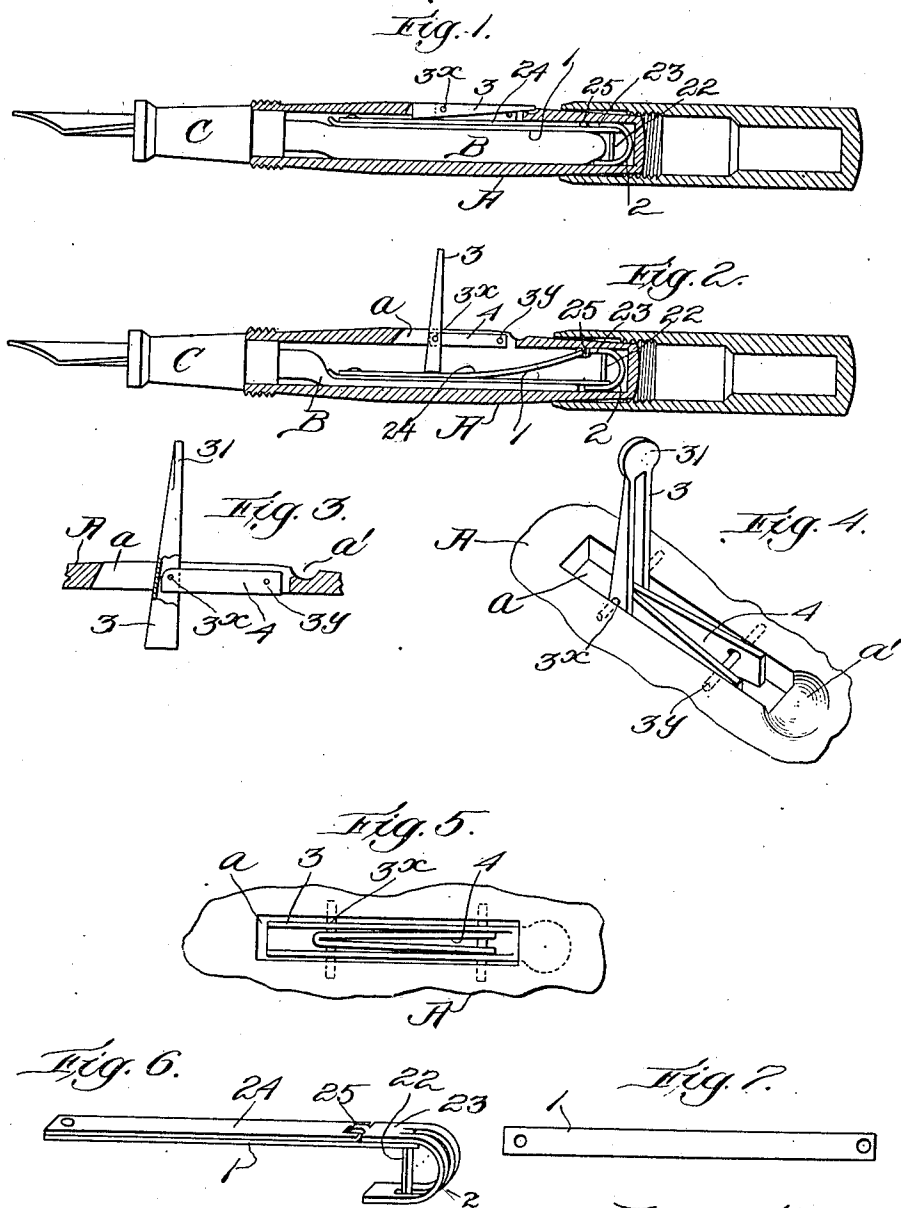


G. F. BRANDT.
 FOUNTAIN PEN.
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1,261,481.

Patented Apr. 2, 1918.



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 attys.

UNITED STATES PATENT OFFICE.

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FOUNTAIN-PEN.

1,261,481.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, GEORGE F. BRANDT, a citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented new and useful Improvements in Fountain-Pens, of which the following is a specification.

My invention relates to fountain pens of the kind in which a flexible and resilient ink sack is employed, within a hollow handle or fountain, and in which provision is made for compressing the ink sack to expel the air therefrom and permit the sack, when the compressing force is released, to expand by virtue of its resilience, and allow ink to fill the sack. Such pens are old and well known as "self-filling" fountain pens.

The means for compressing the ink sack provided in many pens of this type consists of a presser bar of suitable material, say, thin sheet metal, mounted within and at one side of the fountain and between the inner wall of the fountain and the ink sack. Through the wall of the fountain, above the presser bar, is provided a longitudinal slot, in which lies and is pivotally mounted, a lever, one end of which being raised to a position perpendicular to the axis of the fountain, the other end swings down into the fountain, engages and depresses the presser bar and compresses the ink sack. Such a pen is shown in United States Patent to Scheaffer, No. 1,046,660, dated Dec. 10, 1902.

When the lever is returned to its position within the longitudinal slot and parallel with the axis of the fountain and the ink sack, the ink sack expands, lifting the presser bar and holding it against the inner wall of the fountain. In this position the pressure of the resilient ink sack tends to resist any movement of the lever away from its position of parallelism with the ink sack. It is obvious however, that when the ink sack is under compression its reaction is most forceful and, as it expands, its force becomes less and less. If its expansion is complete before the presser bar is lifted into contact with the inner wall of the handle, the presser bar will not be held in contact with the inner wall. If it is nearly complete, the presser bar will not be held with relative strength and firmness. The consequence is that the lever lying in the slot may move slightly on its pivot, not being se-

curely restrained by firm pressure of the presser bar beneath the slot. It is desirable that the sack should fully expand in the filling operation and it is desirable also that the lever should lie in the slot without movement, otherwise, one end may rise and be accidentally caught and moved, thus expressing the ink from the sack, possibly on the clothing of the user.

To prevent this possibility I have devised a means, mounted in the slot, for frictionally engaging the lever when it is returned to normal position and holding it against movement until it is lifted, against the resistance of this friction, by the user.

In the drawings, Figure 1 is a longitudinal, sectional elevation of a pen embodying my invention, the lever being in normal position and the ink sack expanded; Fig. 2 is a similar view, but showing the lever raised and the ink sack compressed; Fig. 3 is a detail on an enlarged scale, of the slot, lever and friction device, the lever being broken away to show the end of the friction device within the lever, with especial reference to its shape; Fig. 4 is a detail in perspective, on an enlarged scale, of the slot, lever and friction device; Fig. 5 is a view from beneath of the parts shown in Fig. 4, the lever being in longitudinal position. Fig. 6 is a detail of the holding device. Fig. 7 is a detail view of the presser bar.

In the drawings A is the hollow handle or fountain, B is the ink sack and C the point section which carries the ink feed bar and gold pen point, all as usual. The presser bar 1 is connected at the rear end to a holding device, 2, made up of a U-shaped spring metal clip, crossed by a tongue 22 stamped out of the body of the clip. An aperture in the presser bar engages the tongue, so that the presser bar, at this end, is held against longitudinal or cross displacement. To the upper member 23 of the U-clip is hinged at 25 a guide link 24 fast at its other end to the presser bar, the link serving the purpose of controlling the longitudinal position of the presser bar at its end opposite to that which engages the clip 2.

Within the longitudinal slot, *a*, in the fountain, is pivoted at 3^x a lever 3, the lever lying normally within the slot, parallel with and directly over the presser bar 1. This lever 3 is, in cross-section U-shaped, and between the sides of the lever and supported

upon the pivot pin 3^x is one end of a flat spring friction member 4, bent at the center, the two arms of which extend along the slot from the pin 3^x and are supported at their free ends, in any suitable manner. In the drawing I have shown a pin 3^y across the slot, passing through apertures in the ends of the friction member 4, so that the ends are free to be forced together, along the pin 3^y against the tension of the spring, which tends to spread the ends, but which ends are restrained from movement crosswise of the pin. The end 31 of the lever 3 is preferably flattened as shown, and this flattened end is received in a depression, *a*¹, in the outer surface of the handle, so that it is slightly below the surface of the handle and does not project so that it may be accidentally engaged.

The operation is as follows: The ink sack being empty and the parts in the position shown in Fig. 1, to fill the ink sack, the lever 3 is moved to the position shown in Fig. 2. The lower end of the lever, engaging the guide link 24 with its attached presser bar 1, depresses them, the link 24 moving at its hinge, 25, and the presser bar moving on the tongue 22, the sack being by this operation flattened and the air therein expressed. The pen end is then submerged in ink and the lever 3 is returned to the position shown in Fig. 1. The ink sack, released from pressure, then expands by its natural resiliency, and ink is forced into the sack through the pen point. In this operation the sack pushes the presser bar 1 and guide link 24 against or toward the inner wall of the fountain or handle. If the ink sack is thick and large, and the expansion is not complete when the presser bar is stopped by the wall, the link and bar will be held against the inner side of the slot, *a*, so that the lever will have no chance to move. If however, the sack is made of

thin rubber, in order to increase its ink capacity and of a size to be practically fully expanded when the link and presser bar engage the inner wall of the handle, the pressure will be feeble and the lever may by jar or other force move somewhat on its pivot, unless other restraining means be employed.

In pressing the lever 3 down, in my improved construction, it will be observed that the side walls of the lever will, as it is moved on its pivot, engage the spreading arms of the friction member 4, and, as the movement is continued, these arms will be wedged together and received within the hollow of the lever 3, pressing outward against the side walls of the lever and holding the lever against accidental movement by the frictional adhesion generated. When it is desired to shift the lever the user's finger nail may be inserted under the flattened end 31 of the lever in the depression *a*¹.

The friction member 4 it will be observed is curved on its upper rear corner (see Fig. 3) and the pivot 3^x is so positioned that the rear wall of the lever 3 will pass free of this corner of member 4 when the lever is swung. The lower corner of the member 4 however is square and serves as a stop to further movement of the lever after it has been raised to a position perpendicular to the longitudinal axis of the ink sack and fountain, as shown in Fig. 3.

I claim:—

In a fountain pen, a hollow handle having a slot extending longitudinally thereof; a hollow lever having side walls, pivotally mounted within the slot; an expanding friction member mounted within the slot and within the side walls of the lever, substantially as, and for the purpose described.

Signed by me at Boston, Mass., this 10th day of December 1917.

GEORGE F. BRANDT.