Nov. 18, 1941. B. W. HANLE 2,263,299

FOUNTAIN PEN

Filed Dec. 22, 1939

Fig. 1.

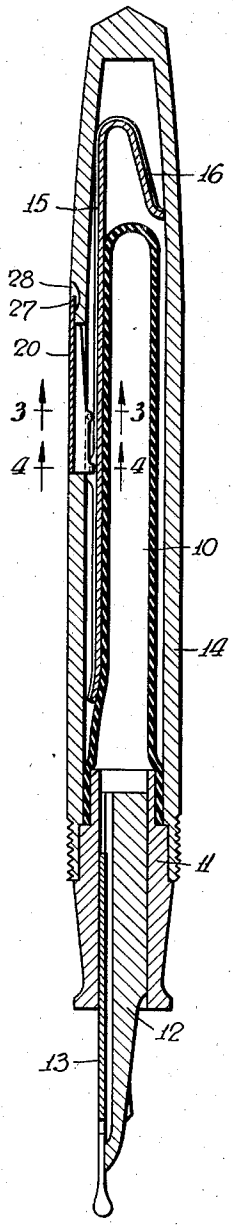

Fig. 2.

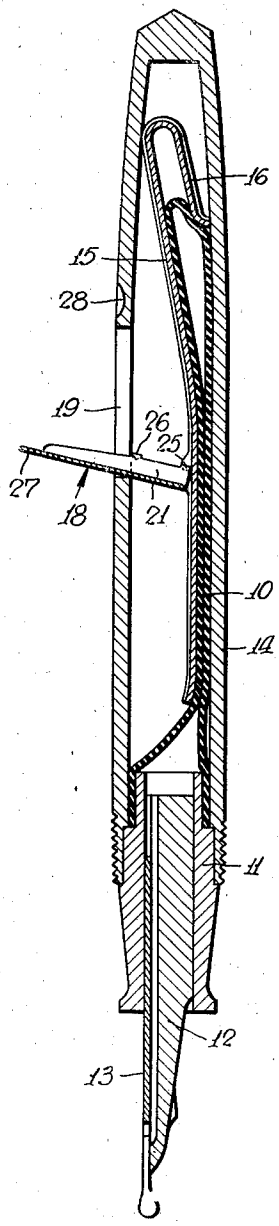

Fig. 3.

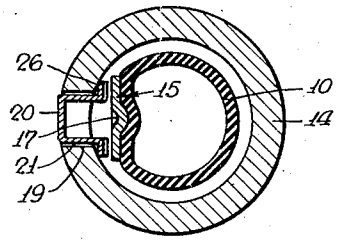

Fig. 4.

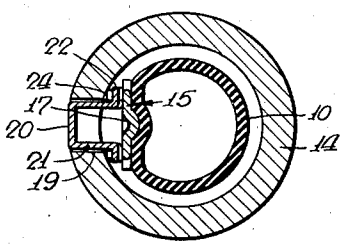

Fig. 5.

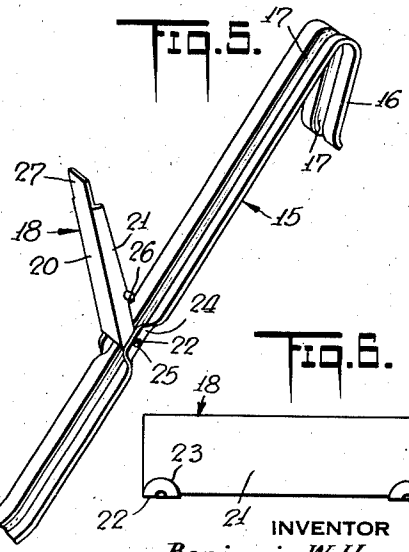

Fig. 6.

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FOUNTAIN PEN

Benjamin W. Hanle, New York, N. Y., assignor to Eagle Pencil Company, a corporation of Delaware

Application December 22, 1939, Serial No. 310,534

2 Claims. (Cl. 120—46)

The present invention relates to fountain pens of the lever operated sac type.

Among the objects of the invention are to provide a fountain pen in which the sac collapsing fountain pen filler means is of inexpensive and rugged construction, sure in operation and involves only a pair of simple stampings, readily installed in the barrel by a single thrust and inherently and securely accommodated and retained against displacement with respect to the smooth inner wall of the barrel which is interrupted only by the conventional longitudinal slot that accommodates the lever, all without the need for special attachment means or the peripheral grooving and weakening of the barrel bore entailed with certain conventional fastening means.

In the accompanying drawing in which is shown one of various possible embodiments of the several features of the invention,

Fig. 1 is a view in longitudinal cross-section through a pen involving the invention, and showing the lever in closed position,

Fig. 2 is a view similar to Fig. 1 showing the lever raised for collapsing the sac in the filling operation,

Fig. 3 is a transverse sectional view taken on line 3—3 of Fig. 1,

Fig. 4 is a transverse sectional view taken on line 4—4 of Fig. 1,

Fig. 5 is a perspective view showing the correlation of the presser bar and the lever, and

Fig. 6 is a greatly enlarged fragmentary side view of the operating lever.

Referring now to the drawing, the pen includes the usual rubber sac 10 the forward end of which is mounted upon the section 11 which carries the feed 12 and pen point 13 and which is securely lodged by friction or otherwise in the forward end of the substantially conventional barrel 14. Within the barrel is the presser bar 15 which may be of brass or of spring steel, and comprises a sheet metal strip reversely curved at one end 16 and retained under compression in conventional manner by the encircling wall of the barrel. The length of the presser bar extends longitudinally between the outer wall of the sac 10 and the inner wall of the barrel 14 and in substantial contact with the former. Preferably the strip has a longitudinal embossed rib 17 thereon for enhanced stiffness.

The operating lever 18 is lodged within the longitudinal slot 19 in the barrel and its forward end is pivoted to the presser bar. In the particular construction shown, the lever arm comprises a unitary stamping including a face 20 and downturned lateral wings 21, for channel-shaped cross-section. At the forward extremity of the lateral wings 21 are outturned bearing studs 22 preferably unitary and integral with the lever, each desirably arched longitudinally at 23 for enhanced stiffness. The unitary bearing studs 22 have a bearing mount in upturned ears 24 integral with the presser bar and suitably perforated at 25 for the purpose. The lateral wings 21 of the lever arm also have a pair of outturned fulcrum studs 26 in a unitary piece therewith which preferably are also arched longitudinally for stiffness.

In the position shown in Fig. 1, the face of the lever extends flush with the outer wall of the barrel in the slot 19 thereof. The downturned wings 21 of the lever snugly engage the side walls of the slot 19, the pivot studs 22 extend transversely of the slot near the forward extremity thereof and the fulcrum studs 26 are keyed under the side walls of the slot 19 as shown. Desirably the rear end 27 of the lever protrudes beyond the wings 21 into a finger notch 28 in the barrel for finger nail insertion to lift the lever for filling.

To assemble the construction, the lever is pivotally mounted on the presser bar by inserting its pivot studs 22 into the bearing perforations 25. The assembly in the pen barrel may readily and instantly be effected by hand, but preferably by resort to a simple jig. By a simple thrust upon the filler assembly the same is moved rearward into the barrel until the face 20 of the lever comes into registry with the slot 19, when the resiliency of the presser bar 15 causes said lever to snap or click into place. The filler mechanism is thereby securely retained in position, the end walls of slot 19 by their coaction with the ends of the lever wings 21 locking the filler assembly against longitudinal displacement in the casing. The fulcrum studs 26 on the lever are urged by the pressure of the presser bar 15 against the inner wall of the barrel and thereby retain the lever securely in its slot 19.

In raising the lever from the position of Fig. 1 to that of Fig. 2, for the purpose of filling, the studs 26 act as a sliding fulcrum. They slide along the length of the slot 19 while the pivot 22 of the lever rocks in bearing ears 24 in the presser bar, thereby to compress sac 10 as shown in Fig. 2.

The lever is readily returned to closed position and after passing dead center it is snapped com-

pletely closed by the return of the resilient presser bar to the position shown in Fig. 1.

Thus, the filling assembly is of utmost simplicity, comprising only two metal stampings which are correlated for one to pivot on the other, without the need for any pivot pins or bearing elements apart from the respective unitary stampings. The assembly in the barrel is effected by one simple thrust and no further manipulation is required for security of attachment, nor is any peripheral groove or the like required in the bore of the barrel which might add to the cost of production and detract from its mechanical strength. The construction by virtue of its simplicity is secure and not subject to derangement by jamming or otherwise.

As many changes could be made in the above construction and many apparently widely different embodiments of this invention could be made without departing from the scope of the claims, it is intended that all matter contained in the above description or shown in the accompanying drawing shall be interpreted as illustrative and not in a limiting sense.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent is:

1. A filler assembly for a fountain pen comprising a resilient presser bar having lateral upstanding bearing ears with aligned perforations, a coacting operating lever of channel bar stock, the forward edges of said channels having outturned pivot studs arched for stiffness thereof and coacting with the perforations in said bearing ears for pivotal mount therein, the edges of said channel bar stock having a further pair of outturned studs integral therewith and between the ends thereof and arched for stiffness thereof to serve as a sliding fulcrum for the lever when installed.

2. As an article of manufacture a filling lever for a fountain pen, said lever comprising a unitary piece of sheet metal having down-turned lateral wings, said wings at one end thereof having outturned pivot studs arched for stiffness thereof and having similar lateral studs between the ends thereof serving as a sliding fulcrum, the face of said lever projecting at the end opposite said pivot end beyond the lateral wings thereof for finger nail engagement thereof.

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