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FOUNTAIN PEN

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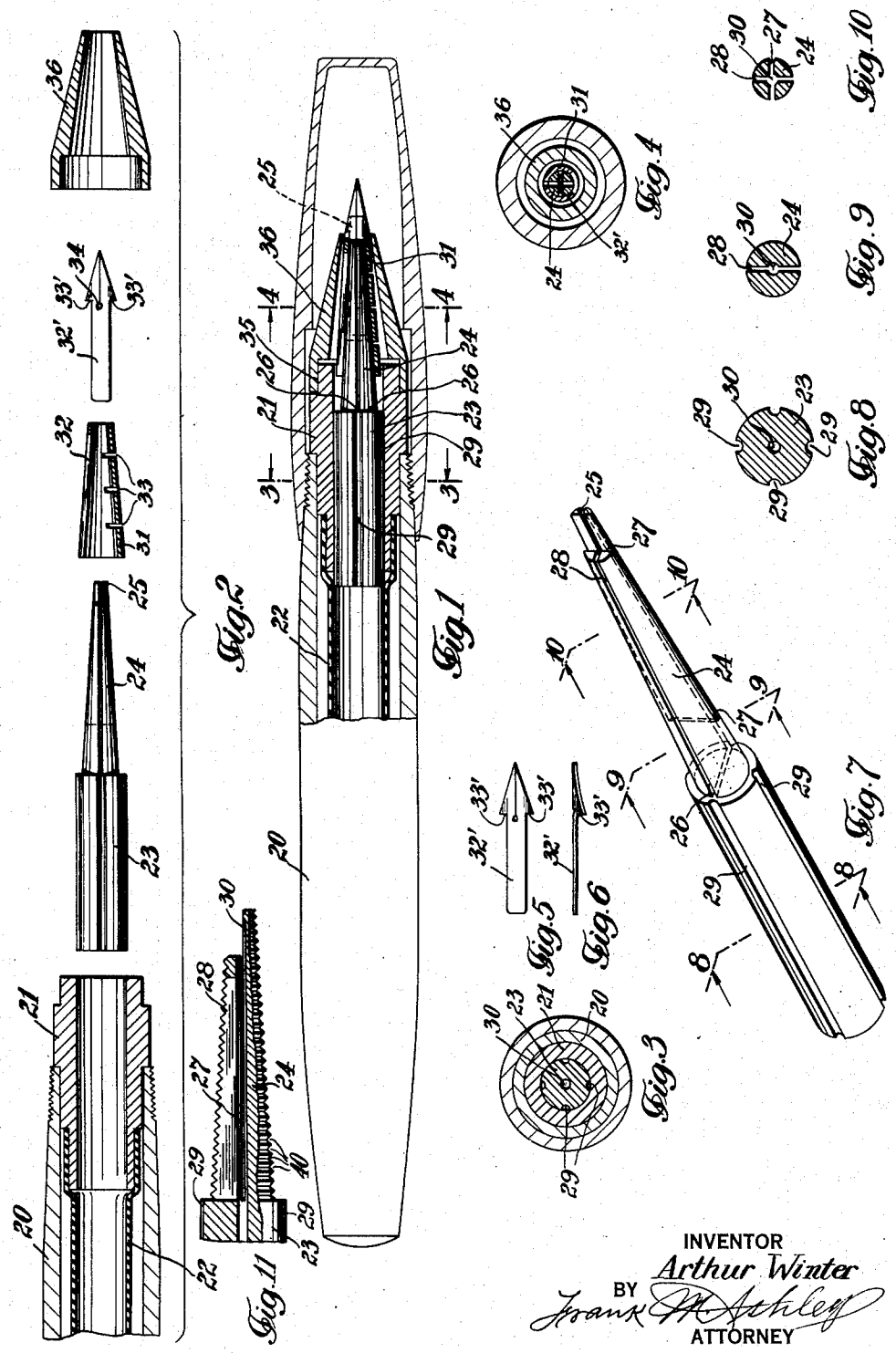

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FOUNTAIN PEN

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10 Claims. (Cl. 120—52)

My invention relates to writing instruments.

The object of my invention is to provide a fountain pen construction in which the point or nibs of the pen are exposed to view and concealing all of the feed elements by an outer covering which extends from the barrel of the pen to the nibs.

A further object is to provide an improved means for controlling the ink from the reservoir to the pen point which include narrow slots which serve as capillary pockets to hold a supply of ink adjacent the nibs of the pen for use therewith.

A further object is to provide a construction which will insure a proper amount of air to flow from the atmosphere into the reservoir of the pen as ink is withdrawn therefrom in the act of writing without danger of flooding while permitting a free flow of ink from the reservoir to the pen-point.

Referring to the drawing which forms a part of the specification:

Fig. 1 is a longitudinal sectional plan view disclosing the several parts embodying my invention, together with a pen cap of the usual type used therewith.

Fig. 2 is an exploded view of the several parts of the construction arranged in the order of their assembly.

Fig. 3 is a cross sectional view on line 3—3 of Fig. 1.

Fig. 4 is a cross sectional view on line 4—4 of Fig. 1.

Figs. 5 and 6 are views of the pen proper showing top and side appearance thereof.

Fig. 7 is a perspective view of the feed-plug shown on an enlarged scale.

Fig. 8 is a cross sectional view on line 8—8 of Fig. 7.

Fig. 9 is a cross sectional view on line 9—9 of Fig. 7.

Fig. 10 is a cross sectional view on line 10—10 of Fig. 7.

Fig. 11 is a longitudinal view, partly in section, of a feed-plug construction which embodies the main features of the plug shown in Fig. 7, and in addition thereto is provided with a number of circular grooves concentrically arranged in the outer surface of the conical portion of the plug, said grooves being narrow in width and practically serving as capillary tubes the ends of which are in open communication with the top and side slots which extend longitudinally.

20 indicates the barrel of the pen and 21 a short pen section which fits into the barrel in the usual manner.

23 indicates the cylindrical portion of the feed-plug carried by the section 21 and held by friction therein in adjusted relation.

The major portion of the feed-plug 23 is integral with the forward portion 24 which is conical in form and of less diameter from its point of junction to its extreme forward end 25.

The tapered forward conical portion 24 is provided with narrow slots 27 and 28 which extend from the forward end 25 to the point of junction 26 and entirely across from side to side of said portion, one of said slots being located at an angle of 90 degrees from the other, the slot indicated by 27 serving to receive and hold the flat shank of the pen 32' and the other slot 28 serving to conduct ink to the pen nibs.

Referring to Fig. 11, the construction shown differs from that shown in Fig. 7 in that the top slot 28 terminates a short distance from its outer end as illustrated, and extends in depth into open communication with the slot 27 only.

The feed-plug shown in Fig. 11 is also formed with a plurality of concentric circular grooves 40 hereinbefore described, arranged side by side and extending in rows from the outer end of the plug to the junction of the conical portion with the cylindrical portion of the plug, the arrangement being such that a supply of ink may be carried in the grooves in open communication with the feed slots, some of which are close to the nibs of the pen and insure to it a full supply of ink in the act of writing and also preventing the nibs from becoming dry when not in use.

29 indicate slots of small area, one or more of which are located in the outer surface of the cylindrical portion of the feed-plug, and serve to conduct ink from the reservoir to the slots 27 and 28 in the conical portion, and also serve to conduct air from the atmosphere to the reservoir, and by the use of a number of these slots the clogging of one of them will not prevent the proper feeding of ink therethru by one or more of the others.

I may also use a central feed passage 30 which extends centrally from the rear end of the plug to the slots 27 and 28 but where the side slots 29 are used the passage 30 may be dispensed with.

A conical ring 31 fits closely in frictional engagement over the outer surface of the conical portion of the feed-plug from its outer end nearly to the cylindrical section and serves to clamp the shank 32 of the pen in the slot 27, and its forward end serves as an abutment for the offset portions 33' of the nibs.

The conical ring 31 is clearly illustrated in Fig. 2, in which the ring is shown to be complete at

its forward end for a short distance and then slotted as shown at 32 thruout the remainder of its length, and is also provided with narrow slots 33 in one side as shown, said slots serving to hold a small supply of ink in open communication with the side slot 27 thus assuring a full flow of ink to the pen in the act of writing without danger of overflowing or flooding the pen, as will be readily understood by makers of fountain pens.

The extreme end 25 of the feed-plug rests normally under the nibs of the pen whereas the upper side is shortened and extends a short distance over the orifice 34 therein, as illustrated in Fig. 1, but I may extend both the upper and lower sides an equal distance to stiffen the action of the pen, if desired.

A conical shaped cover 36 encloses the feed-plug and is used to enclose the same only, its inner wall being spaced from the feed-plug and entirely disconnected therefrom.

By first removing the cover from the pen section 21, the feed-plug may be easily removed from the pen section.

When the conical ring 32 is attached to the conical section of the feed-plug shown in Fig. 11, the outer edges of the walls forming the grooves therein fit closely and frictionally engage the inner wall of the ring and hold it snugly in position to form closed grooves, and to clamp the jaws of the feed-plug firmly onto the shank of the pen proper.

To those skilled in the art to which this invention pertains, the construction and operation will be readily understood and the advantages thereof appreciated.

Having thus described my invention I claim as new:

1. A fountain pen comprising a barrel, a short pen section carried thereby, a feed-plug carried by said section having a portion extending therefrom of less diameter and conical in form, said conical portion having slots therein which extend from side to side thereof, one of which is adapted to receive the shank of a pen and another adapted to lead ink thru the plug to the pen, a ring fitting over the conical end of the feed-plug adapted to clamp the shank of a pen in said slot, and a cover carried by the pen section in detached relation to the feed-plug and extending therefrom to the nibs of a pen held in said feed-plug.

2. The construction defined in claim 1, together with, said feed-plug extending beyond the heart or orifice of a pen held thereby.

3. The construction defined in claim 1, together with, said ring being conical in form and extending from the forward end of the feed-plug to the pen section, and having a narrow slot extending from the ring portion to the larger end of the conical portion.

4. The construction defined in claim 1, together with, said ring being conical in form and having a portion conical in form extending therefrom to the larger end thereof, and having one or more narrow slots in a side thereof in open communication with the slots serving as passages for ink leading to the pen.

5. The construction defined in claim 1, together with, said feed-plug having a slot in its outer surface leading from the inner end of the plug to the slots in the conical portion.

6. The construction defined in claim 1, together with said feed-plug being cylindrical in form for a portion of its length and having a plurality of ink ducts formed in the outer surface thereof leading to the slots in the conical section.

7. A fountain pen comprising a feed-plug having a cylindrical portion and a conical portion integral therewith and extending therefrom, said cylindrical portion having a passage for ink leading from its inner end to said conical portion, said conical portion having a slot in its outer end adapted to hold the shank of a pen, and a slot adapted to lead ink from said passage in the cylindrical portion to the pen, a ring carried by the feed-plug for clamping the shank of a pen in said first named slot, and a cover of conical form enclosing said feed-plug and entirely detached therefrom.

8. The construction defined in claim 7 together with, said conical portion having a plurality of concentric grooves formed in its outer surface and in open communication with said passage for ink.

9. A fountain pen comprising a feed-plug having a conical portion with a slot in its outer end adapted to receive the shank of a pen, a ring carried by the feed plug for clamping the slotted portion of the feed-plug on the shank of a pen, said feed-plug having a passage for ink leading from end to end thereof, and a cover enclosing said feed-plug and entirely detached therefrom and extending thereover to its forward end.

10. A fountain pen comprising a feed-plug having a slot formed in one side thereof adapted to receive a flat shank of a pen in its outer end, and having a plurality of concentric grooves formed in an outer surface thereof and a slot in its upper side which intersects said grooves and is in open communication with said slot in the side, and a conical ring fitting over said grooves and slots serving to clamp said shank in fixed position in the feed-plug.

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