Nov. 12, 1929. J. C. WAHL 1,735,224

FOUNTAIN PEN ASSEMBLING

Filed Sept. 13, 1924

Fig. 1.

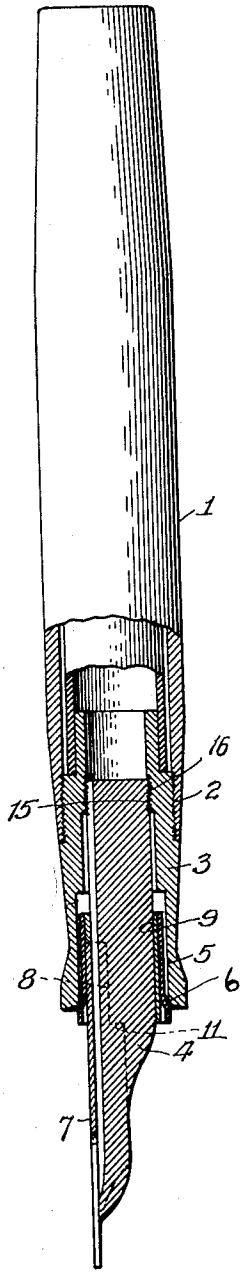


Fig. 2.

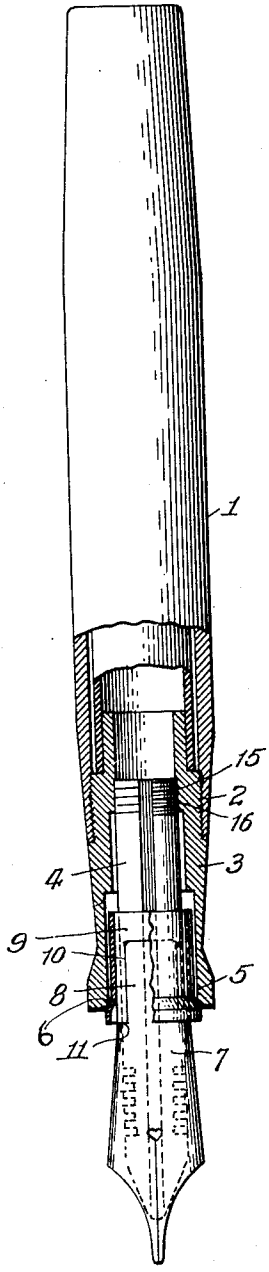
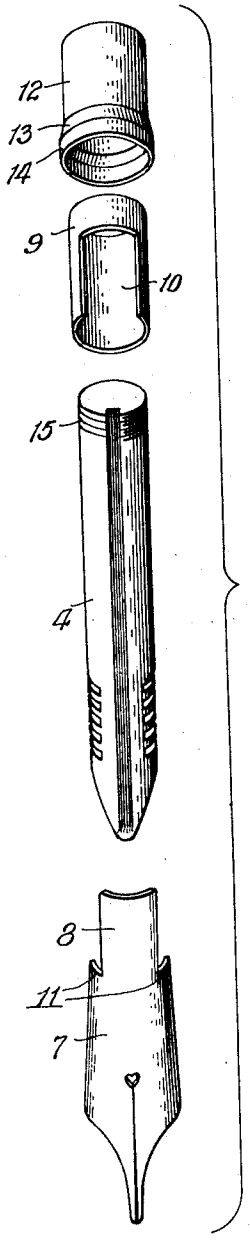


Fig. 3.



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UNITED STATES PATENT OFFICE

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FOUNTAIN-PEN ASSEMBLING

Application filed September 13, 1924. Serial No. 737,540.

This invention relates to a novel means 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 permanently to assemble the nibs in 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 completed 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 an application filed by Charles J. Funk August 14, 1924, Serial No. 731,896, and assigned to The Wahl Company, the assignee of the present invention, a construction is disclosed for overcoming this objectionable burden. This construction contemplates the assembling of the feed member and nib of the fountain pen at the factory and constructing them so that they can be interchangeably connected to the pen section of any particular design of pen barrel, so that 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 quickly to detach the feed member and assembled nib from the fountain pen barrel and replace it with an assembled unit which includes a nib suitable to the needs of the purchaser. In this Funk construction, the feed member is provided with a sleeve adapted to be slidably positioned thereon, and this sleeve is formed with any desired construction of a seat for the reception of the shank of the pen nib. In this manner the pen nib can be adjustably positioned on the feed member by the skilled operator. For holding the pen nib in such adjusted position, an additional sleeve or band is provided which slips over the first mentioned sleeve, pen nib and feed member, and this band is formed with a tapered portion which provides a seat or a wedging surface to hold the pen nib in its adjustably assembled position on the feed member. To cooperate with this seat, the inner wall of the open end of the pen section is formed with a friction seat adapted to receive the assembled feed member, pen nib and the two sleeves, so that when these members are inserted in the pen section, the tapered outer sleeve frictionally binds against this seat and forms a liquid-tight joint, sufficiently tight to constitute a permanent mounting of the feed member in the pen section if desirable. On the other hand this friction fit joint is sufficiently loose so that the feed member with the nib attached can be detached from the pen section by a slight twist and pull on the feed member.

The present invention relates to certain improvements in construction of the means for detachably mounting the feed member and pen nib as an assembly in the pen section of the fountain pen barrel. And among the objects of my invention are to provide the feed member and nib assembly with means interconnectibly cooperating with the pen section of the fountain pen barrel for positively seating and unseating the feed member in the pen section; for providing the pen section with a properly formed liquid-tight seat, and the feed member assembly with a cooperative seat, together with interconnectible means on the feed member and pen section for positively seating and unseating the feed member assembly and pen section; to provide an improved sleeve for maintaining the pen nib in adjustably positioned relation to the feed member and provided with a tapered portion constructed to form a friction seat with the inner wall of the pen section; these and other objects of the invention will be more readily apparent from a perusal of the following specification when taken in connection with the accompanying drawings wherein:—

Figure 1 is a side elevation of my improved

pen, the bottom portion of the pen being shown in section.

Figure 2 is a similar view taken at right angles to Figure 1.

And, Figure 3 is a grouped detailed, perspective view of the feed member, the two sleeves and the pen nib.

Referring now to the drawings in detail, the fountain pen comprises a barrel member 1, suitably threaded at end 2 to receive corresponding threads on the inner end of the pen section 3. The pen section is preferably somewhat channeled out at its open end to provide a sufficiently large recess for the reception of the feed member and assembled nib as will be more fully hereinafter referred to. The end of this pen section is slightly flared as at 6 to form a seat, which in connection with the inner section wall 5, serves to form a frictional liquid-tight connection adapted to maintain the feed member and assembled nib in writing position in the pen section.

The feed member 4 is of any desired construction. In order to position the pen nib thereon, the nib is provided with a shank 8 having the sides of the shank partly cut away to form the shoulders 11. As in the prior mentioned Funk construction a sleeve 9 is provided with a cut-away portion 10 adapted to exactly receive the shank 8 of the pen nib 7, so that when the sleeve 9 is slid therealong to proper position with the pen nib therein it will be a very simple matter to properly hold the pen nib relative to the end of the feed member. The sleeve or band 12 is utilized for holding the pen nib and sleeve 9 in such assembled position on the feed member 4. This sleeve member 12 is of requisite inner diameter to frictionally fit over sleeve 9 and hold the latter in properly assembled or adjusted position on the feed member 4 and relative to the pointed end thereof. In lieu of providing the sleeve 12 with a continuous taper as in the before mentioned Funk application, it is herein proposed to provide the sleeve with a restricted tapered portion 13 disposed at or near the end thereof. Preferably this tapered portion 13 is slightly spaced away from the end so as to provide the larger diametered end 14. This tapered portion 13 forms a wedging seat which cooperates with the flared seat 6 on the outer end of the inner wall of the pen section 3. In this way a liquid-tight friction fit is provided between the feed member and the pen section.

In the hereinbefore mentioned Funk construction, considerable difficulty was experienced some time in extracting or quickly detaching the feed member and assembled nib, from the pen section. This was due to the fact that the sleeve member was formed with the continuous taper so that when the sleeve member was once wedged in position it was not so easily extracted. In the present invention this objection is overcome by limiting the taper to a restricted zone and in providing the feed member and barrel with cooperative, interconnectible means for positively seating and unseating the feed member and the pen section. A simple means, illustrated, consists in providing the end of the feed member 4 with a thread 15 adapted to engage with a corresponding female thread 16 formed on the inner end of the pen section 3. So that when it is necessary to assemble a feed member and nib in the pen section it can be quickly done by screwing the feed member into the pen section until the threads engage and function to positively draw the tapered portion 13, formed on the sleeve 12 into wedging, friction tight contact with the flared seat 6 on the inner wall of the pen section. When in proper position, that is, when the feed member is in assembled position, the end of the sleeve 14 will be flush with the end of the pen section, but this is not shown in the drawing as it is desired to make the illustration clearer. The detachment of the assembled feed member and nib is accomplished by unscrewing the feed member from the pen section.

It must be evident that the invention herein described is not limited to the specific details of construction inasmuch as it may be desirable to provide other embodiments of the generic invention.

Having thus described my invention, I claim:

1. In combination with a pen section of a fountain pen having a seat, a feed member, a nib, a sleeve for positioning said nib on said feed member and constituting a cooperative seat carried by said feed member adapted to tightly fit the seat of said pen section, and means for causing the engagement of the seat portions of said pen section and feed members.

2. In combination with a fountain pen having a pen section provided with a seat, a feed member, a nib, a sleeve for positioning the nib on said feed member independently of the pen section, said feed member carrying a cooperative seat adapted to tightly engage the seat of said pen section and detachably interconnectible means on said pen section and feed member for causing the seating or unseating of the seat portions of said pen section and feed member.

3. In combination with a fountain pen having a pen section provided with a seat, a feed member, a nib, means for mounting said nib on said feed member, said means forming a cooperative seat adapted to tightly engage the seat of said pen section and threaded means on said pen section and feed member for causing the tight engagement or disengagement of said seat.

4. In combination with a fountain pen section having a pen section provided with a

tapered seat, a feed member, a nib, means for positioning said nib on said feed member, means forming a cooperative tapered seat adapted to tightly engage the seat of said pen section and interengageable threads on said pen section and feed member for causing the tight engagement or disengagement of said seats.

5. In combination with a fountain pen section having a friction seat, a feed member having an ink groove, a nib, means including a sleeve having a tapered portion for assembling said nib on said feed member, the outer surface of said tapered portion forming a cooperative seat adapted to tightly engage the seat of said pen section, and threaded means on said pen section and feed member for causing the tight engagement or detachment of said seats.

6. In combination with a fountain pen section having a beveled seat at its open end, and a threaded portion on its inner wall, a feed member having a thread engaging the thread of the inner wall, a nib, means for assembling said nib on said feed member, said means including a sleeve having a tapered portion adapted to frictionally engage the beveled seat of said pen section.

7. In combination with a fountain pen having a pen section provided with a seat, a feed member, a nib, separate means for mounting said nib on said feed member, said mounting means forming a cooperative seat adapted to tightly engage the seat of said pen section, and means forming a part of said pen structure for causing the engagement and sparation of said seats.

8. In combination with a fountain pen having a pen section provided with a seat, a feed member, a nib, a tapered sleeve for mounting said nib on said feed member, said sleeve forming a cooperative seat adapted to tightly engage the seat of said pen section, said feed member and pen section having threaded means for causing the engagement or detachment of said seats.

9. In combination with a fountain pen having a pen section provided with a tapered seat, a feed member, a nib, a sleeve having a portion of uniform diameter and a short tapered portion, said tapered portion forming a cooperative seat adapted to tightly engage the tapered seat of said pen section, said pen section and feed member having engageable threads for permitting the tight engagement or detachment of said seats.

10. In a fountain pen having a pen section formed with an internal, tapered seat at the end of the section, a feed bar, a nib thereon, a sleeve holding said nib on the feed bar, said sleeve having a relatively long portion of uniform diameter, a relatively short flaring portion and an end portion of uniform diameter, said feed bar having its inner end threaded to engage threads within the pen section to draw the tapered portion of the sleeve on the bar tightly against the tapered seat on the pen section.

11. In a fountain pen, a pen section having an internal thread and a seat portion, a feed bar having a cooperative thread, a nib, means assembling the nib on the feed bar while said feed bar is detached from the pen section, said means cooperating with the pen section when the feed bar is assembled to the pen section by screwing the interengaging threads of each, and having a tapered portion cooperable with said seat portion for forming a tight fit between the feed bar and the pen section yet permitting ready detachment of the feed bar and pen section.

12. In combination with a fountain pen having a pen section provided with a tapered seat, a feed member, a nib, a sleeve having a portion of uniform diameter and a short tapered portion, said tapered portion forming a cooperative seat adapted to tightly engage the tapered seat of said pen section, and means on said pen section and feed member for causing the engagement or detachment of said seats.

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

JOHN C. WAHL.