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PATENT SPECIFICATION

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COMPLETE SPECIFICATION

Improved Fountain Pen

I, LÁSZLÓ JÓZSEF BIRÓ, of 18*a* Lonyai u., Budapest, IX, Hungary, Journalist, a Hungarian subject, 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:—

The invention has reference to improvements in fountain pens of the kind in which the writing means is a rotatably mounted small ball. In the space behind the ball there is no liquid ink, but a soft, pulpy dye, which is continuously pressed against the ball by a specially arranged spring which presses a piston to the dye.

According to the invention the rod which presses the piston to the dye is not rigidly connected to the piston, but is slidable in the said piston and a spring is arranged between the piston and its rod. The piston rod is screwed into a nut rotatably mounted in the pen in such a manner that it cannot be displaced longitudinally therein.

In the annexed drawing an embodiment of the fountain pen according to the invention is represented by way of example.

Fig. 1 is a longitudinal section.

Fig. 2 is section through the point of the pen on an enlarged scale.

A small ball 1 constituting the writing means is arranged in the point of the pen in such a way that it may easily turn therein. To this end the edge 2 of said point projects somewhat beyond the centre of the ball and this edge is bent towards the ball after inserting the same into the point of the pen, whereby the ball is secured against falling out, but is allowed to turn easily. Channels 3, 4 arranged behind the ball 1 lead to a space 5 containing a dye, which space is preferably in a tube 6. In the tube 6 a piston 7 is shiftable, the packing ring 8 thereof bearing on tube 6, but being slidable therein. The packing ring 8 is held against the piston 7 by a nut 9. In the interior of the hollow piston 7 there is a spring 10, the upper end of which bears against the end of the piston, while its lower end abuts against the piston rod 11. The piston rod 11 is slidable but not rotatable in the interior of the piston 7. To this end the rod 11 is flat at 12 and this flat part bears against a pin 13 penetrating the piston 7. The lower end of rod 11 is provided with threads and is screwed into a nut 14 rotatably mounted in the lower part of the fountain pen. The said nut is not capable of longitudinal movement in the pen. On the lower part of nut 14 a sleeve 16 is fastened by means of a pin 14, said sleeve constituting a handle for the nut 14. The nut 14 is rotatable in a sleeve 17 secured to tube 6, said sleeve also assuring the nut against shifting longitudinally, as its two end surfaces may bear against the sleeve 16 and shoulder 21 of nut 14 respectively.

To the outer threaded surface of sleeve 17 the lower cap 18 of the fountain pen is screwed. The upper cap of the fountain pen, which protects the point of the pen when out of use and which is to be screwed on to the threads 19 is not shown in the drawing.

In order to fill the space 5 with a dye the piston 7 is moved to its lowermost position and the upper part 20 of the pen is removed. After filling the space 5 with a dye and replacing the part 20, the lower cap 18 is removed and by turning the sleeve 16 the piston 7 is pushed upwards until the dye comes into contact with ball 1; in addition, by turning the handle a few more revolutions, the spring 10 is compressed so that the pen is ready for writing. Corresponding to the consumption of the dye, the sleeve 16 is to be turned from time to time, to compress the spring 10.

Owing to the fact that the dye is hermetically closed in the space 5, it will not become dry and owing to the pulpy consistency of the dye a large quantity thereof may be filled in, which renders the performance of the pen about forty times greater than that of fountain pens using common liquid inks. Furthermore, the pulpy consistency of the dye prevents an excess of the latter from flowing out past the ball, in spite of the ball being loosely mounted and being capable of turning easily.

Having now particularly described and

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ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:—

Fountain pen with a rotatably mounted ball as writing means and a piston which presses the dye against the ball characterised by that the piston rod (as 11) is slidable in the piston and a spring is arranged between the piston and its rod, the piston rod being screwed into a nut (as 14) rotatably mounted in the pen in such a manner that it cannot be displaced longitudinally therein.

Dated this 12th day of December, 1938.

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[This Drawing is a reproduction of the Original on a reduced scale.]

Fig. 1.

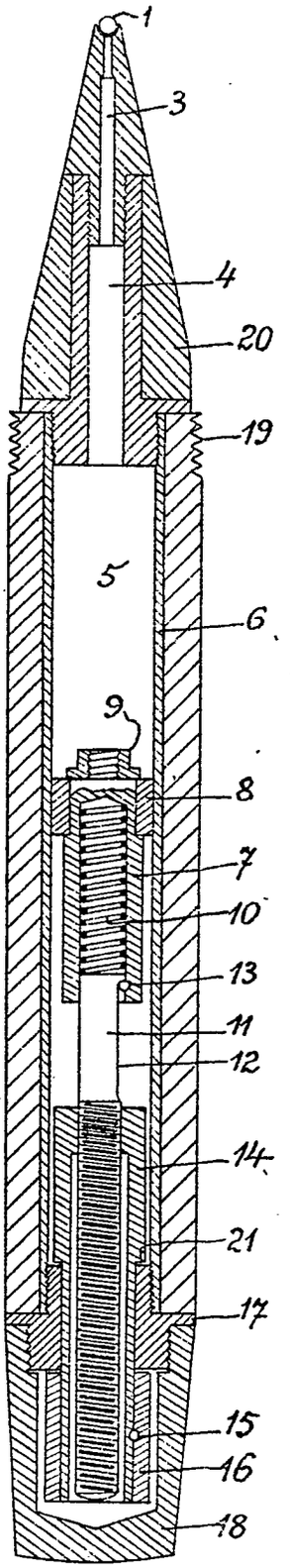
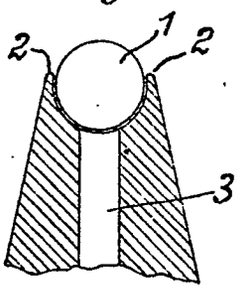


Fig. 2



Malby & Sons, Photo-Lith.