

PATENT SPECIFICATION

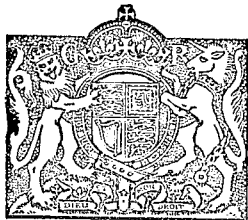
364,436

Convention Date (Germany) : Feb. 6, 1931.

Application Date (in United Kingdom) : March 23, 1931. No. 8834 / 31.

(Patent of Addition to No. 312,180: dated May 18, 1928.)

Complete Accepted : Jan. 7, 1932.



COMPLETE SPECIFICATION.

Improvements in and relating to Fountain-pens.

I, LEOPOLD KUTTER, 4, Johann Hoffmannplatz, Vienna XII, Austria, of Austrian nationality, 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 an improvement in or modification of the invention claimed in or modification of the invention 10
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The main patent relates to a fountain-pen holder formed of two tubes slidable telescopically, of which the inner tube carries the nib together with a compressible ink holder and ink guide and at the upper (rear) end of the holder projects beyond the outer tube, and the outer tube carries a closing flap for the outlet opening of the nib and both tubes are guided one upon the other and are limited in their motion in both directions, by a device consisting of a longitudinal groove and a pin and inaccessible from outside in such a manner that when the nib is pushed out ready for use the pen is also in position for drawing in ink through the ink guide. In a constructional form the pin is arranged at the end of a leaf spring which is inserted in the inner tube and serves for compressing the ink holder for drawing in ink. The pin enters the guiding groove after passing through an opening in the inner tube.

In this fountain-pen holder the closing flap is opened by the impact of the nib when it is pushed out; when the nib is retracted the closing flap closes by spring action.

According to the invention an automatic opening and closing of the closing flap is produced by this, that a curved leaf spring engaging eccentrically with the closing flap and moving in a longitudinal groove of the outer tube is carried with the inner tube when it is pushed to and fro in the manner of a towing arrangement.

It is of advantage to widen the outer tube somewhat at the end near the nib in order that a part of the inner tube may be easily guided when the nib is pushed

out. In this case the tubes can be secured in the position of use by the friction of the other parts, or by friction or gripping effect between the tubes.

It is also of advantage to make the opening of the inner tube, through which the pin passes into the guiding groove for the greater part of its length, as a slot of constant breadth with a short gradually widening end.

The accompanying drawing illustrates a constructional example of the invention.

Fig. 1 being a partly longitudinal section with the nib drawn back, and

Fig. 2 a longitudinal section of the whole with the nib pushed out.

Fig. 3—5 show details.

The fountain-pen holder, as in the main patent consists of the outer tube 1 and the inner tube 2. The outer tube 1 carries the closing flap 15, as well as a guiding groove 4 arranged on the inner side. The inner tube 2 has a longer sheet metal sleeve 5 which carries the ink guide 10 and the nib 9 at one end, and can be closed by a cap 7 at the other end. The tube 2, 5 carries the tubular ink holder 11 and a flat spring 12. The flat spring is provided at the inner end with a pin 13 and at the end which is accessible when the cap 7 is screwed off with a press knob 12¹. The pin 13, preferably provided with a flange 13¹ on account of the elasticity of the ink holder 11, passes through a slot into the groove 4 and thus forms the guide for the two tubes 1 and 2, 5. When the press button 12¹ is pressed inwards the ink holder 11 is compressed by the leaf spring 12 and the strips 12¹¹; when the press button is released the ink holder returns to its original shape; this effect is used for drawing in ink.

The present invention consists in the following. The closing flap 15 can swing about the hinge 21 on a cap 20 placed on the outer tube. Eccentrically to the hinge 21, that is at 22, the closing flap 15 is engaged by a light curved leaf spring 23 approximately in an inverted S-shape which is principally guided (mounted) in

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a longitudinal groove 24 of the tube 1 and at the free end is formed with a kind of rounded nose 25. The leaf spring 23 co-operates with a part 5¹ of the sleeve 5 which on account of its diameter being rather larger than that of the sleeve 5, is guided rather tightly in the tube 1. This part 5¹ is offset inwardly at an angle at 26 and an oblique part 27 adjoins this offset part so that an acute angle is formed.

The action of the device is as follows.

In Fig. 1 the leaf spring 23 is moderately pressed down by the part 5¹ and the spring nose 25 bears against the outside of 5¹. If the inner tube 2, 5, 5¹, is pushed forward from the position of Fig. 1 to that according to Fig. 2 for pushing out the nib the part 5¹ depresses the part of the leaf spring 23 outside the groove 24 still further and in consequence of the spring tension caused thereby, the end 25 of the leaf spring, which has in the meantime been released, moves rapidly against the oblique part 27 (Fig. 4) which is thereby enabled to carry the leaf spring 23 with it and to open the closing flap 15 (Fig. 2). The leaf spring and its curvature, therefore make it possible to open the closing flap 15 through 90° but a smaller opening angle is used as shown in Fig. 2. When the tube 2, 5, 5¹ is pushed further the nose 25 runs ineffectively and almost without friction on the outside of the tube 5 which is made smaller than the part 5¹ (Fig. 2).

When the tube 2, 5, 5¹, is pushed back the closing flap 15 at first remains open. Only when the nose 25 engages with the offset part 26 is the leaf spring 23 carried along (Fig. 5) and thereby the closing flap 15 closed. Just before the tube 2, 5 has reached the end position given by the guide 13, 4, the nose 25 runs on the thicker part 5¹ (Fig. 1), and the arch of the leaf spring at the height of the nib can no longer curve outwards.

The part 5¹ fitting rather tightly in the tube 1 has also the object of holding the tubes 1 and 2, 5, securely in position when the fountain-pen is not in use (Fig. 1). In order, however, that the tight fit may extend only over a small part (short extent) of the whole displacement, the tube 1 at the front near the nib is widened a little in its inside diameter over a certain length 28. The sliding of the two tubes then proceeds easily when the part 5¹ slides over the part 28, which is the case when the closing flap 15 is open. For securing the two tubes 1 and 2, 5, in the position of use the fountain-pen holder, the friction which the leaf spring 23, in this position of the parts and the pin 13 in its groove 4 or in the slot part 14 cause-

is sufficient. In addition an increased friction or gripping between the tubes in this position can be produced, for example by providing at the end of the tube 2 a kind of cone 29 which is easily pressed into the tube 1. In this way at the same time the limitation of the motion of the tubes 1 and 2, 5, when the nib is pushed out is given, and this limitation of motion takes place before the offset part 30 between the parts 2 and 5, engages the offset part 31 of the tube 1. The pin 13 and the groove 4 prevent the relative rotation of the tubes 1 and 2, 5, and limit their motion when the nib is pushed in (Fig. 1).

The slot 14 as shown in Fig. 3 is preferably so formed that over a large part of its length at 14¹ it is of equal width and is gradually widened only at the short end 14¹¹ further from the nib. This construction is advantageous for assembling the fountain-pen.

The fountain-pen holder is assembled by the tube 2, 5, being pushed into the tube 1 provided with a closing flap 15 and leaf spring 23 in the correct initial position and being slid in the direction of the arrow 32 (Fig. 2) until it reaches nearly the position illustrated, when the flap 15 will open, if it is not already open. Then the flat spring 12 in a position turned through 180° about its longitudinal axis, that is with an inwardly directed pin 13, is introduced into the tube 2, 5, between the wall of the tube and the ink holder 11, so far that the pin 13 reaches the wider part of the slot 14¹¹. The correct position for introducing the flat spring 12 in the circumference of the tube can easily be found on the correctly inserted nib 9. The flat spring is now turned through 180° when the pin 13 on account of the elasticity of the ink holder passes through the widened part of the slot 14¹¹ into the groove 4. If, now the tube 2, 5, is retracted all the parts fall into the position indicated in Fig. 1, also that after screwing on the cap 7 the pen is ready for use. The pin 13 has moved along the slot 14¹ to its end, being guided by its flange 13¹ and finally comes into engagement with the off-set part 31.

In order to take the fountain-pen apart for purpose of repair or the like, the tube 2, 5, is pushed into the position shown in Fig. 2 and after the cap 7 has been removed, the flat spring 12 is withdrawn until the pin 13 reaches the widened part of the slot 14¹¹. The flat spring is then turned through 180° and completely withdrawn from the tube 2, 5, after which the tube 2, 5, can be completely withdrawn from the tube 1.

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 fountain-pen holder as claimed in Specification No. 312,180, characterised by the feature that for automatically opening and closing the closing flap use is made of a curved leaf spring which
10 engages the closing flap eccentrically, lies in a longitudinal groove of the outer tube and of which the nose like end is so actuated by the inner tube in the manner of a towing device, that the closing flap is
15 opened when the nib is pushed outwards and closed when the nib is pushed inwards.

2. A fountain-pen holder as claimed in claim 1, characterised by the feature that
20 the nose like end of the leaf spring cooperates with an offset part and an oblique part of a part of the inner tube, which is tightly guided in the outer tube in such a manner that when the nib is pushed out,
25 the closing flap is opened by the engagement of the end of the leaf spring which here curves outwards on the oblique part

and when the nib is pushed in the closing flap is closed by the end of the leaf spring being carried along with the offset part. 30

3. A fountain-pen holder as claimed in claim 1, characterised by the feature that the outer tube is somewhat widened at the end near the nib in order that the part
35 of the inner tube may be easily guided when the nib is pushed out, the two tubes being secured in the position of use of the fountain-pen by the friction of the other parts or by an increased friction, or
40 gripping effect produced between the tubes.

4. A fountain-pen holder as claimed in claim 1, characterised by the feature that
45 the slot enabling the pin to pass out of the inner tube is of equal breadth over a large part of its length and has a short gradually widening end.

5. The improvement in or modification of the fountain-pen holder claimed in
50 Specification No. 312,180, substantially as described with reference to the accompanying drawing.

Dated this 19th day of March, 1931.

MARKS & CLERK.

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

