N° 23,642 A.D. 1908

Date of Application, 5th Nov., 1908

Complete Specification Left, 26th Apr., 1909—Accepted, 2nd Sept., 1909

PROVISIONAL SPECIFICATION.

"Improvements in or relating to Fountain Pens.".

We, DUNCAN CAMERON, Managing Director, and ALBERT EDWARD WRIGHT, Manager, both of MacNiven and Cameron, Limited, of Waverley Pen Works, Blair Street, Edinburgh, Manufacturers, do hereby declare the nature of this invention to be as follows:—

This invention relates to fountain pens, but has more particular reference to the grooved or channelled under feed-bar which supplies the ink to the underside of the nib. Usually this feed-bar is chamfered or cut-away upon the underside, from the outer end to a short solid or uncut cylindrical part at the inner end, which makes a tight fit within the barrel of the pen, the nib coming between the chamfered or reduced portion of the bar and the inside walls of the outer end of said barrel.

The feed bar is, however, considerably weakened by this chamfering, and when the pen is in use, it may not in itself be strong or rigid enough to hold the nib sufficiently firm or steady, and consequently bends or gives somewhat, and allows said nib to be deflected, or make an angular movement, throughout its length, or nearly so, instead of only allowing same to bend from the pierce-hole to the point. Thus the nib as it makes the above angular movement under the pressure of the hand in writing, may leave the feed-bar, and temporarily break the continuity of the ink-feed.

The object of the present invention is to obviate this disadvantage, and this is accomplished by providing the cut-away part of the bar with a fast or movable support or strengthening piece in the form of one or more longitudinal ribs or rises, either continuous or intersected by gaps, taking into the open end of the pen body. This causes the pen and bar to mutually support each other, so that the nib only bends from point to pierce-hole, and thus the separation of the nib and feed is obviated.

Thus according to this invention, the feed-bar, which may be made of vulcanite as usual, is provided upon its chamfered underside with a longitudinal rib, or raised part, of a height such that the outer edge or face of that part which comes within the barrel is in the same plane as the underside of the solid or uncut inner end of the bar; that is to say, the diameter of the bar as measured through the raised rib, is equal to that of said solid end. The rib thus comes within, and crosses, the space between the chamfered surface of the bar and the inner wall of the barrel, the outer edge fitting closely against the latter, so that the bar is tightly wedged or fitted within the mouth of said barrel, and is kept close up against the nib, the inner end of which is thus held perfectly rigid, and only allows the points of same to bend forwards of the pierce-hole. The rib may extend from the outer end of the bar to the solid inner end. Or it may only be provided upon that part which comes within the barrel.

Also it may either be continuous from end to end, or non-continuous, with one or more gaps or recesses formed therein as aforesaid.

In a modification, the strengthening of the feed bar may be effected by forming two ribs or raised parts upon the underside, one arranged at each side,

[*Price* 8*d.*]

Or said bar may be made solid throughout its length and then bored out longitudinally so as to form a partial tunnel.

In another alternative the strengthening piece may be quite independent of the bar, and in the form of a separate wedge piece which is fitted tightly between the bar and the opposite wall of the barrel.

Dated this 4th day of November, 1908.

DUNCAN CAMERON.
ALBERT EDWARD WRIGHT.
By Henry Skerrett,
Agent for Applicants.

COMPLETE SPECIFICATION.

"Improvements in or relating to Fountain Pens."

We, DUNCAN CAMERON, Managing Director, and ALBERT EDWARD WRIGHT, Manager, of MacNiven and Cameron, Limited, of Waverley Pen Works, Blair Street, Edinburgh, Manufacturers, 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 fountain pens, but has more particular reference to the grooved or channelled under feed-bar which supplies the ink to the underside of the nib. Usually this feed-bar is chamfered or cut-away, upon the underside, from the outer end to a short solid or uncut cylindrical part at the inner end which makes a tight fit within the barrel of the pen, the nib coming between the chamfered or reduced portion of the bar and the inside walls of the outer end of said barrel. The feed bar is however, considerably weakened by this chamfering, and when the pen is in use, it may not in itself be strong or rigid enough to hold the nib sufficiently firm or steady, and consequently bends or gives somewhat, and allows said nib to be deflected, or to make an angular movement, throughout its length (or nearly so) instead of only allowing same to bend from the pierce-hole to the point. Thus the nib as it makes the above angular movement under the pressure of the hand in writing may leave the feed-bar, and temporarily break the continuity of the ink-feed.

The object of the present invention is to obviate this disadvantage, and is accomplished by providing the cut-away part of the bar, or that part which comes within the barrel, with a fast or movable support or strengthening piece, preferably in the form of one or more longitudinal ribs or raised parts, either continuous or intersected by gaps, and formed so as to provide clearances for the reception of overflow ink. This causes the pen and bar to mutually support each other, so that the nib only bends from point to pierce-hole, and thus the separation of the nib and feed is obviated.

Figure 1 of the accompanying drawings represents a part longitudinal section of a fountain pen provided with a feed-bar constructed in accordance with one form of this invention, said feed-bar being shown in side elevation.

Figure 2 is a similar view to Figure 1, but showing the feed-bar in section.

Figure 3 represents an enlarged cross-section on line x Figure 2.

Figure 4 is an enlarged view of the feed-bar removed from the pen.

Figure 5 is a plan of same, whilst

Figure 6 is an underside plan.

Figure 7 shows a cross-section on line x^1 Figure 4.

Figure 8 represents a cross-section on line x^2 Figure 4.

Figure 9 represents a slightly modified form of feed-bar constructed in accordance with this invention.

Figure 10 is an under-side plan of same.

Figure 11 shows a section of another alternative form of bar.

Figure 12 is a side elevation of same, and

Figure 13 is a transverse section on line x^3 Figure 11.

Figure 14 shows a still further alternative, whilst

Figure 15 is a section on line x^4 Figure 14 and

Figure 16 is a section on line x^5.

Figure 17 represents a form of feed-bar in which the strengthening rib is perforated instead of being gapped.

Figure 18 is a transverse section on line x^6 Figure 17 and

Figure 19 shows an underside plan of the bar represented in Figure 17.

Figure 20 is a part longitudinal section through a pen fitted with a feed-bar constructed in accordance with another form of this invention, being made in two parts.

Figure 21 represents an enlarged section on line x^7 Figure 20.

Figure 22 shows the two parts of the feed bar in elevation, being represented as separated from one another.

Figure 23 is a transverse section on line x^8 Figure 22.

Referring to Figures 1 to 8 of the drawings, the feed-bar a, which may be made of vulcanite, is chamfered off or cut away at a^1, so as to leave a solid circular inner end a^2. Instead however of the whole of the underside being chamfered off as usual, a longitudinal rib or raised part b is left intact or integral with the bar, said rib b being of a height such that the outer edge or face of that part which comes within the barrel c is in the same plane as the underside of the solid end a^2 of the bar; that is to say the diameter of the bar as measured through the raised rib is equal to that of said end a^2. The rib b thus comes within, and crosses the space between the chamfered surface a^1 of the bar and the inner wall of the barrel c, the lower or outer edge fitting closely against the latter, so that the bar is tightly wedged or fitted within the mouth of said barrel (which is slightly tapered internally) and is kept close up against the nib d, whose inner end is thus held perfectly rigid, thereby only allowing the points of same to bend forwards of the pierce-hole. Upon each side of the rib b clearances are formed for the reception of overflow ink in the event of the ink welling-over. The rib is also gapped out at b^1 near its inner end to allow of the overflow ink passing from one side to the other.

In the form shown in Figures 9 and 10, the rib b is provided with two gaps or recesses b^1, b^2 for the reception of overflow ink and for allowing it to pass from one side to the other of the rib.

Referring to the forms represented in Figures 11 to 13, that portion of the bar a which comes within the mouth of the barrel is of circular section and is at a^3, bored out longitudinally, so as to form a recess for the reception of the overflow ink. A gap or recess b^1 is formed near the inner end into which said bore a^3 leads. a^2 is the solid circular end.

As shown in Figures 14 to 16, the strengthening rib b of the bar a may be formed by providing the opposite sides of the bar with longitudinal grooves b^3, b^4, these latter forming clearances for the reception of the overflow ink. The rib is gapped out at b^1 to allow of ink passing from one side to the other.

Or as shown in Figures 17 to 19 the bar a may be provided with holes or perforations b^1, instead of being gapped out. The opposite sides of the bar may also overhang somewhat, as shown at b^5.

In the modification represented in Figures 20 to 23, a is the feed-bar proper, whilst b is the strengthening piece, which is quite separate and independent of said bar a, being in the form of a separate T-sectioned piece.

The bar *a* and strengthening piece *b* are placed together and both tightly wedged or fitted into the mouth of the barrel *c* as shown in Figure 20, the piece *b* coming between the bar *a* and the bottom wall of the barrel.

In another modification, instead of a single central rib being employed, two ribs, one upon each side of the bar, may be employed.

Also instead of the rib being gapped out as in Figures 1 to 10 and 11 to 16, said rib may be continuous from end to end.

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:—

First:—In fountain pens, providing the underside of that part of the under feed-bar which comes within the barrel of the pen, with a support or strengthening piece which makes a tight fit within the mouth of the barrel and keeps the bar rigid and close up to the nib, but which leaves a clearance or clearances below the feed-bar duct for the reception of overflow ink, said clearances having no communication with the interior of the pen barrel, substantially as and for the purposes herein described.

Secondly:—In fountain pens, providing the underside of the feed-bar with a longitudinal middle rib which makes a tight fit within the mouth of the barrel and is provided with clearances up each side for the reception of overflow ink, said rib being provided with gaps or openings for allowing of the free flow of ink from one side to the other, substantially as described and set forth.

Dated this 24th day of April, 1909.

DUNCAN CAMERON.
ALBERT EDWARD WRIGHT.

By Henry Skerrett,
24, Temple Row, Birmingham,
Agent for Applicants.

Redhill: Printed for His Majesty's Stationery Office, by Love & Malcomson, Ltd.—1909.

A.D. 1908. Nov. 5. N° 23,642.
CAMERON & *another's* COMPLETE SPECIFICATION.

(2 SHEETS)

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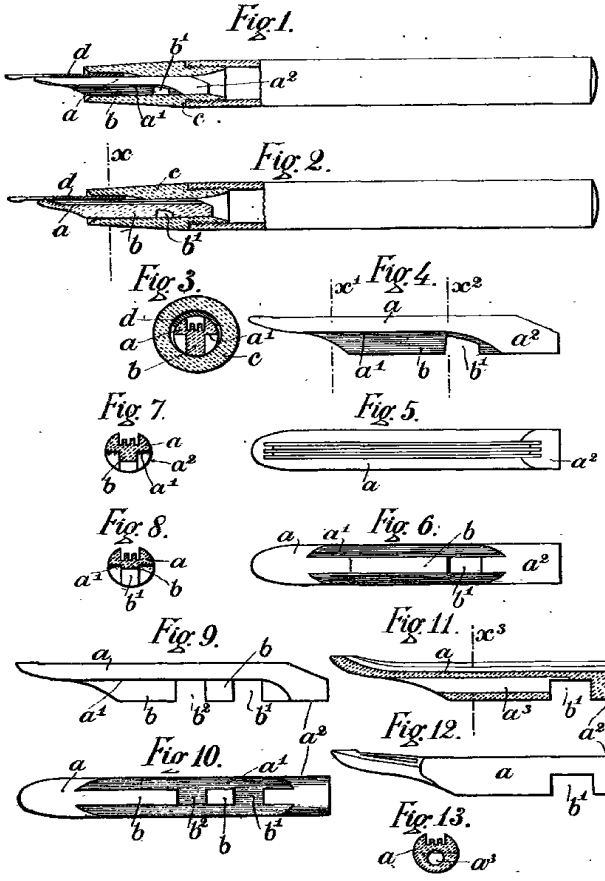

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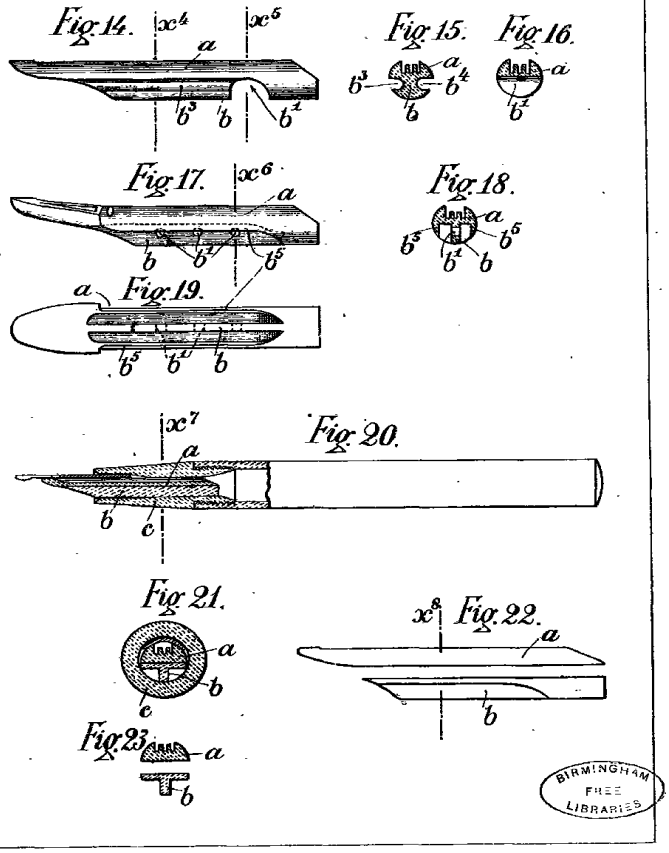
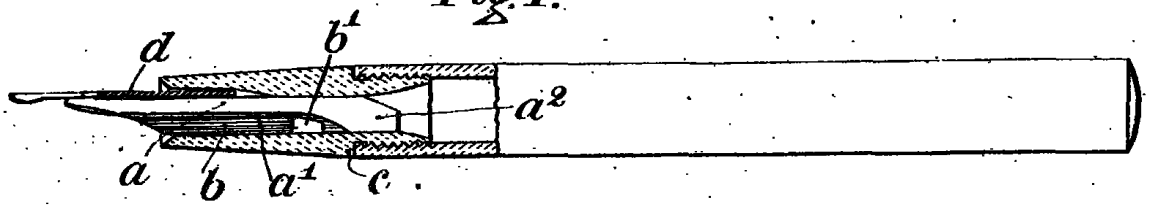


Fig. 1.



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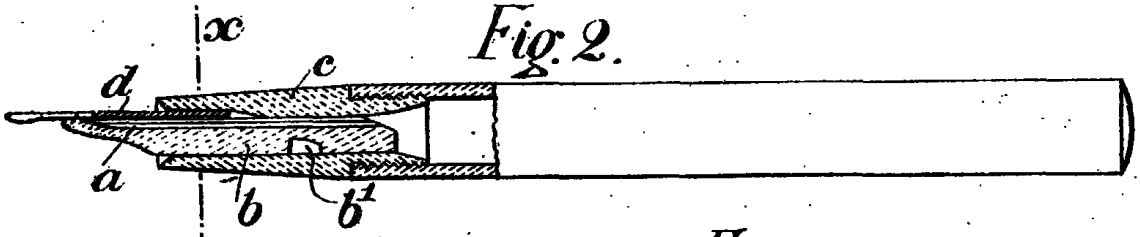

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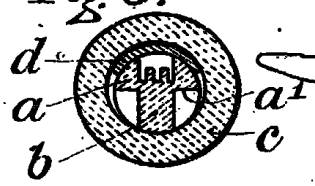

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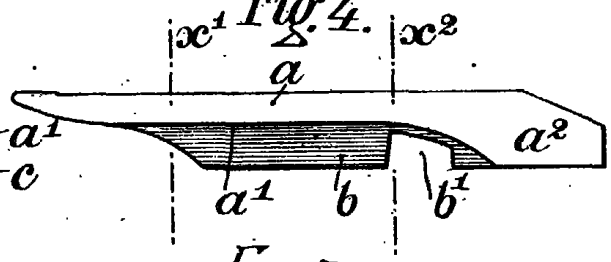
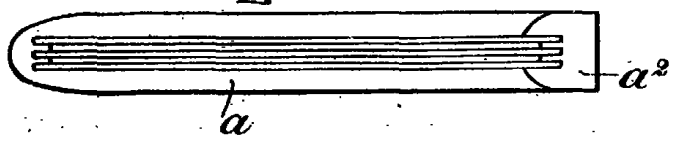


Fig. 7.

Fig. 5.



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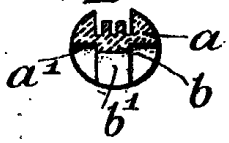

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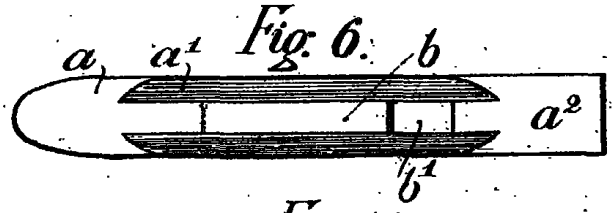

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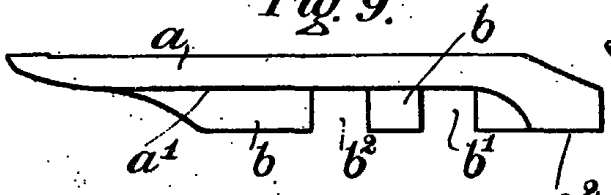

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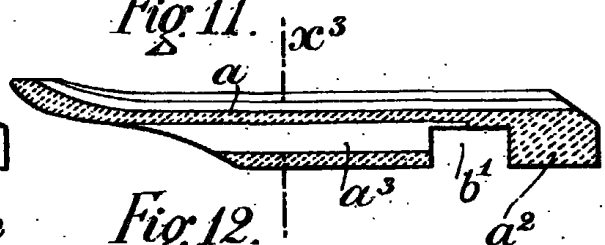

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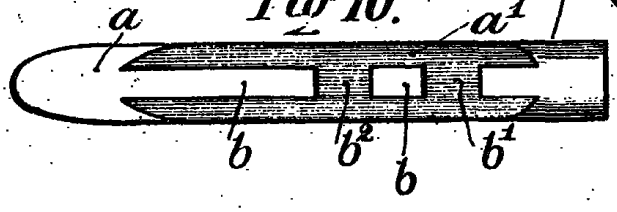

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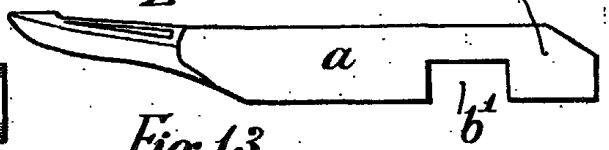


Fig. 13.

Fig. 14.

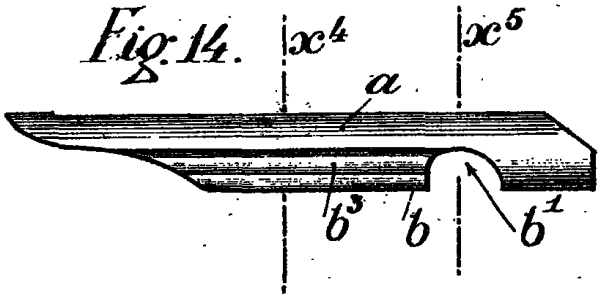
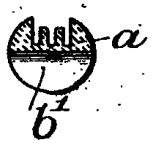


Fig. 15.

Fig. 16.



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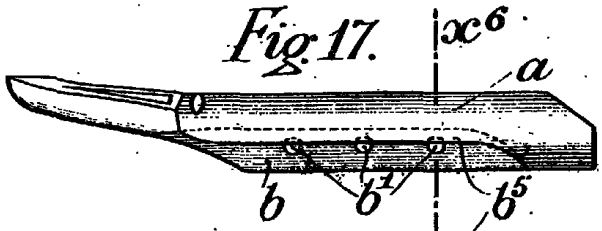

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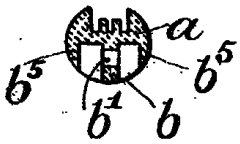

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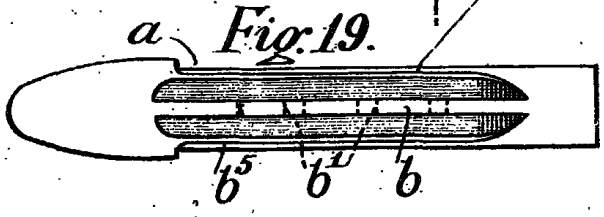

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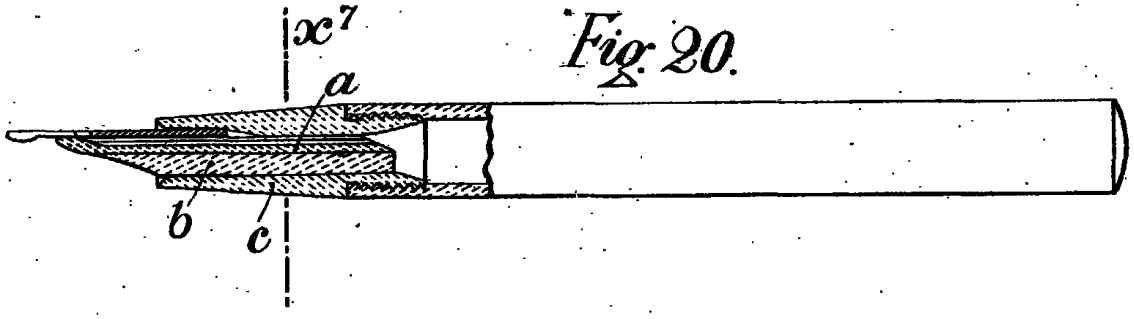

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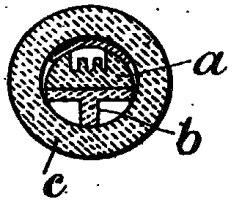

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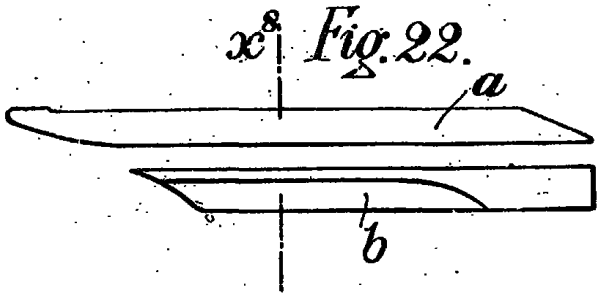

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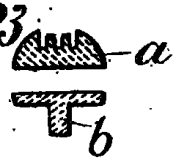

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