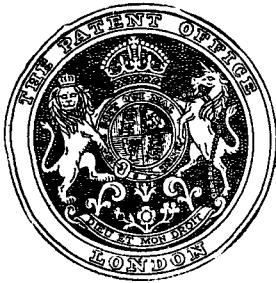


PATENT SPECIFICATION

729,729



Date of Application and filing Complete Specification: May 1, 1952.

No. 9937/54.

(Divided out of the Complete Specification of No. 729,639).

Complete Specification Published: May 11, 1955.

Index at acceptance:—Class 146(3), A9E2, A11(D2: G).

COMPLETE SPECIFICATION

Improvements in Nib-Sections for Fountain Pens

We, MABIE, TODD & CO. LIMITED, of Swan House, Whitby Avenue, Park Royal, London, N.W.10, a Company organised under the laws of Great Britain and Northern Ireland, and EDWARD STEPHEN SEARS, of the Company's address, a British subject, do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

This invention relates to nib-sections for fountain pens and has for its chief object the provision of an improved nib-section of simple construction and capable of being easily assembled with the minimum of skill and in particular to provide a nib-section in which the nib can be interchanged in a simple and expeditious manner with a certainty that the nib will be correctly positioned in relation to the feed bar and holder of the nib-section.

This invention therefore provides a nib-section for a fountain pen, comprising a tubular holder, a feed bar partly within the holder, a nib having a shank disposed between the exterior of the feed bar and the interior of the holder and means for locating the feed bar within the holder against rearward axial movement and against forward axial movement so that the assembly constitutes a complete unit, characterised in that the means for locating the feed bar against forward axial movement comprises a locking device fixed to the rear end of the feed bar and the means for locating the feed bar against rearward movement consists of co-operating tapered parts of the feed bar and of the bore of the holder.

By rearward axial movement there is meant movement of the feed bar away from that end of the nib-section at which the writing nib protrudes, and by forward axial movement there is meant movement of the feed bar towards that end of the nib-section at which the writing nib protrudes.

The locking device may take various forms, for example, it may comprise a circlip or split ring encircling the rear end of the feed bar and desirably located in a circumferential

groove in or behind a shoulder on the feed bar. Preferably, however, it comprises a nut screwed on to the rear end of the feed bar to bear directly (or indirectly through at least one washer) against the rear end of the holder. In the case of a nib-section for use in a fountain pen of the sac type, this nut may form means for attachment of the reservoir sac. However, in order to prevent leakage at the joint face between the nut and the end of the holder, or at the joint faces that are formed at this location, if a washer is or washers are interposed between the nut and the holder, it is preferred that the construction shall be such as to permit the sac to overlap part of the rear end of the holder.

The foregoing and other features of the invention set out in the appended claims are incorporated in the constructions which will now be described in detail, as examples, with reference to the accompanying drawings in which:—

Figure 1 shows a construction of nib-section.

Figure 2 according to the invention shows a longitudinal section of the holder employed therein and

Figure 3 is a sectional view of the nut.

Figure 4 is an elevational view of the feed bar and

Figure 5 is a modified form of feed bar.

Referring to the drawings, the nib-section consists of the four main parts, the tubular holder 1, the feed bar 2, the nib 3 and the nut 4. The shank 5 of the feed bar is tapered and the bore 6 of the holder 1 has a corresponding taper. Moreover, the shank 7 of the nib 3 is of substantially conical form to match or substantially to match the taper of the bore 6 and the shank 2 and is of substantially circular form in section.

Therefore the extent to which the feed bar 2 and the nib 3 protrude from the holder is determined by the fit between the various tapered parts, although it is within the scope of the invention to provide the nib with a shank of trough-like form which shank fits in a recess in the feed bar or the holder so that the degree

[Price

to which the nib protrudes is determined by this recess also by the position of the feed bar if the recess is in the feed bar. Even if the conical shank of the nib is of substantially circular cross section a recess may be formed in the holder 1 to receive it (as shown in Fig. 1), the extent to which the nib protrudes being governed by the fit between the conical shank, and the tapered holder and feed bar.

Instead of the feed bar 2 having its shank 5 tapered for its full length the feed bar may have its shank tapered only for a part of its length as illustrated in the feed bar 2 shown in Figure 5. Such an arrangement is of value in comparatively slender fountain pens because a short taper permits of a reduction in the size of the large end of the feed bar without the threaded end and the nut which fits on it being unduly small.

However, irrespective of the arrangement of the taper, the feed bar has the usual longitudinal feed channel or channels which may deepen towards the rear end and the baffles or slits at its forward end. Additionally the holder 1 is counter bored at its front end to provide the customary air space 8 around the nib and feed bar.

The feed bar and the nib are locked in position by a nut 4 screwed on to the rear end of the feed bar which is screw-threaded as at 10 for this purpose. The nut 4 bears directly against a neck 9 on the rear end of the holder 1, this neck being smaller than the nut so that while the nut forms a secure anchorage for the mouth of the sac the latter can also overlap the neck 9 and can seal the joint face between the nut and the said neck.

In addition to the ease of assembly, the invention has the further advantage that the construction lends itself not only to producing modern streamline effects, but from the shape of the nib and the support given thereto, flexibility is given to the nib which ensures comfortable writing that a large or fairly large nib, with every movement of the point visible during writing, will give the user; a larger nib flexible under the hand, places less strain on the hand and arm during an extended period of use.

It will be appreciated that the invention is not limited to the precise construction described as the shape of the nib, feed bar and holder may differ from the streamline effect achieved; the ink duct and "laddering" of the feed bar may be modified and the terminal end of the feed bar shaped to meet the needs of both self-filling and non-self filling fountain pens.

The invention follows in part the nib-section disclosed in the specification of Patent application No. 5008 (Serial No. 729,639) of the 1st March 1951 and is applic-

able generally to the type of nib-section disclosed in specification No. 656,673 and also to the nib-section disclosed in the Specification of Patent Application No. 21646 of the 1st September, 1950, (Serial No. 679,783) in which the invention consists in boring longitudinally through the feed bar, and forming an ink channel along an inner core member which fits inside the said bore, an aperture being provided to give access for the ink to the underside of the nib; this aperture lies wholly at the front of the back end of the nib, and preferably wholly in front of the shouldered part of the nib.

With such an arrangement the ink ducts in the feed bar would be dispensed with, and either the nut or the feed bar could support the ink sac.

What we claim is:—

1. A nib-section for a fountain pen, comprising a tubular holder, a feed bar partly within the holder, a nib having a shank disposed between the exterior of the feed bar and the interior of the holder, and means for locating the feed bar within the holder against rearward axial movement and against forward axial movement so that the assembly constitutes a complete unit, characterised in that the means for locating the feed bar against forward axial movement comprises a locking device fixed to the rear end of the feed bar and the means for locating the feed bar against rearward movement consists of cooperating tapered parts of the feed bar and of the bore of the holder.

2. A nib-section according to Claim 1, in which the locking device comprises a nut screwed on to the rear end of the feed bar to bear directly or indirectly against the rear end of the holder.

3. A nib-section according to Claim 2, for use in a fountain pen of the sac type, wherein the nut forms means for attachment of the sac.

4. A nib-section according to Claim 3, wherein the construction is such as to permit the sac to overlap a part of the rear end of the holder.

5. A nib-section according to any one of the preceding claims wherein the taper extends for the full length of that part of the bar that is received in the bore of the holder.

6. A nib-section according to Claim 1 or 2 or 3 or 4 wherein the taper extends only part-way in the length of that part of the bar that is received in the holder.

7. Nib-sections for fountain pens substantially as described herein with reference to the accompanying drawings.

MEWBURN, ELLIS & CO.,

70, 72, Chancery Lane, London, W.C.2.
Chartered Patent Agents.

729,729 COMPLETE SPECIFICATION

1 SHEET This drawing is a reproduction of the Original on a reduced scale.

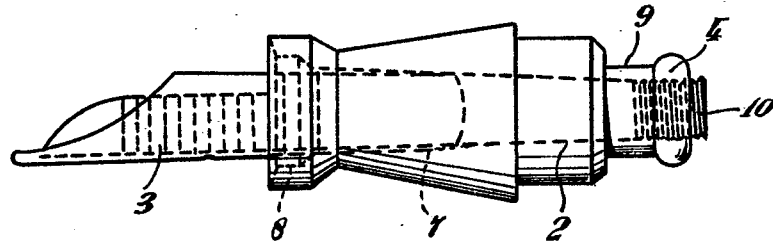


Fig. 1.

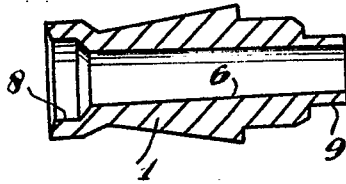


Fig. 2.



Fig. 3.

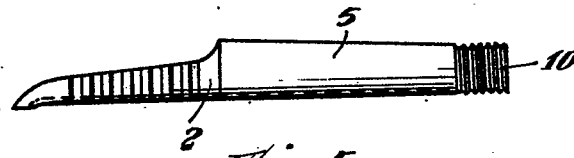


Fig. 4.

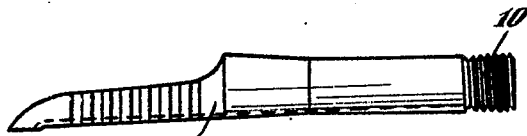


Fig. 5.