

PATENT SPECIFICATION



Application Date: June 7, 1921. No. 15,696 / 21.

185,512

Complete Left: Mar. 7, 1922.

Complete Accepted: Sept. 7, 1922.

PROVISIONAL SPECIFICATION.

Improvements in Reservoir Pens and the like.

We, HAROLD ASHLEY STEVENS, and OSCAR DREWE HARRIS, both of 109, Bedford Court Mansions, Bedford Avenue, London, W.C. 1, British subjects, do hereby declare the nature of this invention to be as follows:—

This invention relates to reservoir pens and the like, including both nib-provided fountain pens and stylographic pens, and its object is to provide means for holding certain parts of the pen in their alternative positions without requiring the usual accuracy of fitting, which is so often destroyed when the pen is subjected to the polishing operation.

Another object of the invention is to provide clutch means for preventing breakage of a fountain pen of the propelling type, when the rotary effort applied thereto is continued beyond what is necessary to bring the parts into their respective end positions, such clutch means being identical with the above mentioned holding means.

For the above purposes, a reservoir pen is, according to the invention, provided at the required situation or situations with a rounded spring-pressed laterally acting plunger, to protrude into frictional contact with or behind the respective part to be retained, or to provide an eventually yielding clutch to avoid the effects of over rotation.

A suitable spring-pressed plunger is a metal or other rigid ball partially protruded by a spring from a recess or socket of a configuration such as to prevent complete ejection of the ball.

Where such a ball is exposed to contact with ink it is of incorrodible metal or material.

For example, to retain the cap of a

[Price 1/-]

fountain pen, stylo or even of a pocket pencil holder, the spring-pressed ball is located in the end piece to protrude laterally into frictional contact with the inner surface of the cap when the latter is fitted over the end piece. Similarly, a spring-pressed laterally protruded ball may be provided at the nib or point end of the pen or pencil holder to retain the cap thereon, but in some pens this is unnecessary as the cap screws on to this end thereof.

To improve the engagement, the cap may have a slight internal annular groove or shoulder behind which the ball snaps.

The propelling fountain pen, mentioned above, is one wherein the nib is retracted into and protruded from the barrel by being mounted in a cup having a stem displaced longitudinally by a transverse pin on the stem engaged in a helical slotway or slotways in a rotary sleeve rotated by the end piece of the pen.

The spring-protruded ball device can usefully be employed in such a propelling pen to hold the nib in the protruded position. In such case, one or a plurality of spring-pressed balls is mounted within the barrel to protrude inwards behind the nib-holder, or cup, as it is termed. Thereby, owing to the helically slotted sleeve being relieved by the ball device of the duty of holding the nib protruded, the pitch of the slotways may be steep, as it does not have to offer frictional opposition to pressing in of the nib, thus giving a quick protrusion and retraction of the nib.

With such a propelling pen, also a spring-pressed laterally protruded ball on the rotary end piece, conveniently, by coacting with one or more longitudinal

internal grooves in the cap fitted as usual on the end piece, acts as a yielding feather or clutch permitting the cap to rotate idly over the end piece when rotated beyond the extent necessary for protruding or retracting the nib. The ball in such

event snaps from groove to groove in the cap.

Dated this 7th day of June, 1921.

PHILLIPS & LEIGH,
Agents for the Applicants.

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COMPLETE SPECIFICATION.

Improvements in Reservoir Pens and the like.

We, HAROLD ASHLEY STEVENS, and OSCAR DREWE HARRIS, both of 109, Bedford Court Mansions, Bedford Avenue, London, W.C. 1, British subjects, 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 propelling reservoir pens and the like, and consists in the provision between the cap and the propelling contrivance of clutch means for preventing breakage of a fountain pen or the propelling type when the rotary effort applied thereto is continued beyond what is necessary to bring the parts into their respective end positions.

For the above purpose, a reservoir pen of the propelling type is provided at the end piece with a rounded spring-pressed laterally acting plunger, which engages with longitudinal grooves in the cap of the pen, or in a rotary sleeve engaged by the cap, to provide an eventually yielding clutch to avoid the effects of over-rotation.

A suitable spring-pressed plunger is a metal or other rigid ball partially protruded by a spring from a recess or socket of a configuration such as to prevent complete ejection of the ball.

Examples of the application of the invention are shown on the accompanying drawing, in which:—

Fig. 1 is a sectional elevation of the rear end of a propelling fountain pen, and

Fig. 2 is an elevation partly in section of its cap.

Fig. 3 is an elevation partly in section of a propelling fountain pen with its cap in position on the rear end thereof, showing a modification,

Fig. 4 is a transverse view partly in section of the pen of Fig. 3, and

Fig. 5 is a similar view with the parts in a different relative position.

a is the barrel of a foundation pen and *b* is the end piece thereof. *c* is the remov-

able cap. *d* is a ball pressed outwards by a spring *e* located in the end piece *b* to protrude laterally into contact with the inner surface of the cap *c* when the latter is fitted over the end piece.

The propelling fountain pen, mentioned above, is the well known one wherein the nib *g* is retracted into and protruded from the barrel by being mounted in a cup having a stem displaced longitudinally by a transverse pin on the stem engaged in a helical slotway or slotways *h* in a rotary sleeve *i* rotated by the end piece *b* of the pen.

With such a propelling pen, as shown in Fig. 1, the ball *d* protruded by the spring *e* from the rotary end piece *b*, by coacting with one or more longitudinal internal grooves *j* in the cap *c* fitted as usual on the end piece *b*, acts as a yielding feather or clutch permitting the cap *c* to rotate idly over the end piece *b* when rotated beyond the extent necessary for protruding or retracting the nib *g*. The ball *d* in such event snaps from groove to groove in the cap.

The ball *d* and spring *e* are mounted in a transverse bore *k*. The bore *k* extends only partway through the end piece *b* and the ball *d* and spring *e* are retained by a metal sleeve ring *m*, fitted over the end piece *b* and having a hole of less diameter than the bore *k*, through which hole the ball *d* can merely partially protrude.

Figs. 3, 4 and 5 show how the longitudinal grooves *j* for the clutch engagement of the ball *d* by the cap *b*, can be provided on the inner periphery of a rotary sleeve ring *n*, permanently surrounding the end piece *b* and gripped frictionally by the cap *c* removably placed thereon in the usual manner. Fig. 4 shows the ball *d* engaged in a driving groove *j* whereas Fig. 5 shows such ball *d* midway between two such grooves *j*, in snapping from one groove to another after the nib *g* has been fully protruded or retracted.

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The sleeve ring *n*, being permanently on the end piece *b* serves also to retain the ball *d* and spring *e* in their bore *k*.

The invention is obviously applicable 5 to propelling pocket pencils or pencil holders provided with removable caps.

Having now particularly described and ascertained the nature of our said invention and in what manner the same is to 10 be performed, we declare that what we claim is:—

1. A propelling reservoir pen or the like in which a yielding clutch is provided 15 between the cap and the propelling contrivance.

2. A propelling reservoir pen or the

like according to Claim 1, in which a rounded spring-pressed laterally protruded plunger in the end piece is engaged by 20 grooves longitudinal to the cap.

3. A reservoir pen or the like according to Claim 2, in which the plunger is a ball retained against complete protrusion.

4. The improved cap clutch connection for propelling reservoir pens and the like, 25 substantially as described and shown.

Dated this 7th day of March, 1922.

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

