

PATENT SPECIFICATION



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PROVISIONAL SPECIFICATION.

Improvements in Reservoir Fountain Pens.

We, GEORGE STEWART VIVIAN, of 237, Norbury Crescent, Norbury, London, S.W.16, British Subject, and T. B. FORD LIMITED, of Snakeley Paper Mill, Loudwater, High Wycombe, Buckinghamshire, a British Company, do hereby declare the nature of this invention to be as follows:—

This invention relates to improvements in reservoir fountain pens and has for its object to provide a simple and effective form of reservoir fountain pen which will enable the amount of ink in the reservoir to be seen at any time so that the user may know when the pen requires refilling.

According to this invention our improved reservoir fountain pen is formed with a transparent reservoir for the ink and which forms the pen body and which is provided with a sheath or cover. This sheath or cover may either be detachable or movable to allow the transparent reservoir to be uncovered for inspection or may be slotted or perforated or provided with transparent portions through which the reservoir may be viewed. When the sheath is detachable or movable it may be of opaque material such as vulcanite or of any suitable plain or fancy composition. When it is desired to employ a sheath for the reservoir which is permanently secured in position then it may be made of fancy perforated metal, for example a thin silver or gold sheath perforated into a fancy or decorative pattern may be employed.

In a convenient method of carrying our invention into practice as applied to a self-filling type of reservoir fountain pen we may employ a transparent reservoir in the form of a tube of transparent material such as celluloid, "Bakelite" (Registered Trade Mark) or other suitable composition or material. This tube is closed at one end with the usual nib or stylus section to which ink may be fed from the reservoir. The other end is closed by a suitable cap and may accommodate a suitable pump or other mechanism for filling the reservoir with ink when necessary. For this purpose a spindle may project through the cap and be provided with a finger piece by

[Price 1/-]

which the mechanism may be actuated.

In one construction a detachable sheath of vulcanite or other suitable material or composition may be slipped over the transparent pen body so as to protect and conceal it in ordinary use. The sheath may either be a sufficiently tight fit to remain normally in position or it may be secured by suitable means for example by screwing it into position. The usual pen cap is arranged over the nib section and may be secured by screwing it into position. For this purpose a screw-thread may be formed on a convenient part of the nib section or barrel and is adapted to engage with an internal screw-thread in the pen cap. The pen cap may be so arranged that it retains the detachable sheath in position if this be simply slipped into place and not otherwise secured. When the nib cap is removed the pen sheath may be easily withdrawn to permit the reservoir to be inspected and the quantity of ink therein to be ascertained. If desired the pen cap and detachable sheath may be formed in one piece or secured together so that the removal of the pen cap will withdraw the detachable sheath with it. The reservoir is then arranged so that the cap and sheath may be replaced by sliding it onto the other end of the reservoir when it will again conceal and protect the transparent pen holder but will leave the nib uncovered for writing purposes. With such an arrangement the user automatically uncovers the transparent pen body each time the pen is used and is thus kept aware of the quantity of ink in the reservoir and at once knows when the pen requires refilling.

In another arrangement the sheath may be perforated metal or other suitable material preferably having the perforations arranged in the form of a decorative design. Such sheaths may be of precious metal such as gold or silver or of other suitable material. The sheath then forms a protector for the transparent reservoir but at the same time permits the contents to be seen through the perforations and when made of metal may be relatively thin thus keeping down the size of the

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pen for any given reservoir capacity. Perforated sheaths of metal or other suitable material are preferably secured permanently in place on the reservoir but may be detachable if desired.

Whilst this invention may be applied to any type of reservoir fountain pen of the self-filling type, it is particularly applicable to reservoir fountain pens having pump actuated filling mechanism of the type described in Patents No. 337,794 and No. 337,835 and co-pending Patent Application No. 32,778 of 1930 (Serial No. 359,230).

A reservoir fountain pen according to

this invention may be constructed to have a relatively large ink capacity in which the ink is contained within a transparent reservoir which may form the pen body and which may be readily inspected to ascertain the quantity of ink therein but which is normally concealed and protected by means of a sheath or cover which prevents damage to the reservoir and provides a pleasing and decorative external appearance to the pen.

Dated this 2nd day of April, 1931.

RAYNER & Co.,

5, Chancery Lane, London, W.C.2,
Agents for the Applicants.

COMPLETE SPECIFICATION.

Improvements in Reservoir Fountain Pens.

We, GEORGE STEWART VIVIAN, of 237, Norbury Crescent, Norbury, London, S.W.16, British Subject, and T. B. FORD LIMITED, of Snakeley Paper Mill, Loudwater, High Wycombe, Buckinghamshire, a British Company, 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 improvements in reservoir fountain pens of the self-filling type and having a transparent reservoir accommodated in and extending substantially the full length of a protective sheath fitted thereover. The object of this invention is to improve upon the strength and efficiency of such types of self-filling fountain pens.

According to our invention a fountain pen of the type above mentioned comprises a tubular transparent reservoir, a nib section fitted into one end of the reservoir and a filling mechanism actuating cap relatively movably fitted to and extending beyond the other end of the reservoir, a sheath extending from said nib section receiving body to said cap whereby said sheath and said filling mechanism actuating cap completely shield the transparent reservoir.

In the preferred form of this invention a nib section enclosing cap is threaded to the sheath and a vulcanite or the like non-transparent member is fitted on to the rear end of the reservoir as an extension thereof and threaded to receive a threaded part of said sheath, and means are provided for reinforcing the reservoir at its nib section receiving end.

Embodiments of the invention are illustrated in the accompanying sheet of drawings in which:—

Fig. 1 is an elevation view showing a detachable sheath fitted over the reservoir and the nib covering cap screwed on to the sheath, the cap being shown in section

Fig. 2 shows the sheath removed from the reservoir, the sheath being shown in section and also a cap on one end of the reservoir for securing the sheath on the reservoir.

Fig. 3 is a sectional elevation view showing the nib covering cap and sheath combined for removal as a single unit, and

Fig. 4 is a broken outside elevation view showing the transparent reservoir accommodated in an apertured sheath.

Referring to the drawings in Figs. 1 and 2 a detachable sheath 1 of vulcanite, metal or other suitable material or composition is slipped over the transparent reservoir 2 so as to protect and conceal it in ordinary use. The sheath 1 may either be a sufficiently tight fit to remain normally in position or it may be secured by suitable means for example by screwing it into position. A pen cap 3 is arranged over the nib section 4 and may be secured by screwing it into position. For this purpose a screw-thread 5 may be formed on a convenient part of the sheath 1 and is adapted to engage with an internal screw-thread 6 in the pen cap. The pen cap is preferably arranged to prevent ink from the nib 9 flowing on to the exterior of the reservoir and the sheath when the pen is not in use. For this purpose the cap 3 can be formed with a concentric tubular part 7 adapted to abut against the annular ledge 8 forming the upper end of the nib section 4, consequently engagement of the abutting parts 7 and 8 will prevent ink from flowing on to the sheath. In this embodiment

the sheath 1 is pushed over the nib end on to the reservoir, but it will be apparent that if desired it can be pushed over the other end by merely keeping it the same internal diameter throughout its length and closing one end, the engagement of the threaded parts 5 and 6 and the abutting parts 7 and 8 holding the sheath on the reservoir. When the nib cap is removed the pen sheath may be easily withdrawn to permit the reservoir to be inspected and the quantity of ink therein to be ascertained.

If desired as shown in Fig. 3 the pen cap and detachable sheath may be formed in one piece or secured together so that the removal of the pen cap will withdraw the detachable sheath with it. The reservoir is then arranged so that the cap and sheath may be replaced by sliding it onto the other end of the reservoir when it will again conceal and protect the transparent pen body but will leave the nib uncovered for writing purposes. With such an arrangement the user automatically uncovers the transparent pen body each time the pen is used and is thus kept aware of the quantity of ink in the reservoir and at once knows when the pen requires refilling. The construction for this purpose can comprise a sheath 1a with the screw-threaded part 6 integral therewith and carrying the concentric tubular part 7. The sheath may be reversed and slipped over the cap 12.

In another arrangement as shown in Fig. 4, the sheath may be a perforated metal or other suitable hard tubular member 1b preferably having the perforations arranged in the form of a decorative design such as for example a plurality of longitudinal slots 11 which will facilitate inspection of the quantity of ink in the reservoir. Such sheaths can be of precious metal such as gold or silver or of other suitable material. The sheath then forms a protector for the transparent reservoir but at the same time permits the contents to be seen through the perforations and when made of metal may be relatively thin thus keeping down the size of the pen for any given reservoir capacity. The perforated sheath may be detachable, for example in the same manner as the sheath 1, and in common with the other embodiments the sheath engages a cap 12 mounted for reciprocation at the rear end of the reservoir and adapted to actuate filling mechanism inside the pen. The invention is particularly applicable to reservoir fountain pens having pump actuated filling mechanism of the type described in Patents No. 337,794 and No. 337,835 and co-pending Patent Application No. 359,230. For this

purpose we have shown in Figs. 1 and 2 the said cap 12 slidable on a concentric bush 13 on the appropriate end of the reservoir 2, this cap being fixed to a piston rod 14 slidable through the bush 13 and operatively connected to the self-filling mechanism 15. A coiled compression spring 16 is provided between the cap 12 and bush 13. In order to secure the sheath over the reservoir the cap 12 is threaded as at 12a externally for engagement in a threaded part 17 in one end of the sheath 1. An annular ledge 18 is formed in the sheath toward its other end adapted to abut against an annular ledge 19 at the junction of the reservoir and nib section. It will be apparent that the shoulders 18 and 19 will be pressed closely against each other as the cap 12 is threaded into the sheath 1 at the same time compressing the spring 16.

It is preferred that the concentric tubular portion 7 of the pen cap shall be threaded as a separate unit into the tubular part 6a containing the screw-threaded part 6, for example by threading the median part of the portion 7 as at 20 into a correspondingly threaded open upper end of the part 6a. A pocket clip 21 can be formed with a collar part 21a gripped between the cap parts 7 and 6a. The transparent tube forming the reservoir is reinforced by a metal band 22 clamped around the said part of the reservoir, the nib section 4 being threaded or plugged into such reinforced part.

We are aware that fountain pens with transparent reservoirs have heretofore been proposed and we make no claim broadly for enclosing a transparent reservoir in a protective sheath which wholly encloses the reservoir, as an essential feature of this invention is the combination of the said sheath with a filling mechanism actuating member (for example the member 12) at the rear end of the reservoir, the sheath and said actuating member normally engaging each other.

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 self-filling fountain pen comprising a tubular transparent reservoir, a nib section fitted into one end of the reservoir and a filling mechanism actuating cap relatively movably fitted to and extending beyond the other end of the reservoir, a sheath extending from said nib section receiving body to said cap whereby said sheath and said filling mechanism actuating cap completely shield the transparent reservoir.

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- (2) A fountain pen according to claim 1 wherein the sheath is adapted to be slipped over the nib end of the reservoir and is formed at one end with a threaded part adapted to receive a threaded part of said filling mechanism actuating cap rotatably and reciprocatably fitted to the rear end of the reservoir.
- (3) A fountain pen according to claim 2 wherein said cap is spring loaded so as to tend to draw the sheath on to the reservoir.
- (4) A fountain pen according to claim 1 wherein the sheath is formed with an annular internal ledge adapted to abut against the nib section receiving end of the reservoir.
- (5) A fountain pen according to claim 1 wherein one end of the transparent body of the reservoir is reinforced.
- (6) A fountain pen according to claim 5 wherein the said reinforcing comprises a metal band encircling one end of the reservoir.
7. A transparent reservoir fountain pen and sheath substantially as described with reference to the accompanying drawings.

Dated this 4th day of January, 1932.

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5, Chancery Lane, London, W.C.2,
Agents for the Applicants.

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

