

PATENT SPECIFICATION

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PROVISIONAL SPECIFICATION

Improvements relating to Fountain Pens

We, MENTMORE MANUFACTURING Co. LIMITED, a Company registered under the laws of Great Britain, and ARTHUR EDWARD ANDREWS, a Subject of the King of Great Britain, both of Tudor Grove, Well Street, Hackney, London, E.9, do hereby declare the nature of this invention to be as follows:—

5 The invention concerns improvements in or relating to fountain pens of the kind (hereinafter termed of the kind set forth) in which the ink enters the feed-section or feed-bar from a non-collapsible transparent or translucent barrel. This kind of pen may be self-filling or may be filled by means of a pipette from the front end of the barrel. The invention is more especially useful with self-filling pens of the so-called sac-less variety, i.e. wherein the transparent or translucent barrel of the pen is provided with an air-tube extending longitudinally of the barrel and open thereto at the end adjacent to the feed-section or, in some cases, at the opposite end. Such pens are sometimes known as ink-visible pens. One example of such a pen is described in the specification of Patent No. 439,182.

10 It is an object of the invention to provide improved pens of the kind set forth which shall have barrels simulating a desired laminated construction while being simple and inexpensive to produce.

15 According to the present invention, in a pen of the kind set forth, the interior of the pen-barrel is provided with threads, circular grooves or like formations.

20 In a preferred example, a screw-thread of a suitable pitch and depth is cut with a tap in the internal surface of the transparent barrel from one end to the other thereof. This thread may conveniently be a continuation of a thread provided for the screwing of the feed-

section into the barrel. Instead of a screw-thread, plain circular grooves of similar pitch and depth may be cut with a chasing tool in the said internal surface. Although the depth of the thread or grooves can be varied considerably, it is believed that a relatively deep thread or groove gives the best result. The thread or grooves need not necessarily be provided over the whole length of the barrel.

25 The usual feed-bar may extend substantially to the upper end of the feed-section so that the ink enters the capillary ducts practically directly from the threaded or grooved barrel. Alternatively the feed-section or feed-bar may have a duct extending upwardly into the barrel. The usual air-tube, preferably with a bevelled end, may terminate short of or just inside the feed-section or the duct extending upwardly therefrom or may project deeply into the latter.

30 When a pen in accordance with the invention has once been filled with ink, the thread or grooves will take up some of the ink and appear to the eye as being of a darker colour than the remainder of the barrel. This effect persists as the pen is emptied but it does not prevent observation of the level of the ink in the barrel reservoir through the wall of the latter. In consequence the barrel appears to be constructed from alternate annular laminations of a transparent (or translucent) and an opaque (or substantially opaque) material. The appearance of the pen is thereby improved, especially in those cases where the barrel is constructed from a glass-clear material.

Dated this 7th day of November, 1936.

For the Applicants,
RAWORTH, MOSS & COOK,
75, Victoria Street, London, S.W.1,
Chartered Patent Agents.

COMPLETE SPECIFICATION

Improvements relating to Fountain Pens

We, MENTMORE MANUFACTURING Co. LIMITED, a Company registered under the laws of Great Britain, and ARTHUR

EDWARD ANDREWS, a Subject of the King of Great Britain, both of Tudor Grove, Well Street, Hackney, London, E.9, do

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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:—

The invention concerns improvements in or relating to fountain pens of the kind (hereinafter termed of the kind set forth) in which the ink enters the feed-section or feed-bar from a non-collapsible transparent or translucent barrel-part. This kind of pen, which is sometimes known as an ink-visible pen, may be self-filling or may be filled by means of a pipette from the front end of the barrel. The invention is more especially useful with self-filling pens of the variety in which an air-tube extends longitudinally of the barrel and is open thereto at the end adjacent to the feed-section or, in some cases, at the opposite end. One example of such a pen is described in the specification of Patent No. 439,182.

It is an object of the invention to provide improved means of the kind set forth which shall have barrels simulating a desired laminated construction while being simple and inexpensive to produce.

According to the present invention, in a pen of the kind set forth, the interior of a transparent or translucent part of the barrel is provided with threads, circular grooves or like formations.

Various examples of how the invention may be carried into effect will now be described by reference to the accompanying drawing, in which:—

Fig. 1 is an elevational view of one form of pen with a part of the barrel broken away to disclose a thread provided in accordance with the invention, and

Figs. 2 and 3 are similar views illustrating the provision of another form of thread and of circular grooves respectively.

In all of the examples, the barrel of the pen comprises two parts, an opaque part 1 and a transparent or translucent part 2. The opaque barrel-part 1, which is screwed upon a first reduced portion 3 (Fig. 2) of the barrel-part 2, contains a sac 4 which is secured over a second reduced portion 5 of the said part 2. The feed-section 6 is screwed into the end of the barrel-part 2 (Figs. 2 and 3).

In the preferred example illustrated in Fig. 1, a helical thread 7 of a suitable pitch and depth is cut with a tap in the internal surface of the transparent or translucent barrel-part 2 from, substantially one end to the other thereof. In the example illustrated in Fig. 2, an internal screw-thread 8 is provided which is a continuation of the thread by which

the feed-section 6 is secured in the barrel-part 2. Instead of a thread, plain circular grooves 9 (Fig. 3) of similar pitch and depth may be cut with a chasing tool in the internal surface of the barrel-part 2. Although the depth of the thread or grooves may be varied considerably, it is believed that a relatively deep thread or groove is most effective. The thread or groove need not necessarily be provided over the whole length of the internal surface of the barrel-part 2.

When a pen in accordance with the invention has once been filled with ink, the thread 7 or 8 or grooves 9 will take up some of the ink and appear to the eye as being of a darker colour than the remainder of the barrel-part 2. This effect persists as the pen is emptied, but it does not prevent observation of the level of the ink in the barrel-part 2 through the wall of the latter. In consequence, the said barrel-part appears to be constructed from alternate annular laminations of a transparent or translucent and an opaque or substantially opaque material. The appearance of the pen is thereby improved, especially in cases where the barrel-part 2 is constructed from a glass-clear material.

Various arrangements may be adopted in connection with the feed-section 6 and its feed-bar 10. The feed-bar may extend substantially to the upper end of the feed-section so that the ink enters the capillary feed-ducts partially directly from the threaded or grooved barrel-part 2. Alternatively the feed-section or feed-bar may have a duct extending upwardly into the barrel-part 2. The usual air-tube 11, preferably with a bevelled end, may terminate short of or just inside the feed-section 6 or a duct extending upwardly from the latter or may project deeply into the latter. A pen in accordance with the invention may be less liable to flooding than is a pen with a smooth-bored barrel.

It will be understood that the barrel-part of transparent or translucent material provided with internal threads or the like may constitute the whole of the pen-holder portion of the pen.

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 set forth, wherein the interior of a transparent or translucent part of the barrel is provided with threads, circular grooves or like formations.

2. A fountain pen of the kind set forth, wherein the feed-section is secured to a

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transparent or translucent barrel-part serving as an ink reservoir and connected in turn to a second barrel-part serving for filling purposes and wherein the
5 internal surface of the former barrel-part has a thread or series of circular grooves cut in it.
3. A fountain pen according to claim 1 or 2, wherein an air-tube extends longitudinally of the barrel inside the transparent or translucent part thereof.
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4. A fountain pen according to claim 2 or 3, wherein the second barrel-part contains a sac for self-filling purposes.

5. A fountain pen substantially as 15 described and as illustrated by Fig. 1, 2 or 3 of the accompanying drawing.

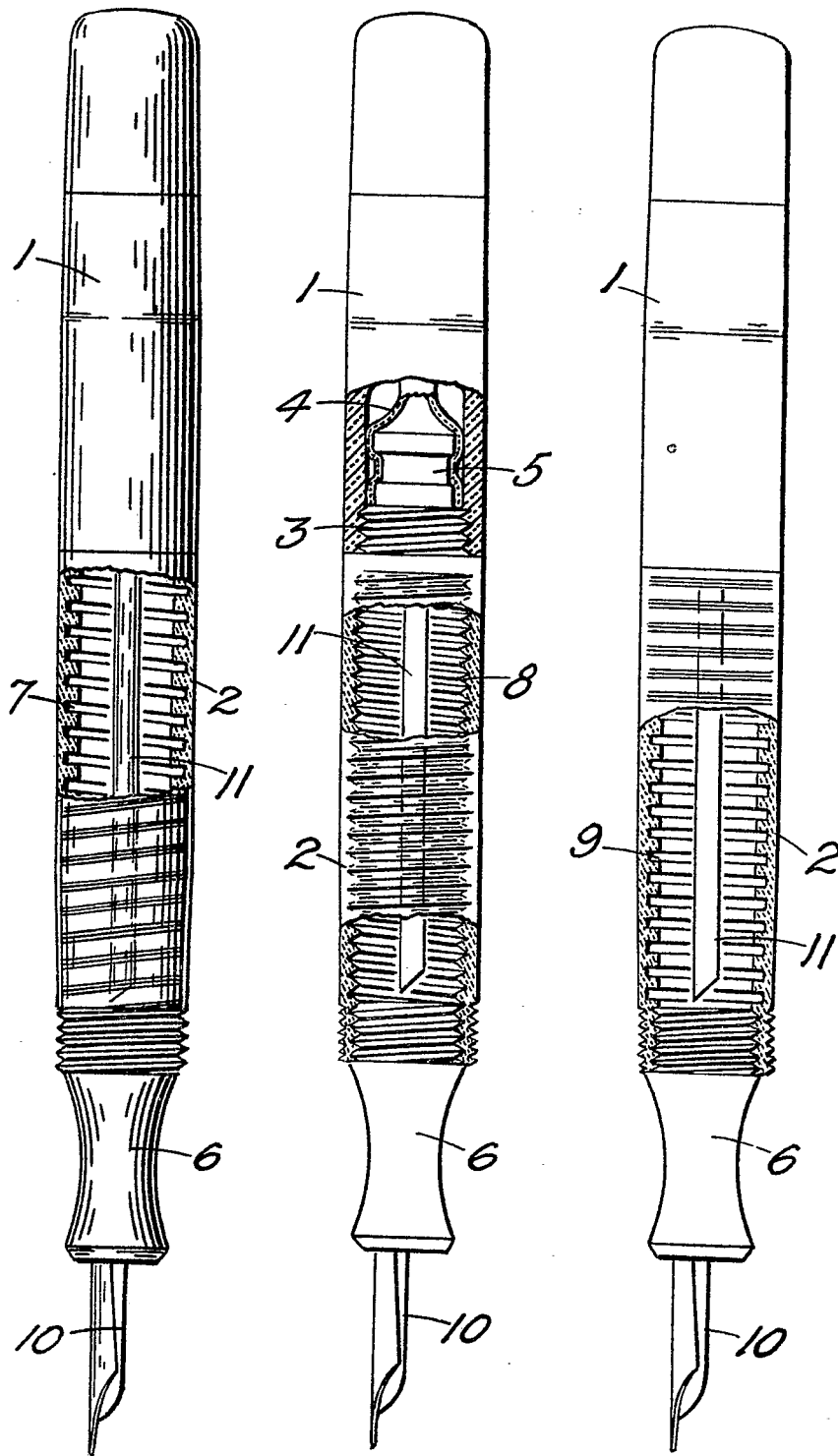
Dated this 5th day of October, 1937.

For the Applicants,
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Chartered Patent Agents.

FIG. 1.

FIG. 2.

FIG. 3.



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