

PATENT SPECIFICATION



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PROVISIONAL SPECIFICATION.

Improvements in and relating to Fountain Pens.

We, THOMAS EDWARD RUDDERHAM, of 1, Alpha Villa, Melford Road, Sudbury, Suffolk (British), and OSMOND BLYTHE WADE, of Mayleigh, Petersham, Surrey (British), do hereby declare the nature of this invention to be as follows:—

Our invention relates to fountain pens of the kind described in Specification No. 3674/22, wherein a cap is provided which is adapted to be moved to and fro along the barrel of the pen in order to expose the nib for writing or to cover and protect it, as desired, but which is not normally intended to be removed bodily from the pen barrel.

Our invention consists in the combination of parts hereinafter set out and has for its object the provision of a writing instrument characterized by the following features.

The cap is fitted with an inner metal sleeve which co-operates with the outer shell of the cap in such a way that the top orifice, through which the nib projects, when in the exposed position, is automatically opened to allow the passage of the nib, and is similarly closed to cover and protect the nib when in the retracted position this functioning of the parts being effected by the sliding movement imparted by the fingers to the outside shell of the cap, and being controlled in such a manner as to avoid any danger of jamming the nib against any of the parts concerned.

The guiding slot governing the relative movements of the inner shell and the outer cap is formed in the ebonite body of the pen instead of in the metal sleeve, as it has been ascertained that in the latter case the necessarily thin metal is liable to become burred and so prejudice the smooth working of the parts.

Further, the parts are so arranged that the nib protrudes centrally from the top orifice instead of eccentrically, thereby

avoiding the necessity of fitting a specially shaped nib action which has been found costly and impracticable in manufacture.

Further, provision is made whereby the cap can be readily removed from the pen body for the specific purpose of refilling the reservoir with ink, or for any other definite purpose. This avoids any accumulation of ink upon the parts during the operation of refilling and afterwards, as it leaves the nib and section free to be dipped into the ink bottle, and thereafter wiped or cleaned from any superfluous ink before the cap is replaced.

The cap may be so removed by a simple further part-rotation applied when it is already covering the nib; but preferably means are provided necessitating a more deliberate or designed movement, such as one or more full turns, before the cap is free to be removed bodily from the barrel.

In carrying the invention into effect I provide on the body of the pen, at a suitable distance below the nib-section, a recessed groove in which is fitted a metal sleeve carrying a projecting lug to act as a stop and also as a guide pin for the inner metal sleeve. Extending from the groove is a slot running longitudinally along the pen body towards the nib-section and slightly curved so as to form an open spiral covering something less than 180 degrees rotation. The extreme top of the spiral is sharply bent so as to complete the full half-turn, whilst at the same time providing a flat bearing surface for the operating pin hereafter referred to.

The inner metal sleeve is provided with a longitudinal slot engaging with the aforesaid guide pin formed on the metal band fixed upon the pen body, and also with a lateral slot extending through 180

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degrees which accomodates the aforesaid operating pin. The upper end of the metal sleeve is reduced and is also provided with suitable means such as a ridge 5 pressed in from the metal to frictionally engage the surface of the nib section and hold it firmly in position when writing so that there is no tendency for the cap to slip down accidentally when writing. 10 The top of the metal sleeve is half closed over so as to co-operate with the similarly shaped top of the cap proper in order to completely cover the opening when the pen is not in use.

15 On the outside of the cap proper is formed a groove to take a band furnished with an operating pin, which extends inwards through a hole bored in the cap, through the lateral slot in the metal 20 sleeve and so into the guiding groove or slot formed in the ebonite of the pen body.

The complete removal of the cap for refilling purposes may be effected by providing a reversed continuation of the 25 guiding slot in the pen body, so that a partial rotation in a backward sense, once the cap has reached the nib-protecting position, is sufficient to allow the operating pin to pass freely out of the slot and 30 so release the cap completely.

It is desirable however to make provision for preventing an accidental or undesigned removal of the cap. In order theretofore to meet this requirement I 35 provide a suitable collar which slides freely over the pen body and which is screw threaded at one end so as to engage a thread formed in the bottom part of the cap proper. When these two parts are 40 screwed one into the other, the projecting stop or guide pin, formed on the first-mentioned metal band fitted on the pen body, acts as a stop to prevent the cap from leaving the pen body until it has been unscrewed or released from the 45 retaining collar. The collar, in turn, is prevented from slipping off the back end of the pen body in the downward direction by the provision of a suitable taper 50 upon the pen body, or by other means.

Dated the 18th day of November, 1922.
 THOMAS EDWARD RUDDERHAM.
 O. B. WADE.

COMPLETE SPECIFICATION.

Improvements in and relating to Fountain Pens.

55 We, THOMAS EDWARD RUDDERHAM, of 1, Alpha Villa, Melford Road, Sudbury, Suffolk, and OSMOND BLYTHE WADE, of Mayleigh, Petersham, Surrey, both British subjects, do hereby declare the 60 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:—

Our invention relates to fountain pens 65 of the kind described in prior Specification No. 197,036 wherein a cap is provided which is adapted to be moved to and fro along the barrel of the pen in 70 order to expose the nib for writing or to cover and protect it, as desired, but which is not normally intended to be removed bodily from the pen barrel.

Our invention consists in the combination of parts hereinafter set out and has 75 for its object the provision of a writing instrument characterized by the following features.

The cap is fitted with an inner metal sleeve which co-operates with the outer 80 shell of the cap of ebonite in such a way that the top orifice, through which the nib projects, when in the exposed position, is automatically opened to allow the passage of the nib, and is similarly 85 closed to cover and protect the nib when in the retracted position, this functioning of the parts being effected by the sliding movement imparted by the fingers to the outside shell of the cap, and being controlled in such a manner as 90 to avoid any danger of jamming the nib against any of the parts concerned.

The guiding slot governing the relative movements of the inner sleeve and the outer cap is formed in the ebonite 95 body of the pen instead of in the sleeve as when the sleeve is made of thin metal the working edges are liable to become burred.

Further the parts are so arranged that 100 the nib section is mounted concentrically in the barrel. Also provision is made whereby the cap can be readily removed from the pen body for the specific purpose of refilling the reservoir with 105 ink, or for any other definite purpose.

The cap may be so removed by a simple further movement applied when it is already covering the nib, but preferably means are provided necessitating 110 a more deliberate or designed movement before the cap is free to be removed bodily from the barrel.

In order to make our invention clear, reference is made to the accompanying 115 drawings in which

Fig. 1. Shows a band A to be fitted on the outside of the cap.

Fig. 2. Is a section of the cap formed with a shallow recess D to accommodate the band A. A pin or lug B on the band passes through an opening E. The end of the cap is screw-threaded internally at H.

Fig. 3. Is an end view of the cap showing the semi-circular opening through which the nib protrudes.

Fig. 4. Shows the inner sleeve J with a reduced end J¹ to grip the nib section V with a certain degree of friction. Extending half way around the periphery is a slot L which receives the end of the lug B, Fig. 1. A longitudinal slot K is also provided for the purpose hereinafter described.

Fig. 5. Is an end view of the sleeve J showing the semi-circular opening G¹, which when aligned with the cap opening G, Fig. 3 allows the nib to protrude. Turned through 180 degrees the solid parts F¹ of this figure and F of Fig. 3 completely close the end of the cap and preserve the nib from dust *etc.*

Fig. 6. Is a front elevation of the barrel and section of the pen. A curved slot O is formed to receive the pin or lug B on the band A through the slot L in the sleeve J (Fig. 4). Owing to the curvature of the slot O the effect of a direct up and down movement of the cap causes the sleeve J to make a half turn relatively to the cap and thereby opens or closes the aperture formed by the half circles G, G¹ Figs. 3 and 5. A metal band N is let into a groove formed in the barrel M and is held in position by an inset P. A small lug Q projects from this band into the longitudinal slot K (Fig. 4) of the sleeve J in order to ensure that this shall not turn relatively to the pen barrel. A ring R is screw-threaded at S to engage with the threads H at the end of the cap C, Fig. 2, and a cork washer T prevents leakage between the sliding cap and the body of the pen. When screwed up into position the ring

R prevents the cap from being taken off bodily by coming into contact with the shoulder or projection Q. By unscrewing the ring R the cap may of course be removed. In order to ensure clearance, the nib is mounted eccentrically on the section so that the back of the nib is placed as near to the outer edge as possible.

Instead of mounting the lug Q upon the metal band N we may form it on the pen body, and we may locate it near the nib end of the groove O, a reverse turning of the groove O, in addition to the turning above referred to preventing the cap slipping off unless a designed turning movement is made for this purpose.

Fig. 7. Is a complete elevation of the pen showing the parts in position, and having certain portions broken away and shown in section in order to illustrate clearly the relative positions of the assembled parts.

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 fountain pen of the kind referred to in which the cap is moved to and fro along the barrel in order to cover or expose the nib as required characterized by the feature that the nib section is mounted concentrically on the barrel and that means are provided for automatically opening and closing an aperture at the end of the cap substantially as described.

2. In a pen of the kind set out in Claim 1, the provision of a separate ring adapted to be screwed into the lower end of the cap, and fitted with an air-tight washer for the purposes hereinbefore stated.

3. An improved fountain pen substantially as herein described and illustrated.

Dated this 24th day of August, 1923.

WM. J. DOW, F.C.I.P.A.,
Agent for the Applicants.

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

Fig 1.

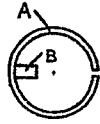


Fig 2.

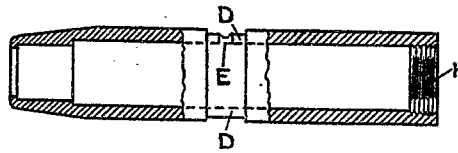


Fig 3.



Fig 4.

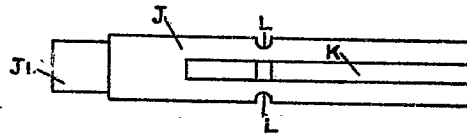


Fig 5.



Fig 8.

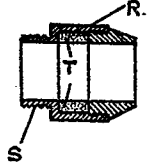


Fig 6.

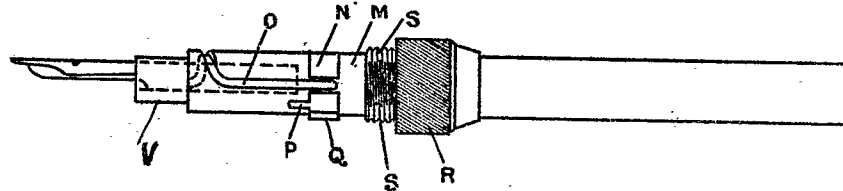


Fig 7.

