to admit the finger is not only unsightly, but inconvenient to the hand in using the pen for writing and objectionable in other respects. I make the opening, therefore, a hole of small size *a* about large enough to admit a metallic presser pin *g*, which, for convenience sake, I mount upon the inner end of the plug G which screws into or is otherwise detachably fitted to the rear end of the pen handle. The plug is shown in Fig. 1, in dotted lines in the position it occupies when the presser pin *g* is inserted into the hole *a* to press inwardly the presser bar D. The hole *a* is eyeleted as indicated at *h*, to furnish it with a smooth metallic lining which will act as a sure support and guide for the pin *g* in its movement, and will prevent the enlargement of the hole *a* which otherwise would result from continued use of the pin.

The holder E consists of a plate of sheet metal which is bent on itself into U or staple shape in cross section, with flat, parallel, symmetrical side walls *i* of rectangular contour, separated from one another by a narrow interval which provides the space in which the presser movement—excepting that portion of the presser bar which overlies the ink bag—is housed, the inner faces of these side walls acting as guides to assure and steady the housed parts in their movements. The carrier is designed to be inserted lengthwise diametrically into the handle A from the rear end thereof, and to engage firmly guides provided for it on or in the interior of the handle. These guides are provided in the present instance in, and longitudinally of, the inner face of the tubular handle consisting of shallow grooves, the one *k* to receive the solid edge *i'* of the carrier where the two side plates *i* join one another, and the others *k'*, *k''* approximately diametrically opposite the groove *k*, parallel with

each other and at a distance apart from one another corresponding to that which separates the two side walls of the carrier, being thus adapted to receive the free longitudinal edges of the two side walls *i*, one groove *k'* for each side wall *i*. The carrier thus formed is inserted into the handle from the rear of the same, and with its opposite longitudinal edges in the groove *k* and the grooves *k'*, *k'* respectively, which it fits closely, and is pushed forward until it brings up against the front ends of the grooves, in which position it will be frictionally held without need of any other fastening.

The link *F* is hung at its rear end upon a cross pin *l* at the rear, and near the closed edge of, the holder *E*, and at its front end is pivotally connected at *m* to the rear end of the presser *D*, there being at this point a hub or enlargement *n* on one or the other of the parts—in this instance the presser *D*—which is of a width to fit snugly, but not too closely, between the two side walls *i* of the carrier, and is provided with smooth exterior side faces to match the inner faces of the side walls *i*. In the normal position of parts, when the ink bag is not collapsed, the link *E* extends forward from its rear pivot *l* near one side of the handle diagonally across between the walls of the carrier, to the diametric opposite side of the handle, the guide hub *n* occupying the position shown. Whenever the presser bar is pressed inwardly the guide *n* will move through the open space between the side walls and in contact at all times with the inner faces of said walls over which it travels, thus assuring the steadiness and certainty of movement of the link and presser bar.

Having described my invention and the best way now 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 the 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 herein as new and desire to secure by Letters Patent, is as follows:

1. In a self-filling fountain pen, the combination with a tubular handle, a nozzle in the front end of the handle and a collapsi-

ble ink bag attached to the nozzle and housed within, and extending lengthwise of, the handle, in position to be reached through an opening in the side of the same, of a presser bar interposed between said ink bag and handle, and extending lengthwise of said bag in line with the side opening in handle; a holder secured in the handle provided with side walls separated from one another by a narrow interval and having parallel interior opposite guide faces; a link housed in said holder between the side walls of the same and pivoted at its rear end thereto, and at its front end to the presser bar; and guiding means on the meeting ends of the presser bar and link, which fit between and can slide upon the coating inner guide faces of the side walls of the holder, substantially as and for the purposes hereinbefore set forth.

2. In a self-filling fountain pen, the combination with a tubular handle, a nozzle at the front end of the same and a collapsible ink bag attached to the nozzle and housed in the handle, of a holder of *U* section inserted and held in diametric position in said handle with its opposed longer edges seated in correspondingly located longitudinal grooves formed in the inner face of the handle, a presser bar extending lengthwise of the ink bag and interposed between it and the handle, and a link housed in said holder between the walls of the same, pivoted at its rear end to the holder and at its front end to the presser bar, the meeting ends of the presser bar and link being received between and guided in their movements by the inner faces of the side walls of the holder, substantially as hereinbefore set forth.

3. In a self-filling fountain pen, a presser movement comprising a presser bar to extend lengthwise of a collapsible ink bag within the tubular pen handle; a holder having longitudinal parallel walls separated from each other by a narrow interval, and adapted to be secured within the rear portion of the pen handle; and a link jointed at its front to the presser bar and at its rear to the holder, located and housed between the parallel walls of the holder, and guided thereby in its movements, substantially as hereinbefore set forth.

In testimony whereof I affix my signature.

CLAES W. BOMAN.