PATENT SPECIFICATION

621,241

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Index at acceptance:—**Class 146(iii),** A11e1.

PROVISIONAL SPECIFICATION

Improvements in and relating to Sac Self-Filling Fountain Pens.

We, THE LANG PEN COMPANY LIMITED, a Body Corporate duly organised under the Laws of Great Britain, and ANDREW STUART HORN, a British Subject, both of the Company's address, Hope Street Works, Liverpool 1, in the County of Lancaster, do hereby declare the nature of this invention to be as follows:—

This invention relates to lever actuated self-filling fountain pens of the kind in which, during a filling operation, the sac is collapsed by actuation of a pivoted lever working through a presser bar bearing on the sac and the object of the present invention is to prevent the lever from moving or being inadvertently moved, beyond the raised position at right angles to the pen in which the sac is fully collapsed.

In accordance with the invention, a floating abutment is furnished in association with the pivot or fulcrum of the lever which, although not impeding the normal actuation, prevents the lever moving beyond its raised position at right angles to the barrel of the pen.

Preferably, the floating abutment consists of an arm pivoted within the channel section of the lever on the lever pivot or fulcrum, and extending along the underside of the lever when the latter is closed, to engage the inside wall of the barrel at the end of the lever slot.

At its front end the arm is formed with a portion projecting beyond the pivot and with which the inside wall of the lever abuts when the lever is raised thereby preventing it from being moved beyond such raised position during a filling operation.

Conveniently, the arm is of tapering section from the fulcrum pin on which it rides freely to the end engaging under the barrel wall, and the frontal projecting portion is arcuate adjacent the inside wall of the lever and square cut to abut with such lever wall on the lever being raised to a position at right angles to the barrel.

When the lever is in the closed or normal position the arm lies within its channel and does not interfere with the movement of the presser bar as the sac expands when taking in a charge of ink.

The arm may be bifurcated to engage the end of the lever slot in the barrel or its end may be retained by a spring ring set in a groove in the barrel.

If desired, the channel walls of the lever may be dimpled to interlock with the arm when the lever is closed so as to render it self-locking against inadvertent displacement.

By the present invention a cheaply manufactured and readily assembled lever mechanism for fountain pens is obtained in which the lever is prevented from moving beyond, or being inadvertently moved beyond, its fully raised position.

Dated this 10th day of February, 1947.
O'DONNELL, LIVSEY & CO.,
Chartered Patent Agents,
47 Victoria Street, London, S.W.1.
Agents for Applicants.

COMPLETE SPECIFICATION.

Improvements in and relating to Sac Self-Filling Fountain Pens.

We, THE LANG PEN COMPANY LIMITED, a Body Corporate duly organised under the Laws of Great Britain, and ANDREW STUART HORN, a British Subject, both of the Company's address, Hope Street Works, Liverpool 1, in the County of Lancaster, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:

This invention relates to lever actuated self-filling fountain pens of the kind in which during a filling operation, the sac is collapsed by actuation of a pivoted channel section lever working through a presser bar bearing on the sac and the object of the present in-

vention is to prevent the lever from moving or being inadvertently moved, beyond the raised position at right angles to the pen in which position the sac is fully collapsed.

In accordance with the invention, a floating abutment is furnished consisting of an arm pivoted within the channel section of the lever on the lever pivot or fulcrum, and extending along the underside of the lever when the latter is closed, to engage the inside wall of the barrel at the end of the lever slot, which arm, although not impeding the normal actuation, prevents the lever moving beyond its raised position at right angles to the barrel of the pen.

Preferably, at its front end, the arm is formed with a portion projecting beyond the pivot and with which the inside wall of the lever abuts when the lever is raised thereby preventing it from being moved beyond such raised position during a filling operation, or a projection on the wall may be provided to engage the arm for the same purpose.

Conveniently, the arm has a tapering section between the fulcrum on which it rides freely and the end engaging under the barrel wall, and the frontal projecting portion is arcuate adjacent the inside wall of the lever and square cut to abut with said lever wall or it may be shaped to abut with inwardly projecting lugs on the channel walls, on the lever being raised to a position at right angles to the barrel.

When the lever is in the closed or normal position the arm lies within its channel and does not interfere with the movement of the presser bar as the sac expands when taking in a charge of ink.

The invention will be further described with reference to the accompanying drawings where two embodiments are illustrated by way of example and wherein:

Fig. 1 is an elevation partly in section of a self-filling fountain pen having a lever stop according to one embodiment,

Fig. 2 being a detail view to a larger scale but showing the lever in the closed position.

Figs. 3 to 6 are detail views of an alternative embodiment, Fig. 3 showing the lever open and the stop operative, Fig. 4 with the lever closed, while Figs. 5 and 6 are respectively an underside view and an end view of the lever detached.

Referring now to the drawings but first more particularly to Figs. 1 and 2, the barrel of the fountain pen is designated 1 and mounts at its front end a conventional nib section 2 with nib 3 and feed bar 4 while within the barrel 1 a shank on the nib section 2 takes a collapsible sac or ink reservoir 5 all as customary.

6 is a lever fulcrummed on a ring 7 in the barrel 1 and 8 is the presser bar, the normal position of the parts being shown in Fig. 2 where the lever is shown flush with the external surface of the barrel 1 occupying a slot 9 therein.

To fill the pen the lever 6 is moved to the position shown in Fig. 1 which collapses the sac 5, and, with the nib 3 immersed in ink is then returned to its normal position.

In order to prevent the lever 6 being moved beyond the position in which the sac 5 is collapsed, a lever stop 10 is furnished within the lever 6 which latter is of channel section and between the channel walls 12 and 13 whereof the stop 10 consisting of an arm riding freely on the fulcrum ring 7 is carried.

The stop 10 is of tapering section at 14 towards the end 15 engaging under the barrel wall at the rear end of the lever slot and, in the embodiment shown in Figs. 1 and 2, the frontal projecting portion 16 is arcuate adjacent the inside wall of the lever 6 and square cut at 17 to abut with such lever wall on the lever being raised to a position at right angles to the barrel in Fig. 1.

When the lever is in the closed position (see Fig. 2), since the stop 10 lies within its channel there is no interference with the full movement of the presser bar 8 as the sac expands and takes in a charge of ink.

In the alternative embodiment shown in Figs. 3 to 6, the frontal portion 20 of the stop is shaped to co-operate with abutments 21 and 22 in the form of lugs bent inwardly from the channel walls 12 and 13 of the lever 6, thereby obviating any likelihood of the sheet metal of the base wall of the lever being deformed by repeated pressure from the square cut end 17 of the lever stop in the previous embodiment.

The stop 10 may be bifurcated to engage the end of the lever slot in the barrel or its bifurcated end may be retained by a spring ring set in a groove in the barrel.

If desired, the channel walls of the lever may be dimpled to interlock with the arm when the lever is closed so as to render it self-locking against inadvertent displacement.

By the present invention a cheaply manufactured and readily assembled lever mechanism for fountain pens is obtained in which the lever is prevented from moving beyond, or being inadvertently moved beyond, its fully raised position.

Having now particularly described and ascertained the nature of our said invention and in what manner the same is to be performed, we declare that what we claim is:—

1. In a lever actuated sac self-filling fountain pen, the provision of a floating abutment consisting of an arm pivoted within the channel section of the lever on the lever pivot or fulcrum, and extending along the underside of the lever when the latter is closed, to engage the inside wall of the barrel at the end of the lever slot, which arm, although not impeding the normal actuation, prevents

the lever moving beyond its raised position at right angles to the barrel of the pen.

2. Lever stop mechanism according to the preceding claim including a floating abutment in the form of an arm having a portion projecting beyond the pivot and with which the inside wall of the lever abuts when the lever is raised thereby preventing it from being moved beyond such raised position during a filling operation.

3. Lever stop mechanism according to the preceding claim 2 including an abutment arm with a tapering section between the fulcrum on which it rides freely and the end engaging under the barrel wall, and wherein the frontal projecting portion is arcuate adjacent the inside wall of the lever and square cut to abut with said lever wall on the lever being raised to a position at right angles to the barrel.

4. Lever stop mechanism according to claim 1 wherein the arm is shaped to abut with lugs projecting inwardly from the channel walls of the lever when the latter is in its raised position.

5. Lever stop mechanism according to any of the preceding claims including an abutment arm bifurcated to engage the end of the lever slot in the barrel or having its bifurcated end retained by a spring ring set in a groove in the barrel.

6. Lever stop mechanism according to any of the preceding claims wherein the channel walls of the lever are dimpled to interlock with the arm when the lever is closed so as to render it self-locking against inadvertent displacement.

7. Lever stop mechanism constructed and adapted to operate substantially as described with reference to Figs. 1 and 2 of the accompanying drawings.

8. Lever stop mechanism constructed and adapted to operate substantially as described with reference to Figs. 3 to 6 of the accompanying drawings.

Dated this 9th day of March, 1948.

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FIG. 1.

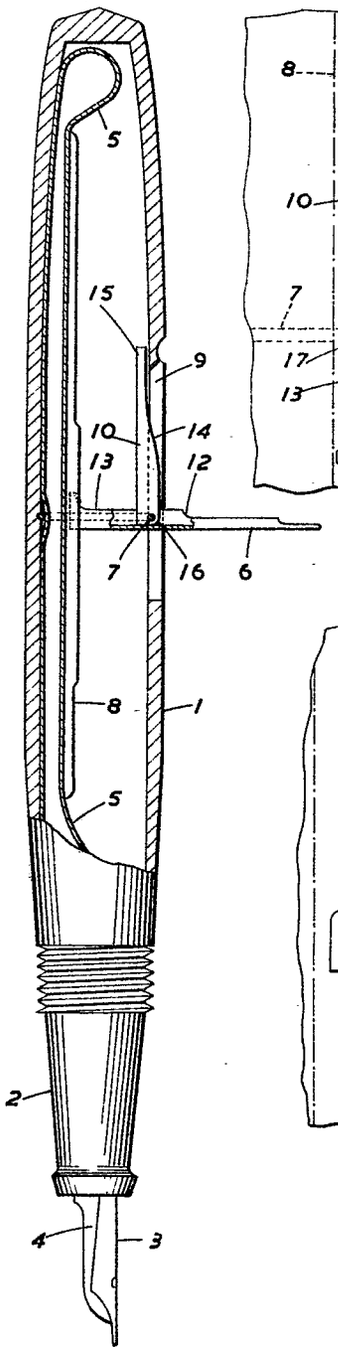


FIG. 2.

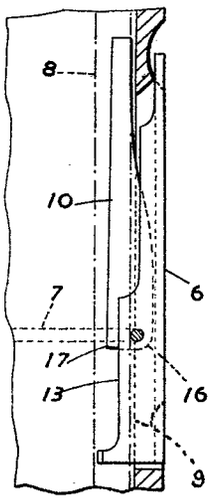


FIG. 4.

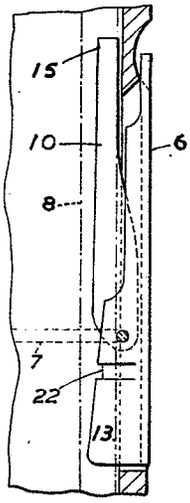
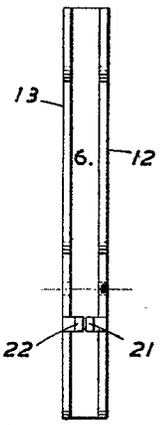
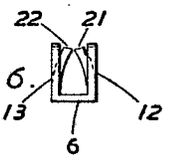
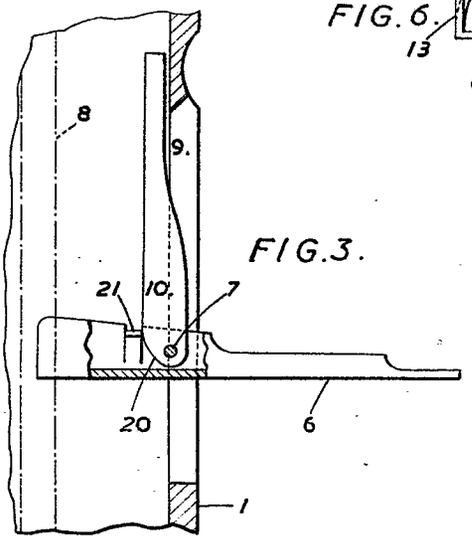


FIG. 5.







H.M.S.O.(Ty. P.)