

PATENT SPECIFICATION

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COMPLETE SPECIFICATION.



Improvements in or relating to Fountain Pens.

I, ISAIA LEVI, an Italian subject, trading as the firm FABBRICA ITALIANA DI PENNE A SERBATOIO "AURORA", of 9, Via Basilica, Turin, Italy, do hereby
5 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:—

10 The present invention relates to fountain pens and has for its object to provide a retractible nib pen in which, at the time of manipulation for opening or closing the pen, a shutter mounted on
15 the nib carrier is operated, said shutter controlling the communication between the reservoir and the said nib, so that the communication is open when the pen is operative and is cut off when the pen is
in its inoperative position.

According to the invention, the communication between the nib and the reservoir is controlled by a rotary shutter mounted on the nib carrier and having a
5 finger engaged with a helicoidal groove provided in the pen barrel, in such a manner that the longitudinal motion to cause the outward motion and the retraction of the nib produces the angular
30 motion of the shutter.

On the accompanying drawing an embodiment of this invention is shown.

Figure 1 is a central section of the pen.

35 Figure 2 is an end view thereof.

Figures 3 and 4 are transverse sections on 3—3 and 4—4 in Figure 1.

40 Figure 5 is the central section of the end portion of a modification of the pen, and Figure 6 is the corresponding outer view.

In said figures, 1 shows the outer barrel of the pen in which is movably mounted the part 2 carrying the nib 3 and a sleeve 4 with the reservoir 5. In the embodiment illustrated the mouth of the barrel 1 is adapted to be closed by a wing 6 pivoted on its edge.

45 The motion of the sleeve 4 with respect to the barrel 1 may be produced directly by a knob 7 fastened on the sleeve 4 and riding in a slot 8 of the barrel 1, or in any other manner which allows a longi-
50

tudinal movement of part 2.

The duct 9 feeding ink to the nib communicates with the ink reservoir 5 through a space in which is rotatably mounted a disc 10 having a hole 11 through it, said hole registering with the orifice of duct 9 by a given angular position of said
60 disc.

Disc 10 is keyed on a stem 12 which is able to rotate around the axis of the part 2 and which has a finger 13 whose end engages a helicoidal groove 14 provided
65 on the internal surface of the barrel 1.

The groove 14 has such a shape that by a given longitudinal motion of the part 2 corresponding with the full stroke of the nib, the stem 12 and disc 10 move
70 through an angle sufficient to shift said disc from its shutting position to the position in which it leaves the duct 9 open or vice-versa.

Disc 10 may be made solid with stem 75 12 by giving a polygonal section to the latter and a corresponding section to the hole of the disc. The disc is forced against the surface of part 2 opposite to it by a spring 15 located intermediate
80 the disc 10 and a head 18 of stem 12.

In the position illustrated in Figure 1 the pen is ready for writing, that is with its nib beyond the body 1 and in this position the hole 11 of disc 10 registers
85 with the orifice of duct 9, ink being thus able to flow from the reservoir to the nib.

When the knob 7 is moved to close the pen, the end of finger 13 slides along groove 14, and as sleeve 4 is prevented from rotating with respect to the barrel 1 (it being engaged therewith by the stem of the knob 7) the finger 13 is caused to rotate thus driving the disc 10 with it.
90 The hole 11 is thus moved with respect to part 2 and the orifice of the duct 9 is closed by disc 10 which is forced on its seat by spring 15.
95

To secure a satisfactory operation of the 100 shutter disc 10, conveniently it can bear on its seat by a flat surface as illustrated.

In the construction according to Figures 5 and 6, 1 is the outer barrel of the pen adapted to be closed by a wing 105 6, the barrel enclosing a part 2 carrying

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the nib 3 and reservoir 5 which are able to move longitudinally within the barrel.

The ink feeding duct 9 is controlled by a disc 10 acted on by a spring 15 which bears at its opposite end on a shoulder of the extension 2¹ of part 2. The disc 10 is solid with a central stem 12 which has an end finger 13 located in a recess 16 provided in part 2, and the end of finger 13 is engaged in a helicoidal groove 14 within the barrel 1.

Said groove 14 ends, near the end of the barrel 1, in an enlarged mouth 17 whose opening corresponds with the span of the space 16 in which finger 13 may move (Figure 6).

Therefore, whatever position finger 13 has at the beginning of the longitudinal motion of the part 2 for closing the pen, the edges of the mouth 17 will lead correctly to the entrance of groove 14. Therefore finger 13 can never cause the pen to be jammed should said finger have been moved accidentally, and in any event finger 13 enters the groove which, because of its helicoidal shape, produces the oscillation of the disc 10 as required to close the duct 9.

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

1. A fountain pen with retractible nib and means for cutting off the communication between the nib and the reservoir, characterised by the fact that said com-

munication is controlled by a rotary shutter mounted on the nib carrier and having a finger engaged with a helicoidal groove provided in the pen barrel, the longitudinal motion directed to cause the outward motion and the retraction of the nib thus producing the angular motion of said shutter.

2. A fountain pen according to Claim 1, characterised by the fact that said helicoidal groove has an enlarged portion at its outer end, the shutter finger being thus led to the entrance of said groove whatever is its position at the beginning of the motion for the nib retraction.

3. A pen according to Claim 1 characterised by the fact that the said shutter consists of a disc which bears by a flat surface on a corresponding seat of the nib carrier and is forced thereon by a spring.

4. A pen according to Claim 3, characterised by the fact that said spring bears at its opposite end on an inner shoulder of an extension of said nib carrier.

5. The fountain pen substantially as described or substantially as illustrated in the accompanying drawings.

Dated this 23rd day of March, 1928.

ISAIA LEVI, trading as
FABBRICA ITALIANA DI PENNE A
SERBATOIO "AURORA",
Per Boulton, Wade & Tennant,
111 & 112, Hatton Garden, London,
E.C. 1,
Chartered Patent Agents.

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

Fig. 1

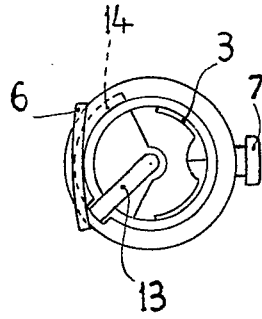
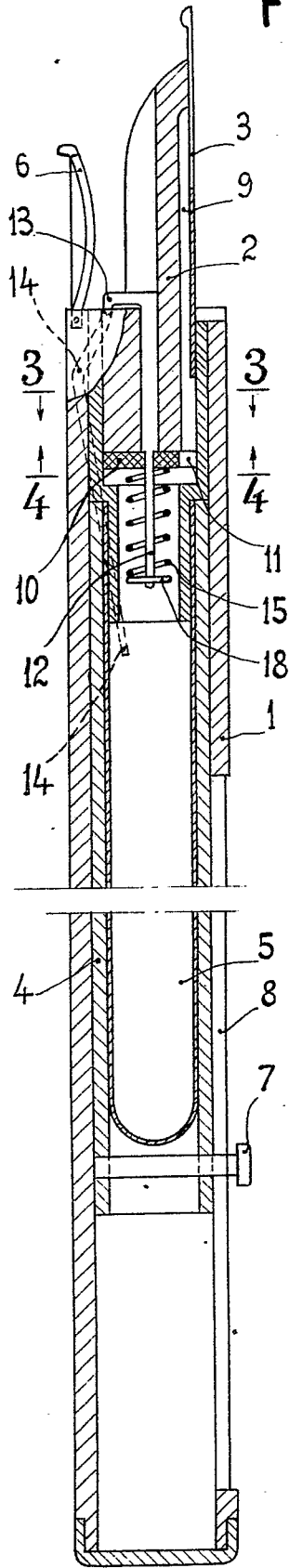


Fig. 2

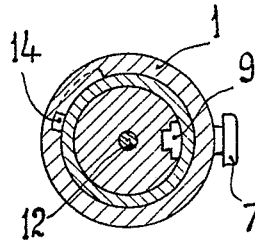


Fig. 3

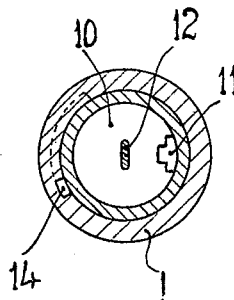


Fig. 4

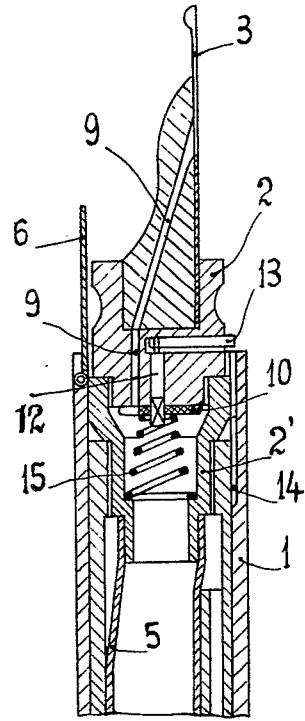


Fig. 5

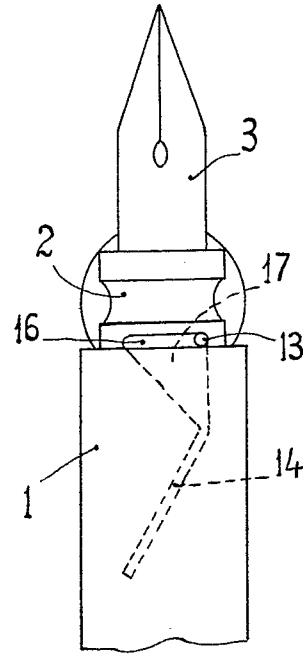


Fig. 6