May 9, 1933. J. WALLACE 1,907,626

POINT AND FEED SECTION OF FOUNTAIN PENS

Filed May 27. 1931

Fig. 1

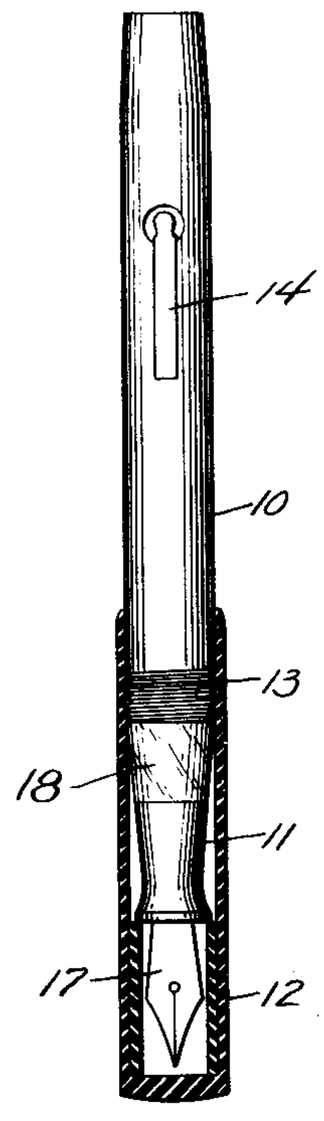


Fig. 2

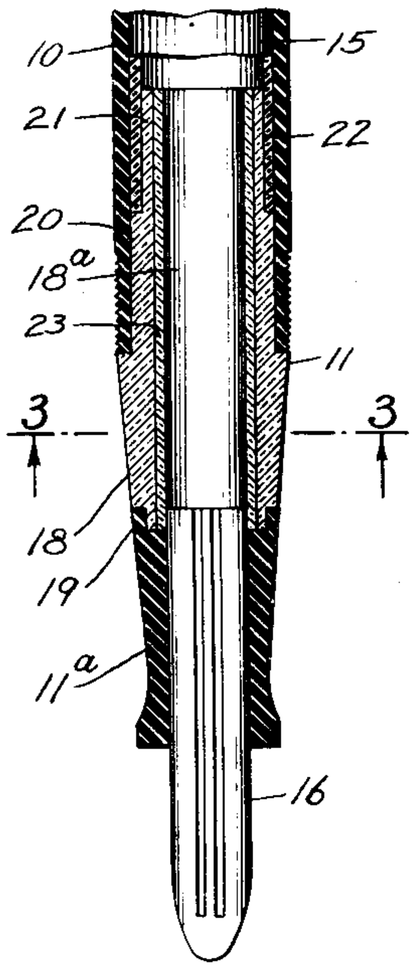


Fig. 4

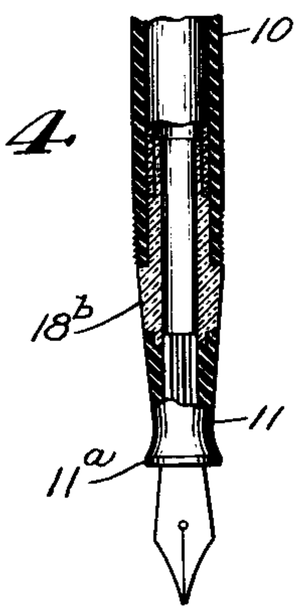
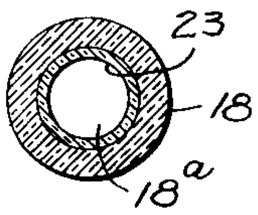


Fig. 3



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UNITED STATES PATENT OFFICE

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POINT AND FEED SECTION OF FOUNTAIN PENS

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This invention relates to fountain pens and particularly to what are known as the sections or tips of fountain pens in which the pen point and feed are mounted; and the object of the invention is to provide such sections with a transparent body portion exposed to the fluid chamber or passage of the section so as to render the ink contained therein visible through said transparent body whereby the presence of ink supplied to the point of the pen may be mounted at all times; a further object being to provide a transparent body for sections of the class described composed of a single, transparent body part or of two transparents body parts; and with these and other objects in view, the invention consists in a device of the class and for the purpose specified, which is simple in construction, efficient in use, and which is constructed as hereinafter described and claimed.

The invention is fully disclosed in the following specification, of which the accompanying drawing forms a part, in which the separate parts of my improvement are designated by suitable reference characters in each of the views, and in which:

Fig. 1 is a side view of a pen made according to my invention with part of the construction in section.

Fig. 2 is a detail, sectional view of the structure shown in Fig. 1, with parts broken away and removed.

Fig. 3 is a section on the line 3—3 of Fig. 2; and,

Fig. 4 is a detail, sectional view of one end portion of a pen showing a modification.

In the construction shown in Figs. 1 to 3 inclusive, I have shown a fountain pen consisting of a barrel 10, to the open end of which is detachably coupled the point or ink feed section or tip 11, the structure of which constitutes the distinctive feature of my invention. At 12, I have shown the usual detachable cap normally enclosing the section 11 when the pen is not in use, and which is in threaded engagement with the barrel as seen at 13. At 14, I have shown the usual lever controlling the compression of the ink sack 15, note Fig. 2, arranged in the barrel 10 and coupled with the inner end of the section 11. In the section 11 is supported the usual ink feed control member 16 and pen point 17.

Instead of providing a section or tip of unitary construction and of opaque material as has been the common practice, I provide the section 11 inwardly of the reduced lower end 11*a* thereof with a body portion 18 of transparent material, which in the structure shown in Figs. 1 to 3 inclusive, is preferably of a non-breakable nature, such for example as celluloid. The body 18 is cemented or otherwise secured to the extension 11*a* as seen at 19, and has a reduced inner end 20 detachably supported in the open end of the barrel 10. The extension 20 is further reduced at the inner end 21 to receive the open end of the sack 15 which is mounted thereon as seen at 22.

In the form of construction shown in Figs. 1 to 3 inclusive, I also preferably employ in conjunction with the body 18 and as a liner for the bore 18*a* thereof an elongated sleeve or tube 23, the latter preferably extending the full length of the body 18 and being cemented or otherwise secured thereto and being preferably composed of glass. At this time, it will be understood that the entire body 18 may be of unitary construction. In Fig. 4 of the drawing, I have shown at 18*b* a body of this class, which may be composed of glass, celluloid or other transparent material, assembled into the section 11 of the pen in the same manner as the attachment of the section shown in Figs. 1 to 3 inclusive.

From experience, I have found that the use of celluloid alone in the formation of the body 18—18*b*, tends to cloud the inner wall or bore of the section by a collection of a film of ink thereon, which interferes with the clear transparency of the device. While this form of construction does not render the device totally inoperative, I find a clearer and more satisfactory result is accomplished by the use of glass or other transparent material of a similar nature. For this reason, it is preferred to use the combination shown in Fig. 2, employing the non-breakable body 18 with the glass liner 23. It will be under-

stood, however, that the unit device as shown at 18*b* may be composed of glass, it being understood that the chance of breakage is relatively small, due to the fact that the body 18*b* is disposed within and between the non-breakable tip end 11*a* and the barrel 10 of the fountain pen.

In the use of my improved device, it will be understood that when the pen is supported in writing position, the presence of fluid in the pen will be readily seen through a transparent body 18—23 or the body 18*b*, and when the user knows that a relatively small quantity of ink is visible through these transparent bodies, the necessity of refilling the pen is made clear. It is a common experience with the users of fountain pens to find that the pen has run dry and it is necessary to replenish the supply of ink. This is due to the fact that no means for indicating the amount of ink in the pen has heretofore been provided in any practical way. With my construction, it will be understood that the user of the pen will have due notice of the necessity of refilling the pen before the full amount of ink has been consumed.

While I have shown a specific arrangement of the transparent body in the tip section of a fountain pen, it will be understood that my invention is not limited in this respect, and various other changes in and modifications of the construction herein shown and described may be made within the scope of the appended claims without departing from the spirit of my invention or sacrificing its advantages.

Having fully described my invention, what I claim as new and desire to secure by Letters Patent, is:—

1. A fountain pen of the class described, the point and feed section of which consists of tubular, transparent and opaque portions, the ink feed and pen point being supported in the opaque portion of said section and projecting therebeyond, and said transparent portion being arranged inwardly of and in alinement with the opaque portion and comprising two sleeves of transparent material, one of which is non-breakable.

2. In a fountain pen, the pen point end portion of which is provided with a tubular section of transparent material arranged in alinement with the outer wall structure of the pen and through which the ink flow to the point of the pen is visible, said section being composed of inner and outer sleeves secured together, one of said sleeves being composed of non-breakable material, said section being detachable with respect to the barrel of the pen and the tip end thereof supporting the pen point being opaque.

3. In a fountain pen comprising a barrel, a pen point supporting body detachable with respect to the open end of said barrel, said body including a transparent wall portion arranged in alinement with the wall of said body, said transparent wall portion comprising an outer tubular body of non-breakable material and a tubular sleeve of glass fitting in and forming a liner for said tubular body, and the ink for supply to the pen point passing through said transparent wall portion to be visible to the user.

4. In a fountain pen of the class described, a point and feed section detachable with respect to the pen barrel and comprising a tubular body of transparent material through which ink for transmission to the point of the pen may be seen, said body comprising an outer portion of non-breakable material and a lining sleeve of glass fitting snugly therein.

5. In a fountain pen employing a tubular barrel with a pen point and ink feed member disposed at one end of said barrel, a tubular body of transparent material arranged on the fountain pen inwardly of said pen point and ink feed member and through which ink for transmission to the pen point and ink feed member passes and may be seen, said tubular body comprising inner and outer sleeves of transparent material fitting snugly one within the other, and one of said sleeves being composed of non-breakable material.

In testimony that I claim the foregoing as my invention I have signed my name this 22nd day of May 1931.

JOSEPH WALLACE.