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2,645,206

WRITING PEN

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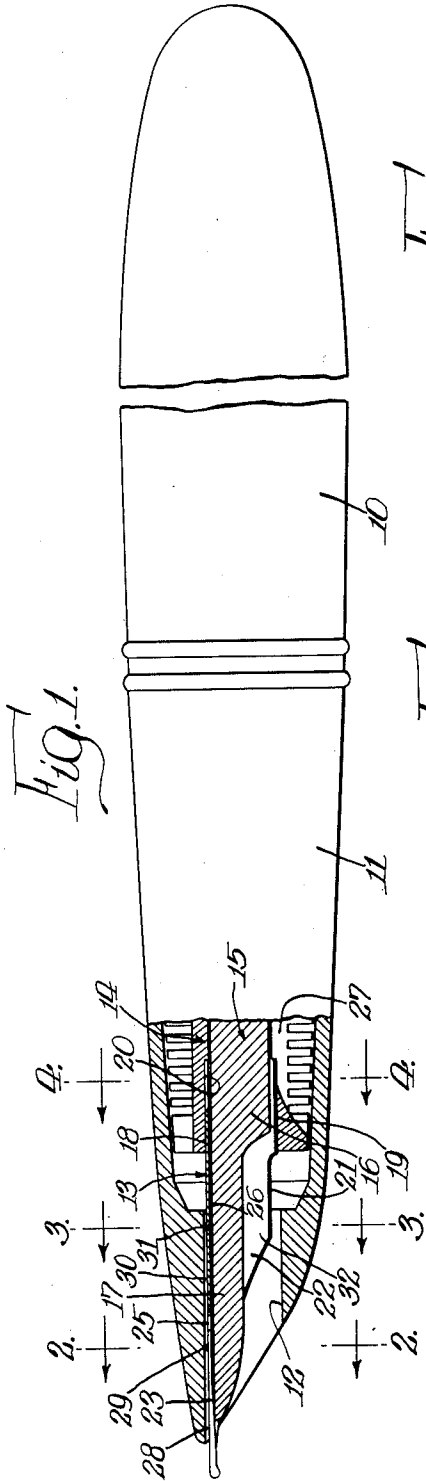


Fig. 1.

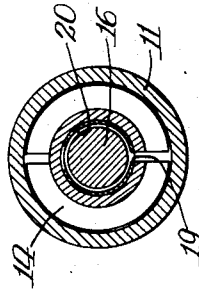


Fig. 2.

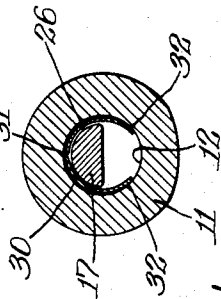


Fig. 3.

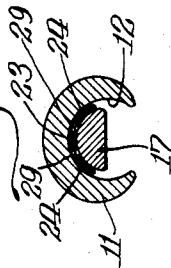


Fig. 4.

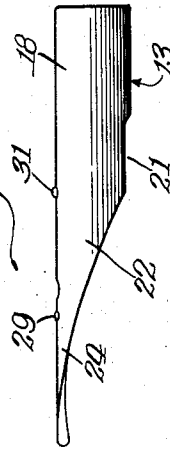
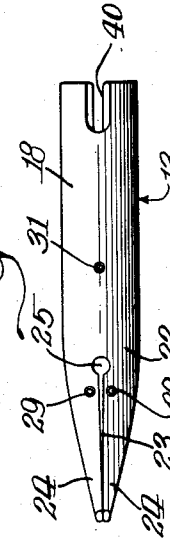


Fig. 5.



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WRITING PEN

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1 Claim. (Cl. 120—51)

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This invention relates to writing pens and has to do particularly with a pen of the so-called hooded or covered nib type, the pen housing enclosing all of the nib except the extreme writing end thereof.

An object of the invention is to provide a writing pen of the covered nib type having improved writing characteristics.

Another object is to provide a writing pen of the covered nib type wherein the nib is so constructed and supported in the pen that it has substantial flexibility and thereby permits substantial variation in the line width of the writing.

Another object is the provision of an improved nib and nib mounting which provides a desirably firm and rigid support for the nib body but permits substantial flexing of the writing end of the nib.

Still another object is to provide a writing pen having a flexible nib and an improved nib mounting which insures that the nib is maintained in wetted condition at all times and does not dry out even when left exposed for long periods of non-use.

A further object is to provide a writing pen having a flexible nib and an improved nib mounting which provides for delivery of ink to the nib slit both from above and below the nib.

A still further object is to provide a nib and nib mounting of such construction that the desired positioning of the several members is provided and maintained in such manner that slight errors in alignment of the parts, such as may occur in the assembly operation or in disalignment such as may occur in use, do not prevent satisfactory operation of the pen.

Other objects and advantages of the invention will appear from the following description taken in connection with the appended drawings wherein:

Figure 1 is a fragmentary side elevational view principally of the forward portion of a fountain pen embodying my invention, certain of the parts being broken away and in section;

Fig. 2 is a view of a transverse section taken along line 2—2 of Fig. 1;

Fig. 3 is a view of a transverse section taken along line 3—3 of Fig. 1;

Fig. 4 is a view of a transverse section taken along line 4—4 of Fig. 1;

Fig. 5 is a top plan view of a nib formed in accordance with the invention; and

Fig. 6 is a side elevational view of the nib of Fig. 5.

In the so-called hooded or covered nib types of writing pens, the pen body is extended along

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the writing nib to closely adjacent the extreme writing end or tip thereof in order to enclose the nib or at least the upper surface thereof in order, among other things, to minimize drying out of the ink at the nib slit, and only the extreme tip end of the nib projects from the pen body. It is important in such pens that the portion of the body which overlies the nib be disposed closely adjacent the nib in order to maintain a small body of ink above the nib slit and thus limit the extent of exposed surface of ink in the nib slit to prevent complete drying out. In prior constructions it has been found that the nib is so closely confined between the underlying feed bar and the overlying portion of the pen body that the nib does not have sufficient flexibility to suit the writing style of many persons. Many persons prefer a nib which is flexible and spreads under writing pressure in order to provide variation in the width of the written line, thus giving more individuality to the appearance of the writing.

In accordance with the present invention, a pen of the covered nib type is provided wherein the nib is so formed and so supported within the pen body that while the nib is substantially enclosed and the advantages of such type of pen are obtained, nevertheless, sufficient flexibility of the writing end of the nib is provided to permit the desired spreading of the nib sections and the resulting variation in width of written line.

The present invention is adapted for application to numerous types of writing pens and is particularly adapted for use in fountain pens and so-called dip pens. For the purpose of illustrating the present invention, it is shown in connection with a pen of the general type disclosed in U. S. Letters Patent to Marlin S. Baker, No. 2,223,541, dated December 3, 1940. It will be understood that the pen may have any suitable type of reservoir, filling mechanism and feed and consequently, these portions of the pen are not shown or described in detail herein.

Referring now to Fig. 1 of the drawings, the pen includes a pen body or housing which may be formed by a barrel 10 and shell 11 attached thereto although the body may, if desired, be formed as a single member. The body is hollow in order to accommodate the necessary internal members and has an opening 12 extending through its forward end which preferably takes the form of a cylindrical bore through which the extreme writing tip of this pen nib 13, which nib is hereinafter described more in detail, projects.

The pen nib 13 may be supported by the body in any suitable manner and may either be supported by a member located within the body or

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directly by the body itself. In the present illustrative example, the nib is supported by an overflow ink collector 14 generally similar to that shown and described in the above mentioned Baker patent, such collector serving also to support a feed bar 15 which may take any suitable form and which constitutes means for defining at least a portion of the ink feed passage leading from the reservoir (not shown) to the nib 13. The feed bar includes a cylindrical body 16 suitably supported in the collector 14 and a reduced extension 17 which extends into the bore 12 and terminates preferably approximately at the forward end thereof.

The nib 13, which is shown apart from the pen body in Figs. 5 and 6, includes a body or supporting portion 18 which preferably is transversely arcuate and in the present example is substantially cylindrical and has a slit 19 extending along the bottom side thereof. The slitted cylindrical body 18 has sufficient lateral resilience to permit it to be retained frictionally in a seating socket 20 in the collector 14 (Fig. 1). The body 18 may be formed with an air inlet notch 21 for the purpose of admitting air into the pen for ink feeding purposes as will be understood and as explained more in detail in the above mentioned Baker patent. A positioning notch 40 may be provided for positioning the nib in a suitable fixture during certain of the operations of forming the nib although this is not essential to the present invention.

Extending forwardly from the body portion 18 is a tapered writing portion 22 having an ink feed slit 23 extending longitudinally thereof and through the forward end thereof to divide the writing portion into two nib sections 24 which are relatively flexible and are capable of being spread apart when writing pressure is applied on the nib in the usual manner. The nib slit 23 is of capillary width and is adapted to draw ink therein and feed it to the writing surface in the usual manner. Rearwardly of and preferably adjoining the rear end of the nib slit 23 is a nib pierce 25 which extends through the nib in the usual manner.

The nib extends through the bore 12 and the extreme writing tips of the nib sections 24 project beyond the end of the opening and are exposed in position for engagement with a writing surface. The extreme forward end of the feed bar 15 is positioned to bear against the nib sections and to support them in the desired initial position. The forward end of the feed bar 15 may be bent up slightly to effect this engagement; or alternatively, where a feed bar having a straight upper surface is provided, the nib may be so formed that it bears against the forward end of the feed bar as illustrated. The feed bar body and reduced portion 17 are of such dimensions and are so located with respect to the nib that an annular space 26 of capillary width is provided therebetween which is in communication with the capillary ink feed passage 27 (a portion of which is shown) leading from the reservoir and is adapted to draw ink therein by capillary action and to maintain ink therein from which space ink is drawn by capillary action into the adjacent nib slit 23 and pierce 25 in the usual manner.

The forward end portion of the tapered writing portion 22 of the nib is spaced from the upper wall portion of the bore 12 in order to provide a space 28 therebetween whereby the corresponding portion of the nib may move in and up-and-

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down direction between the feed bar and the upper wall portion of the bore 12 thereby permitting the desired flexing of the nib sections 24 and subsequent spreading of the writing tip ends of the nib sections with a resulting variation in the width of the line of ink deposited on the paper.

In order to provide this movement of the nib sections, spacing means are provided which in the present invention comprises small projections 29 extending upwardly from the nib sections at points spaced rearwardly of the forward ends thereof and preferably closely adjacent the rear end of the nib slit 23. The projections 29 may be formed by indenting the material from which the nib is formed thereby providing outwardly-extending "bumps" or "pimples." It will thus be seen that when the nib is assembled in the pen as illustrated, particularly in Fig. 1, the projections 29 bear against the upper wall surface of the bore 12 and space therefrom the adjacent portion of the nib including the portion which extends forwardly from the projections. The portion of the nib which extends rearwardly of the projections also is spaced from the wall of the bore to provide an arcuate space 30 of capillary dimension which is a continuation of the space 28 and is adapted to draw ink therein from the nib pierce 25 and to retain ink therein at all times except where the ink may be drawn therefrom and into the nib slit 23. Thus a body of ink stands above the nib slit at all times and is available to maintain the nib slit filled with ink even where evaporation may take place from the nib slit as where the pen is left uncapped for substantial periods of non-use.

The nib may be and preferably is rigidly supported in the bore 12 rearwardly of the nib sections and for this purpose a projection 31 is provided which is generally similar to the projections 29 but preferably is located a substantial distance rearwardly of the projections 29 and in a vertical plane passing longitudinally of the nib and medially thereof. Preferably, the several members of the pen are so dimensioned that when the nib is in the position shown in Fig. 1, the portions 32 at the under side of the nib adjacent the juncture of the tapered writing section and the body (sometimes referred to as "wings") bear at their outer surfaces against the lower wall of the bore 12. Thus the nib is positioned in the bore 12 at five bearing points, namely, the two projections 29, projection 31 and the wings 32, thus firmly and accurately positioning the nib relative to the bore 12.

It will be seen from the foregoing that the nib is positioned in the pen body in such manner that while a capillary ink storage space is provided above the nib into which ink is drawn by capillary action and retained to prevent drying out of the ink in the nib slit, nevertheless, the forward portion of the nib, constituted by the two nib sections, is permitted to flex sufficiently under writing pressure to provide a substantial degree of spreading of the nib sections and provide the desired variation in width of written line to suit the individuality of the style of writing of the user.

It will be further understood that with the manner of mounting the nib provided by the present invention, ink may be delivered to the nib slit not only from below the nib but also from above the nib. Thus, the arcuate capillary space provided above the nib may itself be connected to feed means (not shown) for delivering

ink to such space from the reservoir directly and such ink does not have to pass through the nib pierce. Such ink feed arrangements are well known and it is believed that specific illustration is not necessary herein inasmuch as the details of the feed for delivering ink to the capillary spaces adjacent the nib of the present invention form no part of the present invention.

It will also be observed that the desired spacing between the nib and the opening in the forward end of the body is automatically provided by reason of the projections formed on the nib and is maintained throughout the life of the nib. It is therefore unnecessary in assembling the pen to take the care often required in other types of nib mountings to insure the desired spacing between the nib and adjacent body portion. Moreover, by reason of the positive spacing provided by the projections, there is little likelihood of the nib becoming disarranged in the body, in normal use, to such an extent as to render the pen inoperative. Accordingly, the pen may be assembled by relatively unskilled labor and requires little, if any, attention or adjustment during its normal period of use.

I claim:

A writing pen comprising a pen casing having a bore extending through the forward end thereof, a writing nib mounted in said casing and extending through said bore, said nib having a substantially cylindrical, but circumferentially dis-

continuous, body portion in said bore, a flexible, tapered, arcuate writing end portion projecting at its tip end only from said casing with circumferentially extending wings between the body portion and writing end portion, said nib having a slit extending inwardly from the free end thereof and providing two nib sections, and a positioning projection extending upwardly from each of said nib sections adjacent the base end thereof and engaging the upper wall portion of said bore to space said nib section therefrom, said nib having a positioning projection extending from the upper surface rearwardly of said slit, all of said projections and said wings engaging the wall portions of said bore to provide a multiple-point support for the nib in said bore.

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References Cited in the file of this patent

UNITED STATES PATENTS

Number	Name	Date
13,995	Prince -----	Dec. 25, 1855
331,203	Loeser -----	Nov. 24, 1885
730,117	Hamilton -----	June 2, 1903
2,223,541	Baker -----	Dec. 3, 1940
2,289,963	Hanle -----	July 14, 1942
2,375,770	Dahlberg -----	May 15, 1945
2,417,861	Dahlberg -----	Mar. 25, 1947
2,430,023	Longmaid -----	Nov. 4, 1947
2,432,012	Hanle -----	Dec. 2, 1947