(19) Canadian Intellectual Property Office / Office de la Propriété Intellectuelle du Canada

An Agency of Industry Canada / Un organisme d'industrie Canada

(11) CA 287009 (13) A

(40) 05.02.1929

(12)

(21) Application number: 287009D

(22) Date of filing: ..

(51) Int. Cl:

(71) Applicant: ITALIANA DI PENNE A SERBATOIO.

(72) Inventor: DEBENEDETTI RODOLFO ().

(54) FOUNTAIN PEN

(54) STYLOGRAPHE

(57) Abstract:

The present invention relates to fountain pens, and has for its object a fountain pen provided with means which, at the time of the manipulation of the parts of the pen for putting the nib in operative and inoperative conditions, actuate a shutter provided on a part connected with the ink reservoir and the nib, the communication of said reservoir with the nib being thus open when the pen is in writing conditions while it is automatically closed when the pen is out of writing conditions.

On the annexed drawing is shown by way of example an embodiment of the present invention and

Figure 1 is a central longitudinal section of a portion of a pen provided with a device according to the present invention;

Figure 2 is a front view of the same;

Figure 3 is a transverse section of the same on line 3-3 of Fig. 1 and

Figure 4 is a transverse section on line 4-4 of Fig. 1;

Figure 5 is a fragmentary section of a modified construction, and

Figure 6 is a side view of the nib end of the pen shown in Fig. 5.

In said figures, 1 is a barrel in which is mounted to move the pen body comprising a sleeve 4 which encloses the ink reservoir 5 and has at its front end a connecting sleeve 18 and

a nib fastening piece 2 carried thereby, the nib 3 being engaged between said sleeve and fastening piece.

The mouth of barrel 1 is closed by means of a wing 6 pivoted at 16 on the edge of said barrel, and the barrel 1 has a longitudinal slot 8 while the sleeve 4 has a transverse pin 17 projecting to outside through said slot 8 and carrying a knob 7 for the manipulation of said pen body, for the purpose of retracting the nib into and extend it out with respect to barrel 1.

Of course any difrerent arrangement may be used to shift the pen body along its barrel.

The wing 6 is under the action of a spring, not shown, moving it towards its closed position, and it is engaged and opened by the piece 2 at the time the pen body is moved to carry the nib in its outer position.

Means are provided for depressing the reservoir 5 for the purpose of filling it with ink, said means comprising a member which extends through the sleeve 4 and barrel 1 ror its manipulation.

The above described parts are not an object of the present invention and they are described and illustrated only for purpose of description of this invention.

In the nib fastening piece 2 is provided a passage 9 opening under said nib in sleeve 18 and intended to supply ink rrom reservoir 5 to nib 3.

Said passage 9 is controlled by a rotatable shutter 10 having a port 11 adapted to register with said passage 9 when

the shutter 10 is in a given position, while in another angular position of said shutter the port 11 is out of register with respect to passage 9 and the communication of ink reservoir 5 with passage 9 and nib 3 is cut off.

Said shutter 10 is solid in rotatation with the extension 12' of a stem 12 which is mounted to rotate in a central bore of the nib fastening piece 2, and said stem 12 has an outer finger 13 whose end is engaged in a groove 14 provided in the internal surface of the barrel 1.

The said groove 14 is inclined with respect to the axis of the barrel, that is it has a nearly helical or similar shape, so as to cause the ringer 13 with stem 12-12' and shutter 10 solid therewith to move angularly around the axis of said stem when the pen body 4 with the nib 3 and parts 18 and 2 are moved longitudinally along the barrel 1, the respective size of the parts and shape of said groove being such as to cause the port 11 to move from closed into open position, or vice-versa, on the pen body being moved longitudinally by the manipulation of the knob 7 through the extent required to carry the nib 3 into its outer writing position or to retract it into inoperative position.

In the embodiment illustrated the shutter 10 is made solid in rotatation with stem 12 by giving a not-circular shape to the cross section or extension 12' of said stem 12 and to the hole of shutter 10 in which said stem extension is engaged as shown in Figure 4; further said shutter is forced into contact

with the front surface of nib fastening piece 2 by a spring 15 which is located within the sleeve 18 and engaged between said shutter 10 and a head 19 or stem 12-12'.

Of course the angular interconnection of shutter 10 with stem 12-12' may be made in any other manner within the spirit of appended claims.

In Figure 1 the pen is shown in writing position, the nib 3 projecting from the barrel 1 and the shutter 10 having its port 11 in register with passage 9; ink is thus free to flow from its reservoir 5 to passage 9 and nib 3.

When it is desired to close the pen, the knob 7 is grasped and actuated to retract the sleeve 4 and nib 3 into the barrel 1; then the end of the finger 13 is caused to slide along the groove 14 and as the sleeve 4 and associate parts are prevented from rotating with respect to barrel 1 by the engagement of the knob pin 17 in the slot 8 of the barrel, the finger 13 is caused to rotate with respect to part 2 and pen body, and thus the stem 12-12' and shutter 10 are also rotated, the port 11 of the said shutter being caused to go out of register with respect to passage 9 and this passage being thus closed by the shutter under the pressure of spring 15.

To carry again the pen in writing conditions the parts are carried into the position of Figure 1 by the manipulation of knob 7, the wing 6 being shifted off by part 2 and the shutter 10 being again carried in its open position, with port 11 in register with passage 9.

To secure a safe operation of shutter 10 said shutter con-

tacts with its seat by a flat surface as illustrated.

In the embodiment of Figures 5 and 6 the pen barrel is shown by 1 and it has a wing 6 adapted to close its mouth; in said barrel is mounted to reciprocate the pen body 4 having an end sleeve 18 in which the nib carrier 2 and nib 3 are secured; said body includes also an ink reservoir 5 and a part 20 for depressing said reservoir by means of a manipulating member (not shown) to fill in said reservoir.

The intercommunication of reservoir 5 with duct 9 feeding ink to nib 3 is controlled by a shutter 10 forced against nib carrier 2 by a spring 15 which abuts on a shoulder 18' of sleeve 18. Said shutter 10 is solid with a square head 12' of a stem 12 rotatable in carrier 2 and having a transverse finger 13 mounted to move in a transverse slot 21 of nib carrier 2, the outer end of said finger engaging a spiral groove 14 provided in the internal surface of barrel 1.

Said groove 14 opens in an enlarged or flaring out space 22 adjacent to the mouth of barrel 1, the edge end of said space 22 having the same span as the slot 21 of nib carrier 2 (see Fig. 6).

The operation of this embodiment is the same as that of the first described embodiment, but when the pen body 4 with parts carried thereby is retracted into the pen barrel, the finger 13 always enters space 22 whatever is the position in which said finger may have been moved when the pen is in writing conditions by an inaccurate manipulation or by any reason, and the side edges of said flaring space 22 always lead said fin-

ger into groove 14; thus the pen is prevented from being jammed by the finger 13 engaging the front edge of barrel 1 as it could happen in the embodiment of Figure 1 and the correct operation of the parts under any circumstance is secured.

By the above described construction and arrangement, the communication of nib with ink reservoir is cut off when the pen is in inoperative condition, and thus any leakage of ink is prevented, even in the case the pen is held with its nib downward.

Of course the present invention is not restricted to the shutting arrangement described and illustrated nor to the construction of pen which has been described for the purpose of illustration, this invention being only confined by appended claims.

What I claim is:-

287009

1. A fountain pen comprising a pen body including a ink reservoir and a nib connected therewith, a part mounted for movement with respect to said pen body, a shutter between said reservoir and nib, and cooperating means on said movable part and shutter to open it when said nib is put in writing conditions and to close it when said nib is put in inoperative condition.

2. A fountain pen comprising a pen body including a ink reservoir and a nib connected therewith, a barrel in which said pen body is mounted for movement, means for actuating

said pen body from outside with respect to said barrel, a shutter intermediate said ink reservoir and nib, and cooperating means on said shutter and barrel to open said shutter when said pen body is carried in writing conditions and to close the same when said pen body is carried in inoperative condition.

3. A fountain pen comprising a pen body including a ink reservoir, a nib carrier and a nib on said carrier, a shutter between said reservoir and nib carrier and having a flat sealing surface in contact with a flat surface of said carrier, and cooperating means on said movable part and shutter to open it when said nib is put in writing conditions and to close it when said nib is put in inoperative condition.

4. A fountain pen comprising a pen body including a ink reservoir, a nib carrier and a nib on said carrier, a shutter between said reservoir and nib carrier, a resilient member acting on said shutter and on a portion of said nib carrier to force said shutter in sealing conditions and cooperating means on said movable part and shutter to open it when said nib is put in writing conditions and to close it when said nib is put in inoperative condition.

5. A fountain pen comprising a pen body including a ink reservoir and a nib connected therewith, a part mounted for longitudinal movement with respect to said pen body, a shutter between said reservoir and nib, and cooperating means on said shutter and movable part providing their helical engagement to open said shutter when said nib is put in writing

condition and to close it when said nib is put in inoperative condition.

6. A fountain pen comprising a pen body including a ink reservoir and a nib connected therewith, a part mounted for longitudinal movement with respect to said pen body, a shutter between said reservoir and nib, and cooperating means on said shutter and movable part providing their helical engagement to open said shutter when said nib is put in writing condition and to close it when said nib is put in inoperative condition, said cooperating means comprising a finger and a grooved member able of respective oscillation and longitudinal movement and said grooved member having an enlarged mouth for receiving said finger and leading it to said groove.

7. A fountain pen comprising a pen body including a ink reservoir and a nib connected therewith, a barrel in which said pen body is mounted for longitudinal movement, means for actuating said pen body from outside with respect to said barrel, a rotary shutter intermediate said ink reservoir and nib, and cooperating means on said shutter and barrel providing a helical interengagement of the same to open said shutter when said pen body is carried in writing condition and to close the same when said pen body is carried in inoperative condition.

8. A fountain pen comprising a pen body including a ink reservoir and a nib connected therewith, a barrel in which said pen body is mounted for longitudinal movement, means for actuating said pen body from outside with respect to said barrel said barrel having a helical groove, a rotary shutter

intermediate said ink reservoir and nib, and a finger solid with said shutter and engaging said barrel groove to actuate said shutter and open it when said pen body is carried in writing condition and to close said shutter when said pen body is carried in inpperative condition.

9. A fountain pen comprising a pen body including a ink reservoir and a nib connected therewith, a barrel in which said pen body is mounted for longitudinal movement, means for actuating said pen body from outside with respect to said barrel, said barrel having a helical groove with an enlarged mouth, a rotary shutter intermediate said ink reservoir and nib, and a finger solid with said shutter and engaging said barrel groove and mouth to actuate said shutter and open it when said pen body is carried in writing conditions and to close said shutter when said body is carried in inoperative condition.

10. A fountain pen comprising a pen body including a ink reservoir, a nib and a carrier for said nib and having a passage leading from said reservoir to said nib; a shutter mounted to move on said nib carrier said shutter being adapted to clear and to shut said passage, means for actuating said shutter to open it when said nib is put in writing condition and to close it when said nib is put in inoperative condition, and resilient means forcing said shutter against a face of said nib carrier.

11. A fountain pen comprising a pen body including a ink reservoir, a nib and a carrier for said nib and having a pas-

sage leading from said reservoir to said nib, a shutter mounted to move on said nib carrier said shutter being adapted to clear and to shut said passage, means for actuating said shutter to open it when said nib is put in writing condition and to close it when said nib is put in inoperative condition, and resilient means acting on said shutter and on a part longitudinally solid with said nib carrier and forcing said shutter against a face of said nib carrier.

12. A fountain pen comprising a pen body including a ink reservoir, a nib and a part connecting said nib and reservoir; a rotary shutter adjacent to said nib carrier, a stem solid with said shutter and extending outside of said nib carrier, a spring forcing said shutter on the adjacent race of said carrier, a finger projecting from said stem, a barrel in which said body and associate parts are mounted for longitudinal movement said barrel having a helical groove with enlarged mouth engaged by said finger, and means for shifting said pen body and associated parts with respect to said barrel, the cooperation of said finger and helical groove causing said shutter to be moved into open position when said pen body is carried in writing conditions, and into closed position when said body is carried in retracted position within said barrel.

Improvements in Fountain Pens'

14

287009

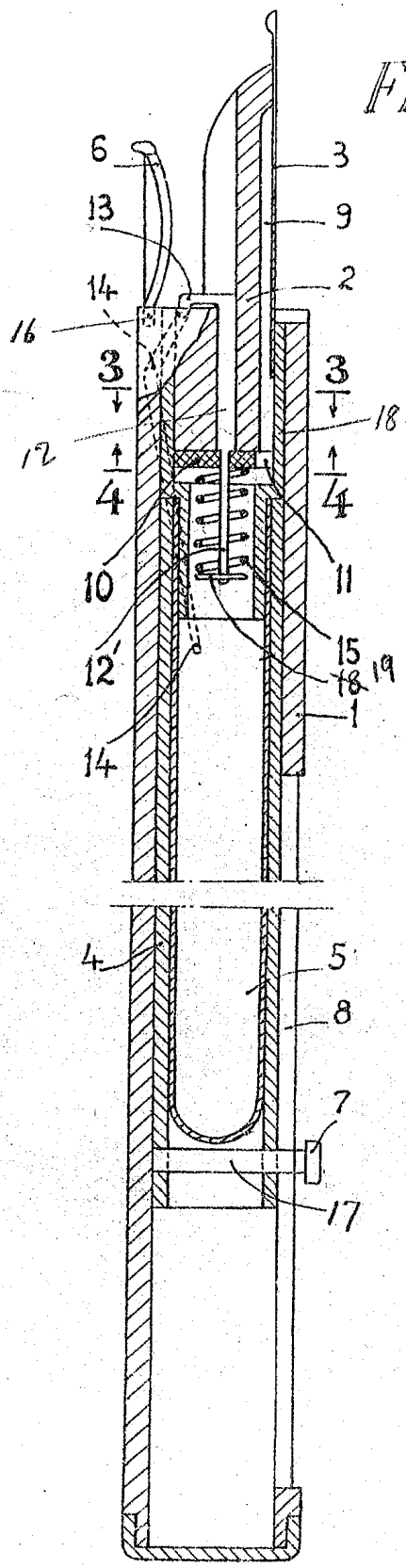

Fig. 1

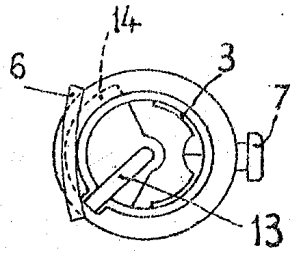

Fig. 2

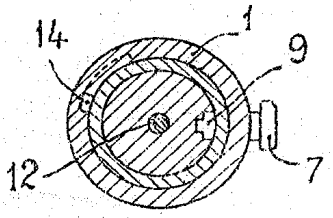

Fig. 3

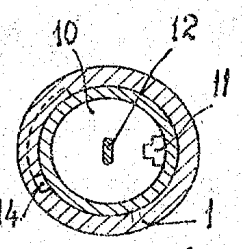

Fig. 4

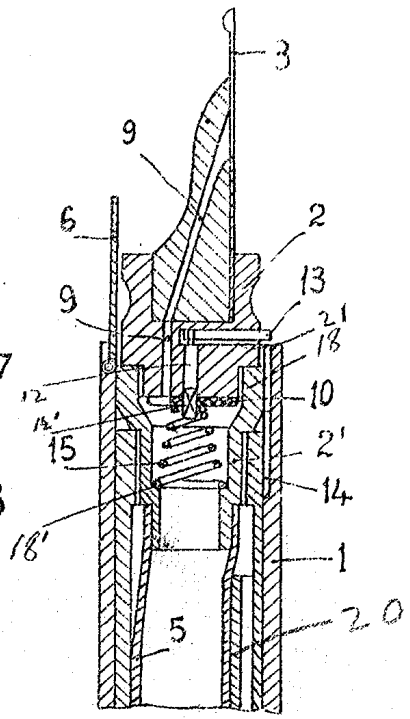

Fig. 5

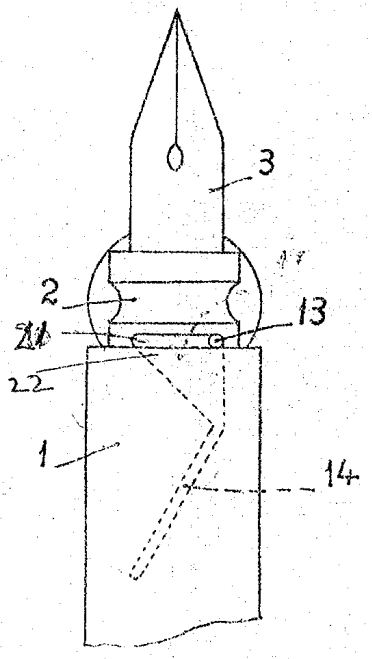

Fig. 6

Certified to be the drawings referred to in the specification hereunto annexed.

LONDON. ENGLAND. this 29th day of FEBRUARY. 1928.

Inventor:
RODOLFO DEBENEDETTI.

Witnesses { W.G. Amand.
J.G. Haddan.

by his Attorney: