Nov. 12, 1929. C. J. FUNK 1,735,199

MEANS AND METHOD OF ASSEMBLING NIBS AND FEED MEMBERS FOR FOUNTAIN PENS

Filed Aug. 14, 1924

Fig. 1.

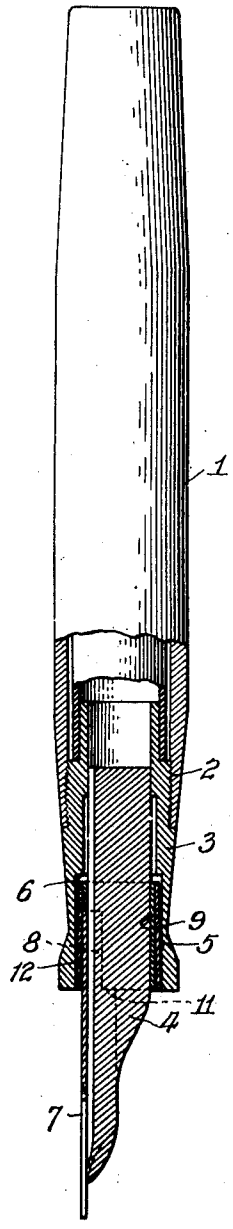


Fig. 2.

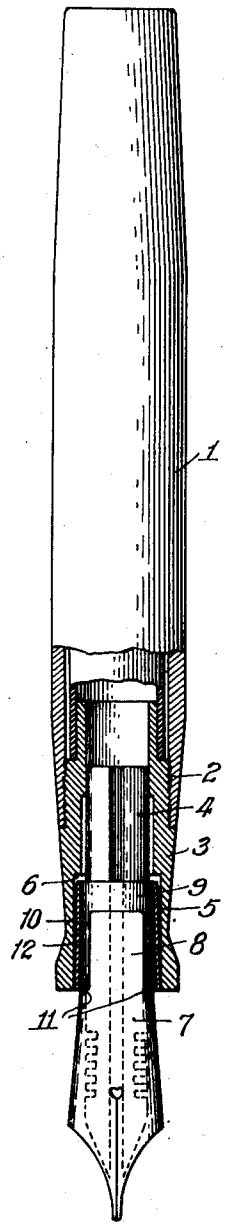
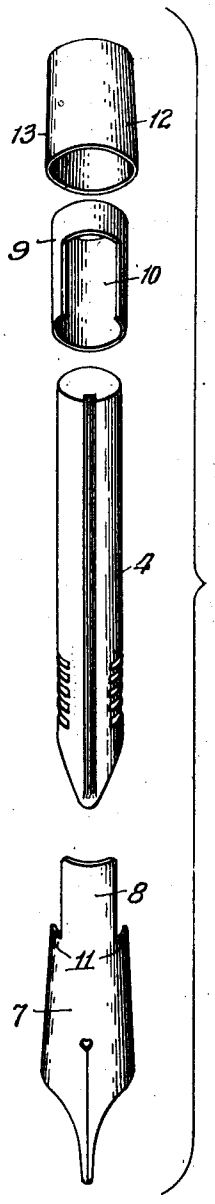


Fig. 3.



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UNITED STATES PATENT OFFICE

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MEANS AND METHOD OF ASSEMBLING NIBS AND FEED MEMBERS FOR FOUNTAIN PENS

Application filed August 14, 1924. Serial No. 731,896.

This invention relates to a novel means and method for manufacturing fountain pens so that the feed member with the nib assembled in proper position thereon, can be readily attached and detached from the pen section of the fountain pen so as to provide interchangeable units.

Heretofore in the manufacture of fountain pens, it has been customary to permanently assemble the nib in the proper writing position upon the feed member and then permanently to mount the assembled nib and feed member in the pen section of the fountain pen barrel. It was deemed necessary to assemble the complete pen at the factory because of the required nicety of adjustment of the nib on the feed member of the fountain pen. However, in the retailing of fountain pens it frequently happens that a prospective purchaser desires a pen with a type of nib different from that which is assembled on any particular barrel which happens to suit his fancy. Heretofore, it has been necessary to maintain in stock a large assortment and variety of fountain pens because of the demand for different barrel designs and nibs. In the present invention, this objectional burden is overcome by assembling the feed member and nib at the factory and constructing them so that they can be interchangeably connected to the pen section of any particular design of barrel. In this manner, when a prospective customer does not desire the type of nib mounted in a particular pen barrel, it is a simple matter for the salesman to easily detach the feed member and assembled nib from the fountain pen barrel and replace it with an assembled unit which includes a nib which does suit the purchasers needs.

To this end the object of my invention is to provide a novel method and means for manufacturing a fountain pen with an assembled nib and feed member so that the latter can be detachably mounted in the pen section of a fountain pen barrel; to provide a novel means for adustably positioning a nib on the feed member of a fountain pen and for holding the nib in such predetermined position, such holding means being constructed to cooperatively fit in the pen section and to constitute a detachable, liquid-tight connection between the pen section and the assembled feed member and nib; to provide a feed member with a sleeve having a seat thereon for receiving the shank of a nib together with a sleeve having a tapered portion whereby to maintain the nib in assembled position on the feed member and whereby said tapered portion also cooperatively fits a friction surface on the pen section to constitute a locking connection between the pen section and the feed member; to provide a pen section having an inner locking or friction surface together with a sleeve member carrying a nib in proper position thereon and having in addition means thereon cooperating with the locking surface of the pen section for detachably locking the feed member and nib in assembled position in the pen section; these and other objects of the invention will be apparent from a perusal of the following specification when taken in connection with the accompanying drawings wherein:—

Figure 1 is a view of the pen, the bottom portion thereof being shown in section to illustrate the manner of mounting the feed member and nib in the end of the barrel.

Figure 2 is a similar view taken at right angle thereto, and

Figure 3 is a disassembled view of the feed member and nib together with the means for mounting the nib on the feed member.

Referring now to the drawings in detail, the barrel 1 of the fountain pen member is provided with a threaded end 2 into which fits the pen section 3. The pen section is shown as provided with a thread adapted to screw into the thread of the barrel. In order to permit the feed member 4 to be detachably assembled in the pen section, the latter is provided with a locking surface or friction surface, the inner wall is preferably constructed to form the friction wall 5, the inner end of which forms stop shoulders 6 so that the nib 7 and assembled feed member 4, hereinafter described, cannot be pushed into the pen section beyond the stop shoulder.

The pen 7 is of any usual construction except that it is provided with a special shank 8. Great care must be observed in assem-

bling the nib in proper writing position on this feed member 4. This must be done at the factory by skilled operators. A simple manner for providing for this positioning of the nib 7 on the feed member 4 comprises a hollow sleeve 9 adapted to be longitudinally positioned on the feed member 4. This sleeve is provided with any desired form of seat for the shank of the nib, in the preferred construction the sleeve is provided with a cut-out 10 forming a recess of shape corresponding to a preformed end of the shank of the nib. The nib 7 has its shank 8 cut to provide stop shoulders 11. The shank so formed will fit exactly in the cut-out portion 10 of the sleeve 9, the shoulders 11 seating against the end of the sleeve 9.

Means is provided for permanently holding the nib 7 and sleeve 9 in assembled or adjusted position on the feed member 4. The preferred form comprises the band or sleeve 12 which is preferably given a gradual taper 13 from one end to the other which taper has two functions, first for holding the sleeve 9 and nib 7 on the feed member 4, and, second, serving as a detachable, liquid-tight connection for maintaining the feed member 4, and assembled nib in position in the pen section 3.

In assembling the fountain pen the first operation consists in slipping the sleeve 9 on the feed member 4, and in positioning the nib 7 on the sleeve, the sleeve being placed so that the nib is properly and nicely adjusted relatively to the writing point end of the feed member 3.

After the nib is thus nicely adjusted on the feed member, the tapered sleeve 12 is slipped over the sleeve 9 and pushed along the feed member 4, preferably to a position such that the sleeve 12 registers with the end of the cut-out sleeve 9. This is to give the assembled nib and feed member a finished appearance. The assembled feed member and nib is now inserted in the pen section and wedged tightly in place, the taper 13 of the sleeve 12 forming a tight frictional joint and serving to maintain the nib and feed member in proper assembled position in the pen section 3. This connection is sufficiently tight to maintain the liquid seal at the juncture and to form a substantially permanent enough connection, but at the same time, it permits detachment. When it is desired to remove the nib and feed member the latter are given a quick twist and pulled from the end of the pen section.

It must be manifest that various arrangements of the illustrated construction may be used in lieu of that shown in the drawings and described in the specification, the same being merely exemplary of the broad principles of the invention herein disclosed.

Having thus described my invention, I claim:

1. In combination with a feed member, for a fountain pen, means for adjustably seating a nib on said feed member in a definite position, and a holding means for maintaining such position of said nib, said holding means comprising a tapered sleeve and constructed and arranged to provide for the detachment of said feed member and assembled nib from the barrel portion of said fountain pen.

2. In combination with an interchangeable feed member for a fountain pen barrel, a sleeve adapted to be positioned on said feed member and provided with a seat for the reception of a nib shank, a nib, and a tapered sleeve adapted to be positioned on said first sleeve, nib, and feed member to hold said nib in a predetermined position relative to said feed member.

3. In combination with an interchangeable feed member for a fountain pen barrel, a sleeve adapted to be positioned on said feed member and provided with a cut-out portion to receive the shank of a nib, and a sleeve adapted to be positioned on said cut sleeve, nib shank, and feed member to hold the same in assembled relation.

4. In combination with an interchangeable feed member for a fountain pen barrel, a sleeve adapted to be positioned on said feed member and provided with a cut-out portion forming shoulders, a nib having a shank provided with shoulders, said nib being disposed on said feed member with the shank disposed in said cut-out and the shoulders in contact, and a band surrounding said nib shank, sleeve and feed member to hold them in predetermined assembled relation.

5. In combination with an interchangeable feed member for a fountain pen barrel, a sleeve adapted to be positioned on said feed member and provided with a cut-out portion forming shoulders, a nib having a shank provided with shoulders, said nib being disposed on said feed member with the shank disposed in said cut-out and the shoulders in contact, and a band having a taper, said band surrounding said nib shank, sleeve and feed member.

6. In combination with a barrel of a fountain pen, a pen section disposed in the end thereof and provided with a recessed inner frictional wall, a feed member, a nib mounted on said feed member, a sleeve having a seat for positioning said nib on said feed member, a band surrounding said sleeve, nib and feed for assembling the same, said band having a friction face adapted to frictionally engage the frictional wall of said pen section.

7. In combination with a pen section of a fountain pen, a feed member, a nib, a sleeve, for mounting the nib on said feed member and a second sleeve carried by said feed member for detachably mounting said feed member and nib in said pen section.

8. In combination, a pen section having a

contacting surface, a feed member, a nib positioning sleeve on said feed member, a nib seated on said positioning sleeve, and a cooperative contacting surface carried by said feed member adapted to engage the contacting surface on said pen section, said contacting surfaces forming a detachable connection for permitting the exchange of assembled feed members and nibs.

9. In combination a non-metallic feed bar having an ink groove, a nib, a sleeve fitting over the feed bar and having a seat for the nib, and a sleeve formed with a gradual taper adapted to slip over the sleeve and feed bar for holding the nib and feed bar assembled.

10. In combination a non-metallic feed bar having an ink groove, a nib having a shank portion, a sleeve fitting over the feed bar and having a seat shaped to correspond to the shape of the nib shank and a sleeve having a gradual taper adapted to fit over the sleeve, nib and feed bar for holding them assembled.

11. In combination with a feed member, a positioning member thereon, and a nib having a shank, said shank being provided with positioning means adapted to cooperate with said positioning member for mounting said nib in predetermined position on said feed member, and a sleeve member for detachably holding said nib and feed member in assembled relation.

12. In combination with a feed member, a positioning member thereon, and a nib having a shank, said shank being provided with positioning means adapted to cooperate with said positioning member for mounting said nib in predetermined position on said feed member, and a tapered sleeve member for detachably holding said nib and feed member in assembled relation.

13. In combination with an interchangeable feed member for fountain pen barrels, a sleeve adapted to be positioned on said feed member and provided with a seat for the reception of a nib shank, a nib, and a second sleeve adapted to be positioned on said first sleeve, nib, and feed member to hold said nib in a predetermined position relative to said feed member.

14. In combination with a feed member, a positioning sleeve thereon provided with a cut-out portion, and a nib having a shank, disposed on said feed member, said shank cooperating with said cut-out portion for holding said nib in position.

15. In combination with a feed member, a positing sleeve thereon provided with a cut-out portion, and a nib on said feed member, said nib being provided with a shank, said shank fitting into said cut-out portion and said sleeve holding said nib in assembled relation.

16. In combination with a feed member, a positioning member thereon, and a nib having a shank, said shank being provided with positioning means adapted to cooperate with said positioning member for mounting said nib in predetermined position on said feed member and means for detachably holding said nib and feed member in assembled relation.

In witness whereof, I hereunto subscribe my name to this specification.

CHARLES JAKOB FUNK.