No. 785,653. PATENTED MAR. 21, 1905.

C. W. BOMAN.

FOUNTAIN PEN.

APPLICATION FILED DEC. 21, 1904.

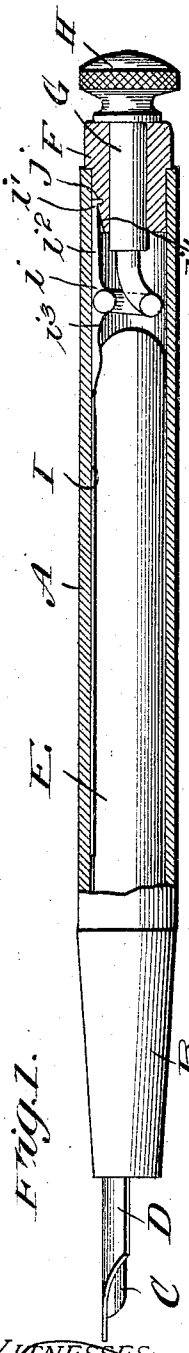

Fig. 1.

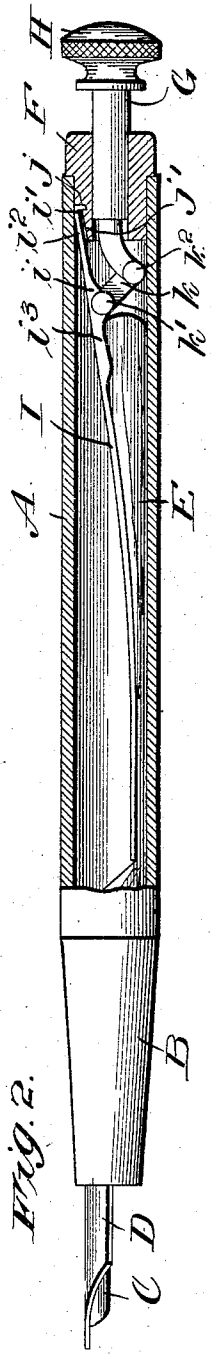

Fig. 2.

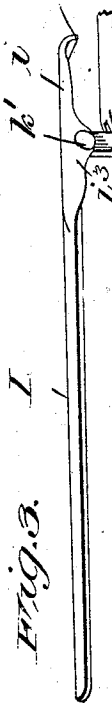

Fig. 3.

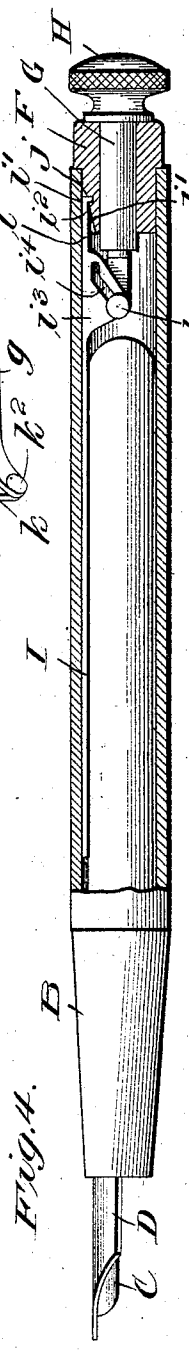

Fig. 4.

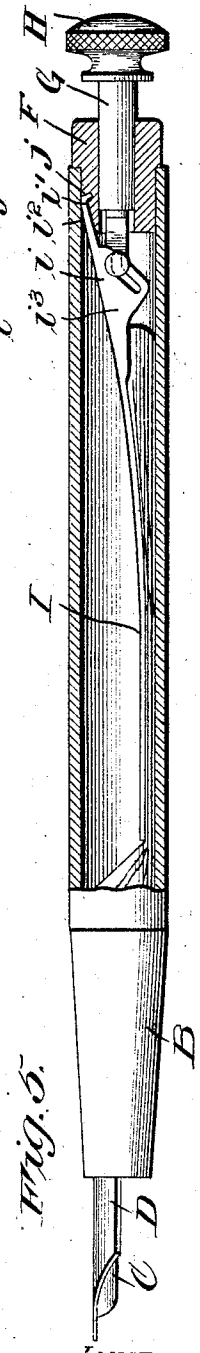

Fig. 5.

WITNESSES:

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No. 785,653. Patented March 21, 1905.

UNITED STATES PATENT OFFICE.

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FOUNTAIN-PEN.

SPECIFICATION forming part of Letters Patent No. 785,653, dated March 21, 1905.

Application filed December 21, 1904. Serial No. 237,779.

To all whom it may concern:

Be it known that I, CLAES WILIAM BOMAN, a citizen of the United States, and a resident of New York city, in the county and 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 what are styled "self-filling" fountain-pens, and more particularly to that kind of such pens in which a laterally-movable presser located within the handle and interposed between the handle and the collapsible ink-bag contained therein is combined with an external movable operating-cap and connections between the cap and the presser, whereby the movement of the cap in one direction or the other, as the case may be, shall cause the presser to move laterally in a direction to squeeze the walls of the ink-bag together. My application is directed to a form of pen of this general kind in which the operating-cap for the purpose of squeezing the ink-bag has an outward movement—that is to say, must be pulled outwardly by hand—the advantage of this arrangement being that the liability to expel the ink accidentally from the ink-bag is much less than it would be were the operative movement of the cap in an inward or forward direction, and no means of locking the cap to prevent accident from this cause need be provided, besides which the connection between the cap and presser may be direct and positive.

In the accompanying drawings, to which I shall now refer for a better understanding of my invention, Figure 1 is a side elevation, partly in section, of a fountain-pen embodying my improvement in that form in which the presser is actuated by an outward movement of the operating cap or head. In this figure the parts are represented in the position they occupy when the rubber bag is uncompressed. Fig. 2 is a view similar to Fig. 1, representing the parts in the position they occupy when the rubber bag is compressed. Fig. 3 is a view of the presser detached. Figs. 4 and 5 are views similar to Figs. 1 and 2 of a modification.

The tubular handle A is of the usual construction and is provided with the usual tubular nozzle B, which holds the feed-bar C and pen D. Within the handle is the collapsible ink bag or reservoir E, made of vulcanized soft rubber or other suitable material, closed at its rear end and at its front end fitting upon the rear end of nozzle B. Thus far there is nothing new in the pen. The rear end of the handle is closed by a plug F, secured tightly thereto by a friction-joint or other suitable means and having a longitudinal axial bore through which passes the reciprocatory rod or plunger G, on the outer end of which is the pressure-cap H. Within the handle and secured therein so as to be capable of lateral movement is the presser, consisting in this instance of the single long jaw or finger I, which is interposed between the ink bag or reservoir E and the handle A and extends lengthwise of the same. The presser is shown detached in Fig. 3. It is made, preferably, of spring metal in the shape of a long slim finger with a head i, which engages plug F, this head having a flange i', which enters a cross-slot j in the plug, and a shank i^2, which is received in a recess j' in the exterior of the plug. Below the shank i^2 the presser is formed with ears i^3, bent into parallelism with one another to furnish bearings for the cross-pin k', which passes through the ears and the end of link k, interposed between the ears, the other end of the link being jointed at k^2 to the lower and outwardly-bent end g of the plunger G. The link is thus jointed at one end to the plunger and at the other end to the presser.

In Fig. 1 the parts are shown in normal position, the plunger being in its innermost position and the link k extending crosswise of the handle at about right angles to the longitudinal axis of the latter. In this position the ink-bag is uncompressed. If now the plunger be pulled outwardly, the effect will be through the link k to draw the presser inward laterally upon the rubber bag, so as to press the walls of the latter together, as seen in Fig. 2.

In the modification shown in Figs. 4 and 5 the arrangement of parts is the same as in Figs. 1 and 2, except as to the connections

between the plunger and the presser. In Figs. 4 and 5 the inner end of the plunger is straight, the ears i^3 on the presser are made of a size to permit the formation in them of the inclined slots i^4, and the inner straight end of the plunger, which extends between these ears, has fixed in it a cross-pin l, which projects laterally from each side of the plunger, so as to enter and engage the slots i^4. By reference to these figures it will be understood without further explanation how the outward movement of the plunger, from the position shown in Fig. 4 to that shown in Fig. 5, operates through the connections between the plunger and the presser to move the latter laterally in a direction to compress the ink-bag.

Having described my improvement and the manner in which the same is or may be carried into effect, I state in conclusion that I do not limit myself to the structural details hereinbefore shown and described in illustration of the invention, because manifestly the same can be varied without departure from the spirit of the invention; but

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

In a fountain-pen, the combination with the tubular handle and the collapsible ink bag or reservoir therein, of a laterally-movable presser interposed between the ink-bag and the handle, a longitudinally-movable plunger mounted in the rear end of the handle, and having an external head or cap, and connections between the plunger and the presser, whereby the outward movement of the plunger shall cause the presser to move laterally in a direction to press the walls of the ink-bag together or toward each other, substantially as hereinbefore set forth.

In testimony whereof I affix my signature in presence of two witnesses.

CLAES WILIAM BOMAN.

Witnesses:

SAMUEL KRAUS,

OSCAR ANDERSON.