

PATENT SPECIFICATION



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COMPLETE SPECIFICATION

Writing Implement

I, VÁCLAV KLIMES, of 7, Melantrichova; Praha I, Bohemia, Czechoslovakia, a Citizen of the Czechoslovakian Republic, 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 a writing instrument of the type having a reservoir for a supply of ink and an object of the invention is to provide an improved instrument of this type which is not subject to the disadvantage from which the usual type of fountain pen suffers, namely that the ink tends to dry up when the pen is not used for a time. Further objects of the invention are to provide an instrument in which the supply of ink will last for a very long period and which is not liable to scratch when improperly used.

The writing instrument according to the present invention is designed to employ writing materials of a viscous or semi-solid nature, e.g. of the consistency of printers' ink. For convenience the expression "ink" will be employed to designate the writing material, it being understood that this expression includes such viscous or semi-solid materials as may be suitable.

According to the present invention I provide a writing instrument adapted to operate with viscous or semi-solid ink, wherein the writing point is formed by an element arranged as an outlet from an ink reservoir and adapted to be pressed inwardly to effect opening of said outlet to permit the passage of ink, and wherein a piston member adapted to produce a pressure upon the ink in the chamber is provided, said piston member being operable for applying pressure to the ink by means of an abutment having a screw threaded adjustment in relation to the reservoir and acting on the piston through the medium of an interposed spring.

In the preferred construction the element forming the writing point is a ball and is adapted to roll during the action of writing, but if desired a pin may be employed.

An example of construction according to the invention is shown in the drawing,

wherein the figure represents a longitudinal section through an instrument.

In the example shown, the writing implement has a tapered end portion 1 furnished on its longitudinal axis with a channel 3, in the mouth of which is arranged a ball 2. The latter is of a smaller diameter than the channel, so as to be capable of turning freely therein and also of slight inward movement, the end of the channel being flanged inwardly to retain the ball. The channel is funnel shaped at its inner end 4 around which is provided a seating for a detachable cylindrical container 5 for the ink, for instance, printer's ink or other material of corresponding consistency. The ink is kept under pressure by means of a piston 6 against which a spring 8 presses. A piston-like abutment or follower 6, backed by a regulating rod 7, is provided for the spring 8, the spring being arranged between the piston 9 and the abutment or follower 6.

The instrument comprises an external casing 11 to which the screwed end 10 of the end portion 1 is screwed, said casing 11 forming an annular space around the container 5 and having threads 12 along the whole length of its internal wall into which a cover 14 is screwed. The rod 7 is in contact with the closed end of the cover 14 and by turning the latter the pistons 6 and 9 and the rod 7 can be pressed into the container 5 and, by this action, the ink can be put under pressure to be forced into the channel 3 in the direction of the point, the mouth of the channel 3 being closed by the ball 2 under the pressure of the ink. When writing is taking place, the ball is pressed inwardly into the channel 3 and is caused to turn by means of the writing movement on the paper, the ink being carried along on the surface of the ball and deposited on the surface of the paper.

In an instrument thus constructed the ink does not dry up as the container may be completely closed by turning the cap 14 inwardly as far as possible, whereby such a great pressure is exerted on the ball 2 that the latter is powerfully pressed into its bearing and no more ink may escape.

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:—

- 5 1. A writing instrument adapted to operate with viscous or semi-solid ink, wherein the writing point is formed by an element arranged at the outlet from an ink reservoir and adapted to be pressed
10 inwardly to effect opening of said outlet to permit the passage of ink, and wherein a piston member adapted to produce a pressure upon the ink in the chamber is provided, said piston member being operable for applying pressure to the ink by
15 means of an abutment having a screw threaded adjustment in relation to the reservoir and acting on the piston through the medium of an interposed
20 spring.
2. A writing implement as claimed in claim 1, wherein the element forming the writing point is a ball and is adapted to roll during the action of writing.
- 25 3. A writing implement as claimed in claim 1 or claim 2, wherein the piston

member is a sliding fit in the ink reservoir and is adapted to be moved therein by a follower acting upon it through a spring, said follower in turn being acted upon by a member adapted to pass axially into the reservoir and adjustable by a screw threaded connection with the body of the instrument. 30

4. A writing instrument as in any preceding claims, wherein the piston member operates in a detachable tubular element forming the ink reservoir and enclosed by a casing forming the main body of the instrument. 35

5. A writing instrument, substantially as hereinbefore described, or substantially as shown in the accompanying drawing. 40

Dated this 22nd day of June, 1936.

For the Applicant,

STANLEY, POPPLEWELL &
FRANCIS,

Chartered Patent Agents,

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[This Drawing is a full-size reproduction of the Original.]

