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PATENT SPECIFICATION

412,610

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COMPLETE SPECIFICATION (AMENDED).



Improvements in or relating to Fountain Pens.

We, EDWARD SHARPLESS WOOD, of Cinnaminson Township, Burlington County, State of New Jersey, United States of America, and LEON HEHL ASHMORE, of 139, Woodlawn Terrace, Collingswood, Camden County, in said State of New Jersey, both citizens of the United States of America, 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 and has for its object to provide means for renewing the pen nibs or points easily and with slight expense.

With this object in view the present invention consists in a fountain pen comprising a carrier partially and detachably mounted in the barrel, or the pen section and having an annular seat at its inner end for engagement with an annular rounded or rectangular seat formed in the barrel, or the pen section to form a liquid tight connection, a pen nib carried by the carrier, and a feeder member associated in fixed relation with the pen nib and positioned within the detachable carrier and terminating at the inner end thereof.

Referring now to the accompanying drawings which illustrate several embodiments of the invention by way of example:—

Figure 1 is a longitudinal sectional view illustrating a fountain pen structure of a type to which the unit pen nib or point structure comprising the present improvements may be applied.

Figure 2 is a view illustrating the parts of the combination pen nib or point and feeder holding element which may be employed in the form of structure shown in Figure 1, in separated condition.

Figure 3 is a cross sectional view on the line III—III Figure 1.

Figure 4 is a sectional view similar [Price 1/-]

to Figure 1, illustrating another form of pen nib or point and feeder holding element within the scope of this invention. 50

Figure 5 is a view similar to Figure 2, showing the separate parts of the structure embodying that form of the invention illustrated in Figure 4.

Figures 6 and 7 are cross sectional views taken on the lines VI—VI and VII—VII, respectively, Figure 4, looking in the direction of the arrow a, Figure 4. 55

Figure 8 is a sectional view similar to Figs. 1 and 4, showing a further modification within the scope of the invention, and 60

Figure 9 is an enlarged view of a portion of the structure shown in Fig. 8. 65

The usual fountain pen, in almost universal use, is one provided with a gold nib or point having a substantially fixed position at the end of the pen barrel and associated with a feeder of suitable character. Fountain pens have been proposed and developed which employ as nibs or points the ordinary steel or similar pens of commerce, which, hitherto, have not usually been employed as the nibs or points of fountain pens. 70 75

In the use of these nibs or points made of metal other than gold or its alloys, it is necessary to renew them at intervals, depending upon the wear. As ordinarily constructed, it is a rather messy operation to change the nibs or points of fountain pens with the additional difficulty that as the nib or point and feeder are independent members and should have a certain definite adjustment or relation for proper use of the pen, it is somewhat difficult to insure the desired relation when inserting the separate nib or point and feeder member in the tubular cap or pen section at the end of the pen barrel which, in the present types of fountain pens, carries a rubber ink bag. 80 85 90

With a view of overcoming these diffi-

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culties in the use of fountain pens which require renewal of their nibs or points at intervals, depending upon wear of the same, the means comprising the present invention have been devised whereby a new nib or point may easily and quickly replace an old nib or point and without soiling the fingers. For this purpose the invention comprises a unit element consisting of a support which may be inserted in the bore at the end of the pen barrel or the bore of the part which carries the ink bag; such support constituting or carrying the feeder member, and a nib or point which is mounted in and/or fastened to such support and accurately associated with the feeder member when the latter is a separate element, to insure proper cooperation of such parts in order that they may perform the duty for which they are intended.

In the drawings: A represents the usual barrel of a fountain pen, receiving a tubular cap or pen section B, which carries the usual ink bag C, employed with modern fountain pens. In the usual practice, this tubular cap B receives the pen nib or point and the feeder associated therewith; such feeder member fitting the bore of the tubular cap very snugly and confining the end of the pen nib or point between its surface and the wall of said bore. In lieu of this arrangement, this invention comprises the provision of a detachable carrier for the nib or point and feeder which carrier, with the nib or point and feeder disposed in fixed position or relationship, is insertible and removable as a unitary whole with respect to said tubular cap or pen section B.

One form of the improved attachment is shown in the position of use in Fig. 1, and may comprise a carrier or shell 1, a nib or point 2 inserted therein, and a feeder member 3 which may be of any suitable type and which occupies the space between the pen nib or point and the wall of the carrier; said feeder member being recessed at 4 for the reception of the pen nib or point, as shown in Fig. 3, and the three elements being maintained in exact coordination and forming an insertible unit that may be sold with and for application to fountain pens of a construction adapted to receive the same. This improved unit element is of a character permitting separation from the rest of the pen structure quickly and without soiling the fingers, whereby a fresh carrier with nib and feeder in proper association may be quickly applied. To facilitate removal and replacement, the detachable shell may have a knurled flange 5. It will be understood of course

that the several parts are separable and that the unit element may be refitted with a new pen nib or point by the manufacturer, although in most instances the structure is so inexpensive as to permit discarding of a unit element when the pen nib or point wears out or becomes impaired in use.

The feeder member may be of any approved type, and it may be in clamped relation with respect to the pen nib or point before the latter is inserted in the carrier; the pen nib or point 2^a shown in Figs. 4 and 5 having wings 6 arranged to embrace the body of the feeder which may be further recessed for such purpose as indicated at 4^a. It will be further understood that the arrangement of pen nib or point and feeder illustrated in Fig. 4, wherein the pen nib or point is shown as provided with wings clamping the feeder, may be employed in the form of carrier illustrated in Figs. 1 and 2.

The carrier may be open-ended at the rear, as shown in Figs. 1 and 2; the feeder and pen nib or point stopping at such end and forming a liquid tight joint therewith with the exception of the groove 7 for the passage of ink, or such carrier may have a rear wall 8 against which the feeder may abut, as shown in Figs. 4 and 5; such wall having a curved slot 8^a, to register with the ink groove 7, and the dimensions of such slot being such as to enable easy assembly of the parts with a fully open passage for the ink.

The connection between the carrier 1 and the pen barrel or the tubular cap or pen section B at the end of the pen barrel, may be of any suitable type within the range of fountain pen construction. It may be a threaded joint as indicated in Figs. 1 and 8, with one or a plurality of continuous, or interrupted, threads, or it may be a slip joint as shown in Fig. 4. Any form of connection that will insure the desired liquid tight closure between the inserted or applied part or shell carrying the nib or pen point and feeder and the tubular cap or section carrying the ink bag is within the scope of this invention.

The end of the shell or carrier comprising the inserted unit engages a shoulder within the cap or pen section B and it is desirable that an ink-tight joint be formed at this point. To insure proper seating of such end of the cap or pen section B with said internal shoulder, the knurled flange 5 of the insertible unit is spaced a short distance from the end of said cap or pen section B, as clearly shown in Figs. 1, 4 and 8. Additionally, in the construction illustrated in Fig. 8, an enlarged detail of which is shown in 130

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Fig. 9, the shoulder within the cap or pen section B is provided with a rounded seat as indicated at 9, for engagement with the end of the inserted shell or carrier so as to make line contact there-with and insure an ink-tight joint. It will be understood of course that the structures shown in Figs. 1 and 4 may be provided with similarly rounded seats.

As may be readily understood, several of these improved nib or point carriers may be sold with a fountain pen of a construction designed to receive the same as articles of merchandise; similar carriers with any desired form of pen nib or point being also sold for application thereto, so as to provide replacements for the original structure.

While fountain pens of the type having collapsible ink bags which may be filled automatically upon retraction of collapsing means have been illustrated, this invention is not to be limited thereto, for other forms of fountain pens, among which may be mentioned those filled by suction by the action of a piston member, may be equipped with the unit nib or point and feeder-carrying member forming the subject of this invention.

It is, of course, within the scope of the invention to employ gold nibs or points in connection with the unit member devised, and the claims are intended to cover unit members for connection with the barrel of fountain pens containing ink supplying means whether such nibs or points are of steel or of any other metal. In like manner, the feeder element may be of any type that will properly perform its function. It may be entirely different from the form of feeder disclosed, which representation is more or less diagrammatic and is intended to indicate means for performing a function rather than the

member that will be actually employed for such purpose.

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 comprising a carrier partially and detachably mounted in the barrel, or the pen section and having an annular seat at its inner end for engagement with an annular rounded or rectangular seat formed in the barrel or the pen section to form a liquid tight connection, a pen nib carried by the carrier, and a feeder member associated in fixed relation with the pen nib and positioned within the detachable carrier and terminating at the inner end thereof.

2. A fountain pen as claimed in Claim 1, wherein said carrier has an apertured end wall against which the nib and feeder member abut.

3. A fountain pen as claimed in Claim 1 or 2 wherein the carrier is provided with an annular knurled flange to permit easy removal.

4. A fountain pen as claimed in Claim 1 or 2 in which the carrier is frictionally mounted in the barrel or the pen section.

5. A fountain pen as claimed in Claim 1 or 2 in which the carrier is threadedly mounted in the barrel or pen section.

6. A fountain pen as claimed in Claim 2 wherein the aperture in the end wall is eccentrically positioned to align with an ink feeding groove formed on the feeder member.

7. A fountain pen substantially as described with reference to the accompanying drawings.

Dated this 30th day of December, 1932.
MARKS & CLERK.

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

