PATENT SPECIFICATION

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COMPLETE SPECIFICATION

Improvements in writing instruments

We, A. J. FAGARD & CIE, a French body corporate, of 6 Rue Monsigny, Paris, France, 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 :—

It is already known to construct writing instruments comprising two writing members disposed in an outer body or barrel provided at one of its ends with an opening, the two said writing members being slightly mounted inside said body and connected to one another through a projecting and retracting mechanism which is so arranged as to enable the two writing members to effect a reciprocating movement in opposite directions in such manner that the writing end of one of the writing members emerges from the opening when the other member is retracted inside the body.

The said writing members consist of two writing pens independently connected to two ink reservoits, or two pencils, or one pen and one pencil ; the pencils may be propelling pencils.

In these writing instruments, the longitudinal translations of the writing members are obtained by means of one or several screw threads or helical grooves provided on cylindrical rods or on the wall of one or two cylindrical hollow parts, and nuts or projections engaging the screws or grooves, whereby the rotation of an actuating member is transformed into translations of said writing members.

It has also been proposed to provide a writing instrument wherein two writing members as defined above are slidably mounted inside an outer body, and connected with one another by a projecting and retracting mechanism which is so arranged as to enable the writing members to effect a reciprocating movement in opposite directions in such a manner that the writing end of one of the writing members emerges from the opening when the other member is retracted inside the body, one of said writing members being liable to be manually pushed or drawn on or out of its working position through the medium of one single actuating member attached to said writing member whereby the second writing member is automatically translated in the opposite direction.

In the writing instruments of this latter type, the projecting and retracting mechanism consists of two parallel racks meshing with a common, loosely mounted, toothed wheel. The writing members are rigidly connected to said racks so that they are constantly parallel to one another and translated along straight paths. Consequently, the aperture of the instrument should be wide enough to allow the passage of both writing members, for example, of two writing pens, which results, for the instrument, in an awkward and clumsy appearance which may be a drawback for the sale.

The present invention has for its object a writing instrument comprising an outer body having an end plug, an axial opening of reduced diameter at the opposite end to said plug, and two writing members of the same diameter accommodating the diameter of said opening, said writing members being connected to each other through a projecting and retracting mechanism and adapted to slide in said body in opposite directions under the action of one actuating member, the said writing instrument being characterised in that the actuating member is attached to one end of the said mechanism close to one of said writing members and projects through a longitudinal slit of the body, the writing members are resiliently attached or pivoted to said projecting and retracting mechanism, and the end of the body provided with the axial opening of reduced diameter is tapered, whereby the writing end of one of the writing members while being pushed parallel to the body axis, is constantly guided toward said axial opening by the wall of said tapered end and caused to project individually in a writing position through the said axial opening, by translating the actuating mem-

ber along said longitudinal slot.

Both writing members may be ink-writing members, each of them comprising an ink-reservoir provided with a writing point, preferably a ball pen ; both writing members may be propelling pencils ; lastly, one of said writing members may be an ink-writing member and the other, a propelling pencil.

According to one embodiment, the connecting mechanism between the two writing members comprises a flexible blade, the ends of which are fixed to the end of the writing members remote from the writing end, said blade being slidably mounted in a guide groove of substantially semi-circular shape provided in a part fixed to the opposite end of the body of the writing opening.

According to another embodiment, the connecting mechanisms between the two writing members comprises two parallel slidable racks meshing with a common, loosely mounted toothed wheel, said racks being pivoted to the end of writing members from the writing end.

Other features of the invention will become apparent from the ensuing description made with reference to the accommpanying drawing, which is given solely by way of example and in which :—

Fig. 1 is an axial section of a writing instrument according to the invention ;

Fig. 2 is a section along the line 2–2 of Fig. 1 ;

Fig. 3 is an axial section of a modification ; and

Fig. 4 is an axial section of another embodiment.

According to the example shown in Figs. 1 and 2, the writing instrument according to the invention comprises a body 1 made of metal or other material, preferably of flattened cross-section, which is provided at its lower part with an opening 2 and at its upper part with a removable cap 3 provided with a clip 4.

A part 5 forming a plug is fised by means of a screw 6 or otherwise to the top of the body 1 and acts at 7 as a support for the clip device of the cap 3.

In this end part 5 is provided a curved groove 10 in which can freely slide a flexible blade 11, the two ends of which carry writing members 12 and 13. These members 12 and 13 are ink reservoir tubes, preferably containing colloidal or other pasty or solid ink of the long-lasting type, and are provided at their end portion with a writing point 14, preferably formed by a ball.

Each of said members is removably mounted on the flexible blade 11 for example by means of a screw-thread 15.

One of the two members 12 and 13, the member 13 in Fig. 1, has fixed to it an actuating member 17 provided with a spring 18, said member being adapted to slide in known manner in a slit 19 provided in the outer body 1. Said member 17 is adapted to be locked in predetermined positions by means of a projection 17a resiliently engaging one of the two lateral notches 20 provided in the slit 19 (Fig. 1a.)

The length of the flexible blade 11 is so calculated that when one of the writing members 12 (Fig. 1) is in the operative position, the other 13 is retracted inside the body 1, the actuating member 17 being locked. In this position, said actuating member 17 has not reached its highest position, thereby enabling the end 21 of the member 12 to be moved out further, which is useful when changing said member, or when recharging it with ink.

The instrument operates as follows :—

By moving the actuating member 17 in the direction of the arrow f_1, the member 12 is retracted and the member 13 is brought out into the writing position owing to the suitable length of the blade 11. It is also possible, owing to an additional downward extension of the slit 19, to bring said member 13 further out.

By effecting the reverse operation, it is possible to return to the position shown in Fig. 1.

It is thus possible to obtain by means of a flat instrument, a device which can contain two reservoirs of different inks.

It is also possible to construct the instrument according to the invention with two pencils, or one pencil and one ball-pen, in which cases the feed of the lead relative to its pencil is effected while the pencil is in the projected position.

In Fig. 3, a modification of this device has been shown, which is adapted to be provided with one ball-pen 22 and one propelling pencil 23.

These members are likewise fixed by screwing at 24 on supports 25 secured to the flexible blade 11. The lead 26 is carried in a cylindrical holder 26a rotatably mounted on the carrying member 23. Said lead 26 is adjusted in a known manner by rotating the holder 26a. Upon the end of the body 1, is rotatably mounted at 31 a tip 30.

Said tip 30 is provided with an abutment 32 and the propelling pencil with a projection 33 which is adapted to abut against the abutment 32 and is consequently carried round with same when the tip 30 is rotated.

In Fig. 4, another embodiment has been shown of the mechanism for the reciprocating drive of the writing members 12 and 13.

Said members are removably mounted at 36 at the ends of two racks 36 and 37 meshing with a common loose mounted toothed wheel 38.

As can be readily understood, the operation of the actuating member 39 causes the two writing members 12 and 13 to move downwards and upwards simultaneously.

This modification, although shown with two ball-pens can be adapted to have two pencils, or one pencil and one ball-pen. It can be combined with a lead adjusting mechanism such as the one shown at 30–31 in Fig. 3.

Although it was stated that the change of the writing members is effected through the lower opening 2, such change may be very simply effected by removing the end part 5.

Both writing members being thus taken out of the body, the refilling of the instrument may be effected either by removing and replacing the writing members, or by refilling the reservoirs with ink in any known manner. In this latter case, the writing members 12 and 13 need not be removable from the flexible blade 11.

The device according to the invention offers considerable advantages :—

easy manipulation in a single operation of both writing members ;

possibility of having in a flat instrument of very small cross-section two ball-pens supplied with two inks of different colours or one pencil and one ball-pen ;

very easy interchangeability or very easy charging of the empty ink reservoirs.

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. A writing instrument comprising an outer body having an end plug, an axial opening of reduced diameter at the opposite end to said plug, and two writing members of the same diameter accommodating the diameter of said opening, said writing members being connected to each other through a projecting and retracting mechanism and adapted to slide in said body in opposite directions under the action of one actuating member, the said writing instrument being characterised in that the actuating member is attached to one end of the said mechanism, close to one of said writing members, and projected through a longitudinal slit of the body, the writing members are resiliently attached or pivoted to said projecting and retracting mechanism, and the end of the body provided with the axial opening of reduced diameter is tapered, whereby the writing end of one of the writing members, while being pushed parallel to the body axis is constantly guided toward said axial opening by the wall of said tapered end and caused to project individually in a writing position through the said axial opening, by translating the actuating member along said longitudinal slot.

2. A writing instrument as claimed in claim 1, wherein at least one of the two writing members is an ink-writing member comprising an ink reservoir provided with a ball pen ;

3. A writing instrument as claimed in claim 1, wherein both writing members are ink-writing members, each of them comprising an ink-reservoir provided with a ball-pen, both reservoirs containing preferably inks of different colours.

4. A writing instrument as claimed in claim 1, wherein at least one of the writing members is a propelling pencil.

5. A writing instrument as claimed in claim 1, wherein said actuating member is adapted to be locked in predetermined positions by means of lateral notches of said slit.

6. A writing instrument as claimed in claim 1, wherein the projecting and retracting mechanism consists of a flexible blade fixed by its two ends respectively to the opposite ends to the writing point of the writing members, said flexible blade being adapted to slide in a semi-circular guiding slit of the end plug.

7. A writing instrument as claimed in claim 6, wherein said projecting and retracting mechanism consists of two parallel racks meshing with a common loosely mounted toothed wheel, the two writing members being respectively mounted at the end of each of the racks.

8. A writing instrument as claimed in claim 6 or 7, wherein each of the writing members is provided at its opposite end to the writing point with a screw-threaded tip, on which the body of the writing member is fixed in a rotatably detachable manner.

9. A writing instrument as claimed in claims 7 and 8, wherein said screw-threaded tip is mounted on the corresponding rack through the medium of a pivotal connection.

10. A writing instrument as claimed in claim 4, wherein the rotatable holder of said propelling pencil is provided, at its end near to the writing point, with a projection, said projection co-operating with a corresponding abutment inside the rotatable tip of the body, said tip being rotatable about its axis.

11. A writing instrument substantially as herein described and illustrated in the accompanying drawing.

Dated this 6th day of October, 1947.

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Agents for the Applicants.

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

Fig. 1

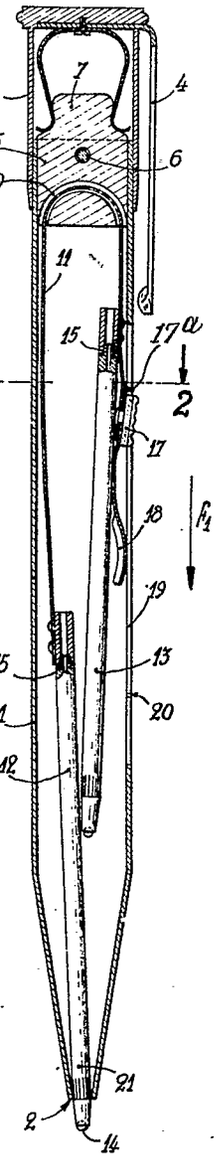


Fig. 1a

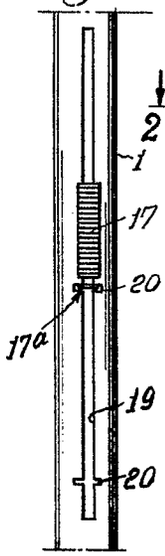


Fig. 3

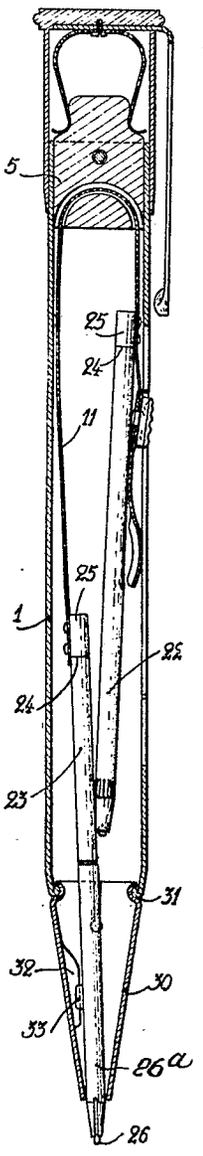


Fig. 4

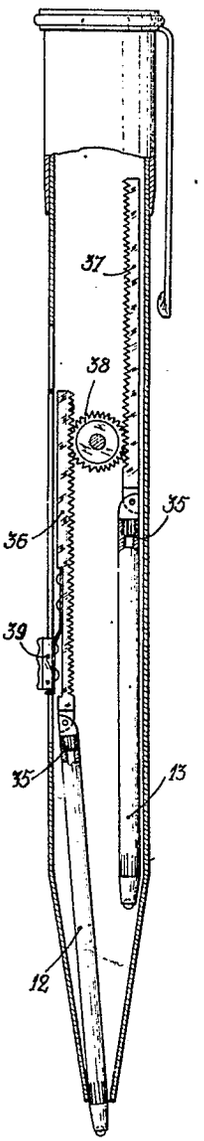
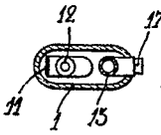


Fig. 2



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