July 18, 1933. L. H. ASHMORE 1,918,239

FOUNTAIN PEN

Filed Dec. 24, 1931

Fig. 1

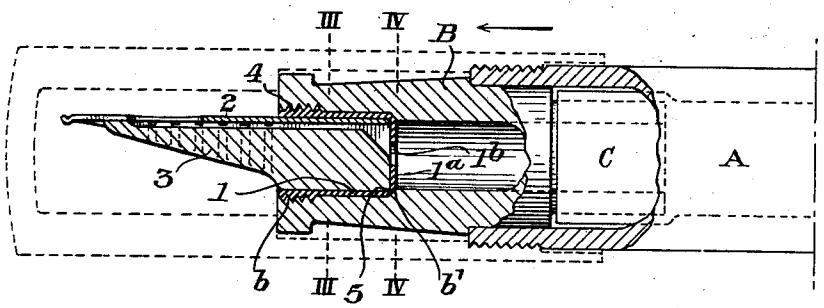


Fig. 2

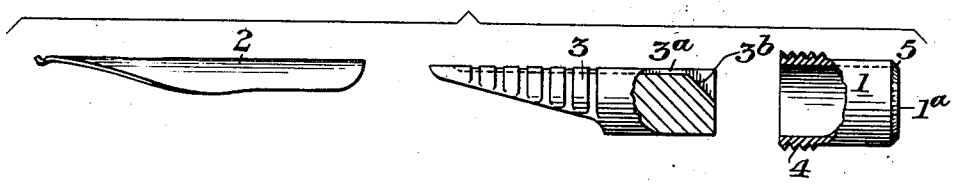


Fig. 3

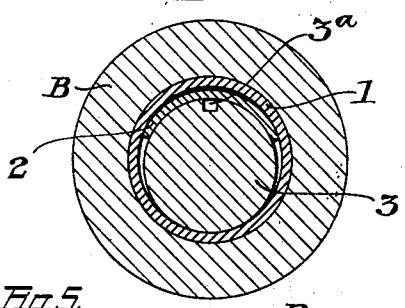


Fig. 4

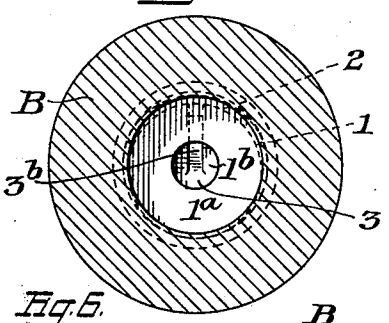


Fig. 5

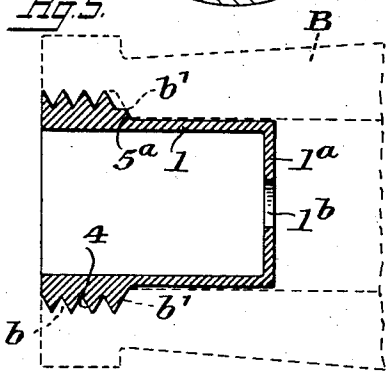
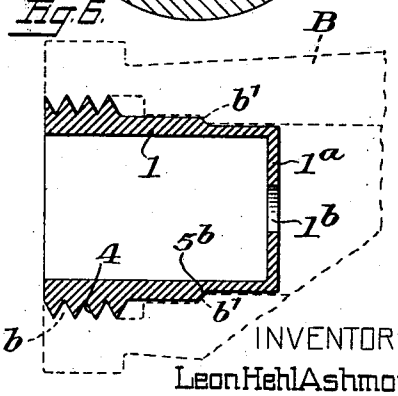


Fig. 6



INVENTOR:
Leon Hehl Ashmore,
by Murray B. Boyce
Atty.

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UNITED STATES PATENT OFFICE

LEON HEHL ASHMORE, OF COLLINGSWOOD, NEW JERSEY, ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, TO THE ESTERBROOK STEEL PEN MANUFACTURING CO., OF CAMDEN, NEW JERSEY, A CORPORATION OF NEW JERSEY

FOUNTAIN PEN

Application filed December 24, 1931. Serial No. 582,929.

My invention relates to fountain pens and one object of such invention is to provide means for renewing the pen nibs or points at slight expense, in order that nibs or points of the ordinary or usual type, such as those made of steel and/or the less expensive metals, may be readily and successfully employed instead of the more expensive gold nibs or points usually employed with fountain pens.

A further object of my invention is to provide simple and efficient means for replacing pen nibs or points in a fountain pen without damage to the latter or the nib or of displacement of the nib or point with respect to the feeder member and without soiling the hands.

A further object of my invention is to provide a carrier or support for a pen nib or point and the feeder member employed therewith, which parts are associated in relatively fixed relationship as a unit for detachable connection with a pen barrel or a member carried thereby; such unit element being replaceable by a similar unit element (or elements) carrying a pen nib or point when it is desired to renew the latter.

A further object of my invention is to provide a unit carrier for the pen nib and feeder member that will be disposed wholly within and substantially concealed by the fountain pen barrel or a pen section carried thereby.

And a still further object of my invention is to provide a novel unit structure that will be sealed ink-tight when assembled with a fountain pen.

These and other features of my invention are more fully described hereinafter; reference being had to the accompanying drawing, in which:

Figure 1 is a longitudinal sectional view illustrating sufficient of a fountain pen structure of a type to which the unit pen nib or point supporting structure forming the subject of my invention may be applied.

Fig. 2 is a view illustrating the parts of the replaceable unit comprising the pen nib or point; the feeder member, and the carrier or holding element therefor, shown in Fig. 1, in separated condition.

Figs. 3 and 4 are enlarged cross sectional views on the lines III—III and IV—IV, Fig. 1, looking in the direction of the arrow, and

Figs. 5 and 6 are detached views illustrating on a larger scale modified forms of unit carriers within the scope of my invention.

The usual fountain pen, in almost universal use, is one provided with a gold nib or point having a substantially fixed and properly adjusted position at the end of the pen barrel and associated with a feeder of suitable character. It has been proposed and fountain pens have been 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.

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 with the feeder member 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 many of the present types of fountain pens, carries a rubber ink-containing bag. With a view of overcoming these difficulties in the use of fountain pens which require renewal of their nibs or points at intervals, depending upon wear of the same, it has been proposed to employ a unit carrier for the nib or point and feeder member whereby a new nib or point may easily and quickly replace an old nib or point.

My invention comprises a unit element consisting of a carrier or support which may be inserted in and be practically concealed within the bore at the end of the pen barrel, or the bore of the pen section which carries the ink bag; such support carrying the feeder member, and a nib or point which is mounted in such support and accurately associated

and positioned with respect to the feeder member, to insure proper cooperation of such parts in order that they may perform the duty for which they are intended. My invention further includes a carrier constructed to provide an ink-tight joint between the same and the element of the fountain pen structure in which it is mounted.

In the drawing: A represents the usual barrel of a fountain pen, shown in the present instance as receiving a pen section B; the latter carrying the usual ink bag C, commonly employed with many modern fountain pens. In the usual practice, the pen section B receives the pen nib or point and the feeder member associated therewith; such feeder member and pen nib fitting the bore of the tubular cap very snugly and the feeder member confining the shank of the pen nib or point between its surface and the wall of said bore. In lieu of such arrangement, I have provided a detachable carrier for the nib or point and the feeder member which carrier, with the nib or point and feeder member disposed therein in a fixed or substantially fixed position or relationship, is insertible and removable as a unitary whole with respect to said pen section B, or the end of the pen barrel.

One form of my improved unit carrier is shown in the position of use in Fig. 1, and may comprise a support in the form of a thimble or cup 1, with a nib or point 2 and a feeder member 3 inserted therein. The feeder member may be of any suitable type and occupies the space between the pen nib or point and the annular wall of the thimble forming the carrier; such parts being in tight and relatively fixed engagement therewith. The three elements are maintained in exact coordination; the pen nib or point and the feeder member being positioned longitudinally by engagement with the end wall 1^a of the thimble or cup 1, and together comprise an insertible unit that may be sold with and for application to fountain pens of a construction adapted to receive the same.

The thimble or cup of my improved unit element is externally threaded at 4, preferably at its outer end for engagement with an internally threaded portion b at the end or adjacent to the end of the pen section B, or the end of the pen barrel. The rear wall 1^a of the carrier is apertured at 1^b and the feeder member may have its ink groove 3^a slightly enlarged by a diagonal or other cut at its rear end, as indicated at 3^b for communication with such aperture. My improved unit carrier is wholly contained within the pen section B and is substantially concealed by the same. At the same time it may be readily separated from the rest of the pen structure for application of a fresh carrier with nib and feeder in proper association therewith. The pen nib and feeder member are in tight and relatively permanent engagement with the detachable thimble or cup and the latter may be readily removed by turning the same with respect to the threaded engagement with the pen section; the projecting portions of the pen nib and feeder member serving as gripping means for such turning action. While the thimble or cup when removed may be fitted with a new nib, 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 inner end of the thimble or cup comprising the inserted unit carrier may be beveled as indicated at 5, for engagement with a beveled shoulder b' formed within the pen section B; close engagement of such beveled surfaces insuring that an ink-tight and leak-proof joint will be formed at this point.

In the modified types of shells or cups forming unit carriers and illustrated in Figs. 5 and 6, the seats are disposed at different points with respect to such shell. In the form shown in Fig. 5, the shoulder b' comprising the seat is directly adjacent the threaded portions of the elements. In Fig. 6 the shoulder to form the seat b' is disposed at a point intermediate the rear end of the shell and the threaded portion thereof. In each instance these seats are beveled complementally to a beveled shoulder portion on the shell to insure tight, leak-proof joints when a unit carrier is finally seated in place. By preference there is a slight clearance between the wall of the inserted shell or thimble and the bore of the tubular part carrying the same, independently of the sealing joint or seat, in all forms of my improved structure. Such clearance is clearly indicated in Figs. 5 and 6.

As may be readily understood, several of these improved unit 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 independently of a fountain pen for application thereto, so as to provide replacements for the original unit structure.

While fountain pens of the type having collapsible ink bags which may be filled automatically upon retraction of collapsing means have been illustrated, my invention is not limited thereto and 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 my invention.

It is, of course, within the scope of my invention to employ gold nibs or points in connection with the form of unit carrier which I have devised, and the claims are intended to cover unit carrier 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.

While the shell or thimble forming the carrier of my improved unit structure may be made of various materials, I prefer to make it of a non-corrodible metal.

Various modifications may be made in connection with this structure without departing from the spirit and scope of my invention as set forth in the appended claims.

I claim:

1. The combination with a fountain pen structure comprising a barrel and a pen section therefor carrying the usual ink bag disposed within said barrel; said pen section having a through bore of two diameters with the larger bore portion at its outer end, of a detachable shell fitting the larger portion of the bore of said pen section, lying wholly therewithin, and having an end wall, a pen nib carried by said shell, and a feeder member associated in fixed relation with said pen nib and confining the latter within said shell; said pen nib and feeder member being longitudinally positioned by the end wall of the detachable shell and said shell and its contained parts comprising a unit element insertible and removable as a whole with respect to the enlarged bore of said pen section.

2. The combination with a fountain pen structure including a portion with an enlarged bore, of a detachable shell of cup-form fitting said enlarged bore; said shell having an end wall with an axial opening, a pen nib carried by said detachable shell and positioned by the end wall thereof, and a feeder member having a longitudinal groove underlying the pen nib also disposed within said detachable shell against said end wall and associated in fixed relationship with said pen nib and confining the latter within said shell; said feeder member having its ink groove recessed at its inner end to communicate with the axial opening in the end wall; said detachable shell with the pen nib and feeder member comprising a unit element insertible and removable as a whole with respect to the enlarged bore of said fountain pen structure.

3. The combination with a fountain pen structure comprising a barrel and a pen section therefor carrying the usual ink bag disposed within said barrel; said pen section having a through bore of two diameters with the larger bore portion at its outer end, of a detachable shell of cup-form fitting the larger portion of the bore of said pen section; said shell having an end wall with an axial opening, a pen nib carried by said detachable shell and positioned by the end wall thereof, and a feeder member having a longitudinal ink groove underlying the pen nib also disposed within said detachable shell against said end wall and associated in fixed relationship with said pen nib and confining the latter within said shell; said feeder member having a portion of its ink groove cut away at its inner end to communicate with the axial opening in the end wall; said detachable shell with the pen nib and feeder member comprising a unit element insertible and removable as a whole with respect to the enlarged bore of said pen section.

4. The combination with the barrel of a fountain pen structure, of a pen section having a through bore of two diameters with the larger portion at its outer end, a cup-shaped shell detachably mounted in the larger bore portion of said pen section and having an end wall with an axial opening therein, a pen nib and a feeder member associated in fixed relationship and disposed within said shell; said pen nib being confined within the shell by said feeder member and both elements being maintained in proper relative position by the end wall of said shell, and said cup-shaped shell lying wholly within the enlarged bore of said pen section.

5. The combination with a fountain pen structure including a portion with an enlarged bore, of an apertured thimble fitting within said enlarged bore; a portion of the outer wall of said thimble being shaped substantially as a truncated cone to provide a beveled seat and one portion of the inner surface of said enlarged bore having a complemental seat, a feeder member disposed within said thimble, a pen nib also disposed within said thimble and confined in place by said feeder member, and means comprising threads on said thimble and the enlarged bore of said pen structure for jamming the seat of said thimble against the complementally shaped seat portion of said enlarged bore.

6. The combination with a fountain pen barrel, of a tubular pen section closing one end of the same; said pen section having a through bore of two diameters with the larger portion at its outer end; a thimble fitting within the enlarged bore portion at the outer end of said pen section; a portion of the outer wall of said thimble being shaped substantially as a truncated cone to form a beveled seat and the inner end of the enlarged bore portion of said pen section having a complemental seat, a feeder member disposed within said thimble, a pen nib also disposed within said thimble and confined in place by said feeder member, and means comprising threads on said thimble and pen section for jamming said thimble against the

complementally shaped seat portion of the pen section.

7. The combination with a fountain pen barrel, of a tubular pen section fitting one end of the same; said pen section having a through bore of two diameters with the larger portion at its outer end; a thimble having an apertured end wall closing the enlarged bore portion at the end of said pen section; the outer portion of the wall end of said thimble being shaped substantially as a truncated cone to form a beveled seat, a complemental seat carried by one portion of the inner surface of said pen section, a feeder member disposed within said thimble, a pen nib also disposed within said thimble and confined in place by said feeder member and means comprising threads on said thimble and pen section for jamming the seat end of said thimble against the complementally shaped seat portion of the pen section; said thimble being wholly contained within said pen section.

8. The combination with the barrel of a fountain pen, of a pen section associated therewith and carrying an ink bag and having a longitudinal bore of two diameters communicating therewith; said pen section having an internal annular seat at the inner end of its larger bore portion, and a detachable thimble fitting the enlarged bore of said pen section; said thimble having an apertured end and lying wholly within the pen section in close engagement with said seat and said thimble carrying a pen nib and a feeder member assembled in predetermined position with respect thereto.

9. The combination with the barrel of a fountain pen and an ink bag located therein, of a pen section attached to said ink bag and having a bore of two diameters communicating therewith; said pen section having an internally disposed annular seat at the inner end of its larger bore, and a detachable thimble having an axially apertured inner end wall fitting the bore of said pen section and lying wholly within the same with its inner end wall in tight engagement with the seat of the pen section; said thimble carrying a pen nib and a feeder member assembled in predetermined position with respect thereto and said feeder member having an ink groove in communication with the apertured end of said thimble.

LEON HEHL ASHMORE.