

PATENT SPECIFICATION

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PROVISIONAL SPECIFICATION

Improvements in or relating to Fountain Pens

We, THE LANG PEN COMPANY LIMITED, a Body Corporate duly organised under the Laws of Great Britain, and ARTHUR STANLEY JONES, a British Subject, both of the Company's address, at 13, Hope Street, Liverpool, 1, in the County of Lancaster, do hereby declare the nature of this invention to be as follows:—

This invention relates to fountain pens and has for its object to provide improved arrangements for feeding ink from the reservoir or body of the pen to the writing point or nib.

Hitherto, it has been customary for the ink to be carried in the front end or section of the pen with a feed bar having a cylindrical shank which is a tight fit in the bore of the section and which feed bar is furnished with a duct or ducts for the passage of ink.

In accordance with the present invention the internal cylindrical wall of the bore of the section or front end of the pen body receiving the nib is threaded or grooved to provide a duct or ducts for the passage of ink to the writing point of the nib.

Preferably, a plurality of helical grooves in the form of a three or four start screw thread, are cut in the internal cylindrical wall of the section receiving the nib which may be of the normal form or if desired of tubular form fitting within the grooved portion of the section and encircling a stem or shank taking the place of the normal feed.

For self filling fountain pens, such stem or shank may be provided with a central conduit of small cross-section which may also serve as an air intake to enable air to pass into the reservoir in place of the ink consumed by writing, and this conduit may be extended to form a vacuum tube in pens of the so-called

vacuum type or it may open into the reservoir through a lateral port adapted to function as a trap preventing the outward flow of ink through the conduit during writing.

Alternatively, the intake of ink during filling and/or of air when the pen is being used, may be arranged to take place through the grooves on the cylindrical internal wall of the nib section.

Advantageously however, the stem or shank is formed with a cavity to which ink is passed from the pen reservoir through the grooves in the section and from whence it flows to the writing point of the nib when the pen is in use.

It may be found convenient to augment the normal single pierce at the termination of the slit writing point of the nib with an additional perforation in the nib body through which perforation ink can pass from the helical section grooves to the transfer cavity in the stem or shank whence it passes to the writing point. Such an arrangement is particularly suitable where the fore end of the section or a sleeve thereon is adapted to sheath the nib except at its writing point.

It will be appreciated that the invention is applicable to standard, sac self filling, plunger filling and so-called vacuum filling fountain pens, and that the manufacture, assembly and fitting of the nib section and the components it carries are greatly facilitated while at the same time a satisfactory flow of ink to the writing point is assured.

Dated this 6th day of March, 1946.
O'DONNELL, LIVSEY & CO.,
Chartered Patent Agents,
47, Victoria Street, London, S.W.1,
Agents for Applicants.

[Price 2/-]

Price 4s 6d

COMPLETE SPECIFICATION

Improvements in or relating to Fountain Pens

We, THE LANG PEN COMPANY LIMITED, a Body Corporate duly organised under the Laws of Great Britain, and ARTHUR STANLEY JONES, a British Subject, both

5 of the Company's address, at 13, Hope Street, Liverpool, 1, in the County of Lancaster, 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:—

10 This invention relates to fountain pens and has for its object to provide improved arrangements for feeding ink from the reservoir or body of the pen to the writing point or nib.

15 Hitherto, it has been customary for the ink to be carried in the front end or section of the pen with a feed bar having a cylindrical shank which is a tight fit in the bore of the section and which feed bar is furnished with a duct or ducts for the passage of ink.

20 In accordance with the present invention, in a fountain pen having a unitary nib the internal cylindrical wall of the bore of the section or front end of the pen body receiving the nib is threaded or grooved to provide a duct or ducts between the curved outer surface of the nib and the section for the passage of ink to the writing point of the nib.

25 Preferably, a plurality of helical grooves in the form of a three or four start screw thread, are cut out in the internal cylindrical wall of the section receiving the nib which may be of the normal form or if desired of tubular form fitting within the grooved portion of the section and encircling a stem or shank taking the place of the normal feed.

30 For self filling fountain pens, such stem or shank may be provided with a central conduit of small cross-section which may also serve as an air intake to enable air to pass into the reservoir in place of the ink consumed by writing, and this conduit may be extended inwardly to form an air tube in pens of the so-called vacuum type having such an air tube of small bore extending longitudinally into the ink reservoir to which its inner end is open while its outer end communicates say with an ink passage of the feed bar, or with the duct or ducts

35 40 45 50 55 60
aforementioned. Alternatively, the intake of ink during filling and/or of air when the pen is being used, may be arranged to take place entirely through the grooves on the

cylindrical internal wall of the nib section communicating directly with the heart or other pierce and/or the slit of the nib.

65 Advantageously the stem or shank is formed with a transfer cavity to which ink is passed from the pen reservoir through the grooves in the section and from whence it flows to the writing point of the nib when the pen is in use.

70 The invention will be further described with reference to the accompanying drawing which illustrates one embodiment thereof, applied to a sheathed nib fountain pen.

75 Referring now to the drawing, 1 generally designates the nib section which is shown with a screwed shank 2 taking into the front end of the pen body or barrel 3. The latter is externally screwthreaded at 4 to mount a removable nib cover or cap (not shown).

80 Within its front end, the section 1 mounts a tubular nib 5, which may be of the character described in the Specification of co-pending Application No. 6636/46 (Serial No. 608,987), the frontal portion 7 of the section tapering to sheath the nib and leave only its writing point 8 projecting.

85 90 95 100
The nib is a push fit in the forward cylindrical bore 9 of the section and in rear of such bore 9 the internal cylindrical wall is helically threaded or grooved at 10 to form ducts for the passage of ink to the writing point 8. Where the nib is bent up into tubular form, the ink consumed may be replaced by air admitted through the gap between the opposed edges of the nib shank one of which is shown at 17.

In place of the conventional feed bar, a cylindrical member 11 fits within the grooved portion of the section and has a shank 12 passing within the nib 5 with a shoulder 13 against which the nib abuts.

14 represents the slit in the writing point of the nib 5 and 15 the conventional heart or other pierce at the inner termination of the slit 14, and it will be noted that spirally grooved portion 10 of the section extends forwardly as far as such slit.

110 115
Moreover the shank 12 is formed with a cavity 16 to which ink is passed from the pen reservoir through the grooves 10 and the pierce 15, from which transfer cavity 16 it flows to the writing point 8 when the pen is in use.

120 It may be found convenient to aug-

ment the normal single pierce at the termination of the slit writing point of the nib with an additional perforation in the nib body through which perforation ink can pass from the helical section grooves to the transfer cavity in the stem or shank whence it passes to the writing point. Such an arrangement is particularly suitable where the fore end of the section is extended, say by a tapered portion such as that shown at 7, or a sleeve thereon is adapted to sheath the nib and the shank 12 and leave only the writing point exposed.

15 In the case of a pen of the aforementioned vacuum type, a vacuum tube on, the member 11 would extend inwardly, the bore of the vacuum tube opening direct to atmosphere through an axial duct in the member 11 or communicating with the grooves 10 or the transfer cavity 16 through a lateral port in said member 11.

25 It will be appreciated that the invention is applicable to standard, sac self-filling, plunger filling and the aforementioned so-called vacuum filling fountain pens, and that the manufacture, assembly and fitting of the nib section and the components it carries are greatly facilitated while at the same time a satisfactory flow of ink to the writing point is assured.

35 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:—

40 1. A fountain pen having a unitary nib wherein the internal cylindrical wall of the bore of the nib section or front end of the pen body receiving the nib is threaded or grooved to provide a duct or ducts between the curved outer surface of the nib and the section for the passage of ink from the pen reservoir to the writing point of the nib.

2. A fountain pen according to the preceding claim wherein a plurality of helical grooves in the form of a multi-start screwthread are cut in the internal cylindrical wall of the nib section or portion receiving the nib and extend rearwardly from a smooth cylindrical front portion closely fitting the nib.

3. A fountain pen according to either of the preceding claims including a tubular nib encircling a cylindrical stem or shank member which is a push fit in the grooved portion of the section or body.

4. A fountain pen according to the preceding claim 3 wherein the stem or shank member is formed with a cavity to which ink is passed from the pen reservoir through the grooves in the section and from whence it flows to the writing point of the nib when the pen is in use.

5. A fountain pen according to either of the preceding claims 3 or 4 wherein the cylindrical stem or member has a shank passing within the tubular nib and a shoulder against which the nib abuts.

6. A fountain pen according to the preceding claim 5 wherein the tubular nib and shank member are a push fit in the front end of the section or pen body.

7. A fountain pen according to any of the preceding claims including a tubular nib wherein the fore end of the section is extended or a sleeve thereon is adapted to sheath the nib and leave only its writing point exposed.

8. A fountain pen having the improved arrangement for feeding the ink from the reservoir to the writing point substantially as described with reference to the accompanying drawings.

Dated this 11th day of June, 1947.
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[This Drawing is a reproduction of the Original on a reduced scale.]

