

PATENT SPECIFICATION

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COMPLETE SPECIFICATION

Fountain Pen

We, PAIROTTO MAN-NEN-HITSU KABUSHIKI KAISHA, a Japanese limited liability company, of No. 7—3, 2-Chome, Kyobashi, Chuo-Ku, Tokyo-To, Japan, do hereby declare the invention for which we pray that a patent may be granted to us, and the method by which it is to be performed to be particularly described in and by the following statement:—

10 This invention relates to an improved fountain pen.

The object of this invention is to provide a fountain pen having an ink filling device which is very simple in its construction and is very simple and effective in its ink filling operation.

According to the invention there is provided a fountain pen comprising an ink filling device having an intermediate pipe within the barrel of the pen, said pipe having a slot at its rear end, an ink sac concentrically arranged in said pipe, a push-cap slidably located in the rear interior of said pipe, a resilient strip adapted normally to take up a linear shape and provided with a stopper at its front end and with a presser bar attached at its centre portion, said strip and presser bar being inserted between said pipe and ink sac so that said stopper engages projections formed on the inner surface of the said pipe and the free end of the strip engages said push-cap, a pusher located between said push-cap and the internal rear surface of said pipe and having a projection protruding through the slot of said pipe, said pusher having a flat portion adapted to co-operate with said push-cap and being capable of rotation in dependence upon the position of its projection along said slot, whereby the ink sac is collapsible upon rotation of said pusher to move said flat portion out of co-operation with said push-cap.

One embodiment of the invention will now be described, by way of example only, with reference to the accompanying drawings, in which:—

Figure 1 is a longitudinal section of the

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barrel of a fountain pen according to the invention,

Figure 2 is a longitudinal section of the ink sac and intermediate pipe of Figure 1, said sac and pipe being in their positions ready for drawing ink into the sac.

Figure 3 is a perspective view of a resilient strip in the example in Figures 9 and 10, said strip being used for collapsing the ink sac.

Figure 4 is a perspective view of an end portion of the intermediate pipe of the example in Figures 9 and 10.

Referring to the drawings, the barrel 1 of a fountain pen has an intermediate pipe 20 and an ink sac 19 concentrically supported therein, at their front opening portions, by the nib holding parts of the pen, said parts only being partly shown and generally designated 3. A resilient strip 21 provided with any suitable stopper, for instance, a ring-shaped stopper 24 at its one end and with a presser bar 22 attached therewith at its centre portion 23 is constructed so that it may extend in a direction parallel to the length dimension of the sac, but it may be bent as shown in Figure 3 by longitudinal pushing thereof.

Between the pipe 20 and the ink sac 19 is inserted the resilient strip 21 and presser bar 22 so that the stopper 24 may be stopped by the projection 24a of the pipe 20 and the free end 21a of the strip 21 may be attached to a push-cap 25 which in turn is slidable in the rear interior of the pipe 20, as shown in Figure 1. The pipe 20 is provided with a cut slot 26 at its rear end as shown in Figure 4 and between the push-cap 25 and the inner end surface of the pipe 20 is located a pusher 27 consisting of a ball provided with a projection 27a and a flat surface portion 27b, said projection 27a protruding through said cut slot 26.

When, as shown in Figure 1, the pusher 27 takes the position in which the flat portion 27b engages with the push-cap 25, the resilient strip is undeformed, so that the ink sac 19 is maintained in its expanded state.

However, when as shown in Figure 2, the

- barrel 1 is removed and the pusher 27 is turned sideways by pushing the projection 27a along the cut slot 26, a curved portion 27c of the pusher pushes the push-cap 25, so that the resilient strip 21 bends as shown in Figures 2 and 3, whereby the ink sac 19 is pushed down in its collapsed position by said strip acting through the presser bar 22. When in said position the nib (not shown) is immersed into ink and the pusher 27 is restored to the position as shown in Figure 1, the ink sac 19 expands as shown in Figure 1 so that ink is effectively sucked into the sac. After the sac has been filled, the barrel 1 is replaced and the fountain pen is ready for use.
- A fountain pen according to the invention is simple of construction and operation thereof is easy and smooth, because the sac can be collapsed by mere turning of the pusher 27.
- While a particular embodiment of this invention has been described, it will, of course, be understood that the invention is not limited thereto, since many modifications may be made which fall within the scope of this invention as defined by the appended claims.
- WHAT WE CLAIM IS:—**
1. A fountain pen comprising an ink filling device having an intermediate pipe within the barrel of the pen, said pipe having a slot at its rear end, an ink sac concentrically arranged in said pipe, a push-cap slidably located in the rear interior of said pipe, a resilient strip adapted normally to take up a linear shape and provided with a stopper at its front end and with a presser bar attached at its centre portion, said strip and presser bar being inserted between said pipe and ink sac so that said stopper engages projections formed on the inner surface of the said pipe and the free end of the strip engages said push-cap, a pusher located between said push-cap and the internal rear surface of said pipe and having a projection protruding through the slot of said pipe, said pusher having a flat portion adapted to co-operate with said push-cap and being capable of rotation in dependence upon the position of its projection along said slot whereby the ink sac is collapsible upon rotation of said pusher to move said flat portion out of co-operation with said push-cap.
 2. A fountain pen substantially as hereinbefore described with reference to the accompanying drawings.
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For the Applicants.

This drawing is a reproduction of the Original on a reduced scale.

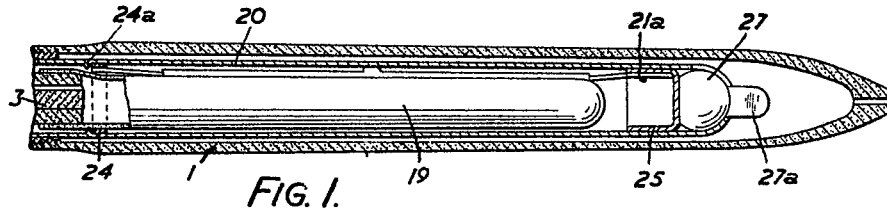


FIG. 1.

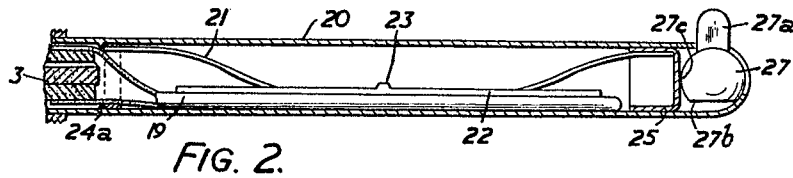


FIG. 2.

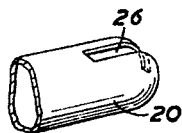


FIG. 4.

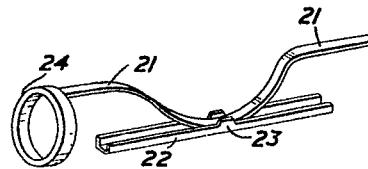


FIG. 3.