

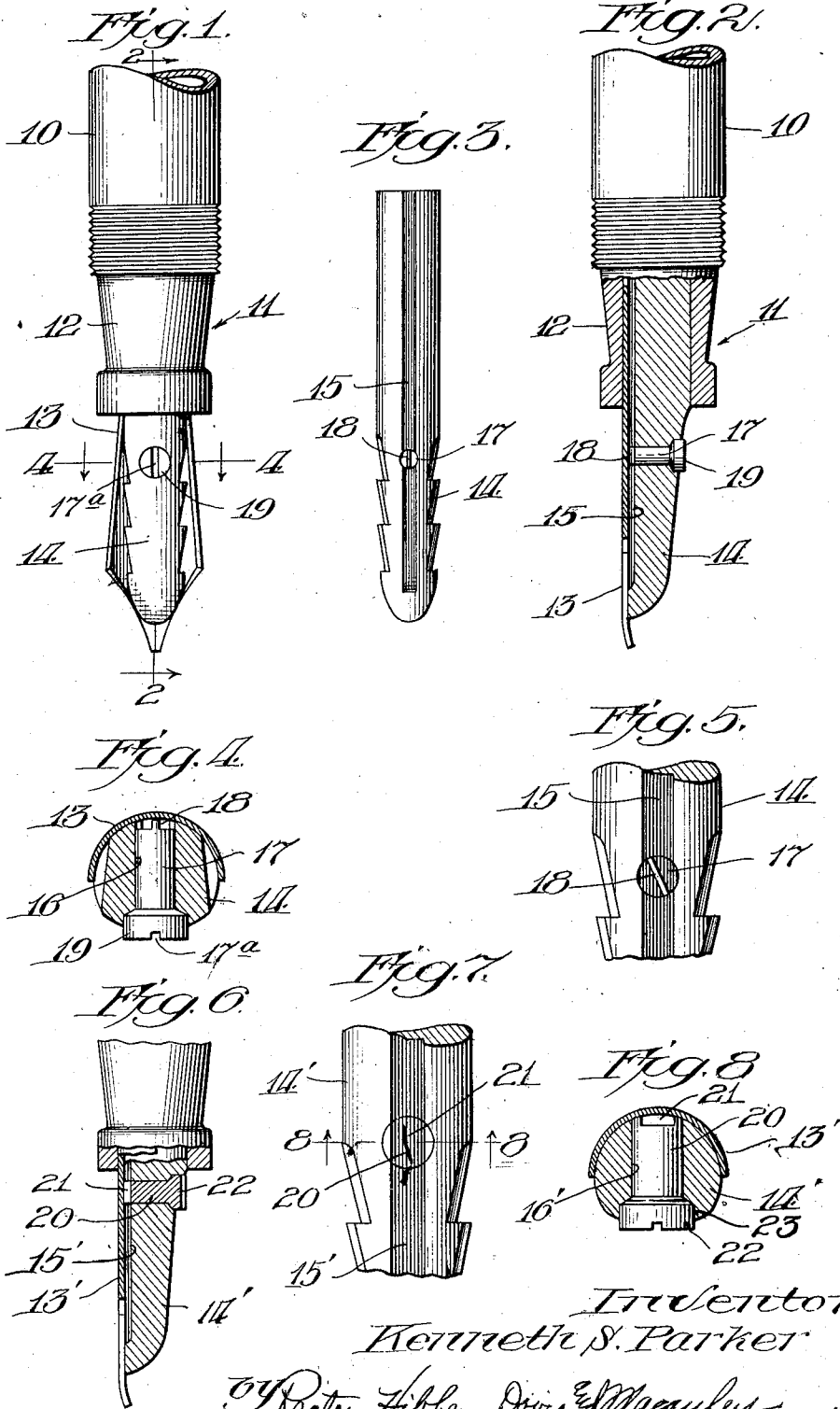
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ADJUSTABLE FEED FOR FOUNTAIN PENS

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UNITED STATES PATENT OFFICE

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ADJUSTABLE FEED FOR FOUNTAIN PENS

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My invention relates generally to fountain pens and has to do particularly with ink feed mechanism therefor.

It is well known that lack of uniformity in ink flow in fountain pens is occasioned by the different kinds of ink on the market which have widely varying flow characteristics, the different writing speeds of different users, the different writing touch of different users, and the different styles of pen points which may be used. The ideal feed would, obviously, be one in which the ink would be fed at the proper rate irrespective of the varying writing characteristics of different users and regardless of the speed of writing, writing touch, kind of ink, style of pen point, or any other feed-varying conditions. It will be appreciated that it would be impractical for the manufacturer of the pen to adjust the feed at the factory to suit the writing characteristics of all different users, and to meet all of the foregoing conditions.

The principal object of my invention, therefore, is to provide an adjustable feed for fountain pens which is of a character permitting adjustment by the user to regulate the ink feed to his own peculiar writing characteristics, including writing speed, writing touch, the form of the pen point, the kind of ink, etc.

Another and more specific object is to provide ink feed means including a feed bar having a feed channel therein and located immediately beneath the pen nib, and means readily accessible and adjustable in the feed channel which is adapted to restrict the flow of ink through the feed channel more or less, as best suited to the particular user.

Another object is to provide feed mechanism of the foregoing character which may be readily, and with a minimum of expense, added to fountain pen structures already in use.

Other and further objects and advantages will become apparent as this description progresses and by reference to the drawings wherein,—

ing a portion of one form of fountain pen embodying my adjustable feed invention;

Fig. 2 is a side elevational view, partially in section, of the structure shown in Fig. 1;

Fig. 3 is a top plan view of the feed bar shown in Figs. 1 and 2;

Fig. 4 is a vertical section taken substantially on line 4—4 of Fig. 1;

Fig. 5 is an enlarged top plan view of a portion of the feed bar structure of the previous figures, showing the feed adjusting means in position for restricting or cutting down the flow of ink through the feed channel;

Fig. 6 is an elevational view, partially in section, of a portion of a fountain pen embodying another form of my invention;

Fig. 7 is an enlarged top plan view of a portion of the feed bar shown in Fig. 6; and

Fig. 8 is a vertical section taken substantially on line 8—8 of Fig. 7.

Referring particularly to the pen structure shown in Figs. 1 to 5, it comprises a barrel 10 having a pen section 11, mounted in its lower or writing end. This pen section includes a nozzle 12 in which are mounted the nib 13 (of gold or other suitable material) and feed bar 14. The rearward portions of the nib and feed bar are similarly rounded in cross-section so as to fit each other, as shown best in Fig. 4. The feed bar has a longitudinal slot, which is of rectangular shape in cross-section, in its upper surface providing with the adjacent nib surface an ink feed channel or conduit 15. The fountain pen is preferably of the self-filler type and may be provided with any suitable form of filling mechanism (not shown) including an ink reservoir in communication with the ink channel 15. For example, the filling mechanism may be of the well known form including a collapsible ink sac mounted upon the nozzle 12 and constituting the ink reservoir together with means for depressing the sac.

My invention provides for accurate control of the feed of ink through the channel 15. To that end, the near mid-part of the feed bar 14, slightly outward from the nozzle 12, is provided with an opening 16 ex-

Figure 1 is a rear elevational view show-

tending from its under side into the feed channel. A cylindrical adjusting member 17 is rotatably mounted in the opening 16, the friction fit of this member being such that it will remain, normally, in any of its rotative positions. The inner end of this member 17 is provided with a diametrically-located rib 18 which is of a depth corresponding substantially to the depth of the ink feed channel. The end of this rib which lies adjacent the nib 13 is rounded to conform to the curvature of adjacent surface of the nib in whatever rotative position the rib 18 may assume, so that it takes a plan shape similar to the cross-sectional shape of the closed channel 15. The outermost end of the member 17 is provided with a slightly enlarged head 19 having a cross slot 17^a for engagement with a suitable device to rotate the member 17 and rib 18. The under or outermost part of the feed bar opening 16 is enlarged to snugly receive the head 19 in a somewhat countersunk fashion. This head 19 prevents the exertion of pressure upward on the nib 13 when pressure is applied to the member 17 to adjust the latter, thereby insuring against upsetting the desirable assembly relationship between the nib and feed bar, as well as preventing denting, or otherwise distorting, the nib.

In the use of my invention the ink flows from the reservoir through the feed channel 15 along the nib 13 in a manner well understood in the art. For a full, free flow of the ink, the member 17 is turned so that the feed-control rib 18 assumes a position centrally of the feed channel and parallel with the axis of the pen. If, for any reason, the user finds it advisable for his best writing purposes to reduce the ink feed, the rib 18 is turned diagonally of the feed channel, to desired extent, thereby restricting the ink flow. The rotative friction fit of the adjusting member 17 provides for the slightest of adjustments so that the user may regulate the ink flow to the most satisfactory feed point. This feed arrangement, further, provides the foregoing advantages without sacrificing or impairing any of the feed advantages offered by the highly efficient nib, feed bar and feed channel arrangement shown and described.

In Figs 6, 7, and 8 I have shown another form of my invention which is substantially the same as that of the previous figures except as to the detail construction of the adjustable feed member. Specifically, in this form, the feed bar 14' is provided with an opening 16' in which a rotatable feed member 20 is mounted. The inner end of the member 20 is rounded to conform to the curvature of the nib 13' in whatever rotative position it may assume. This rounded inner end of the member 20 is provided with a rectangularly-shaped slot 21 passing diametrically there-through, which slot is of the width of the feed

channel 15'. The outermost end of the member 20 is provided with an enlarged head 21, and the opening 16' is enlarged as at 23 to snugly and rotatably receive this head, as in the previously described form. When the adjusting member 20 is in the position shown in Figs. 6 and 7, the feed channel 15' is full open. To reduce the ink flow, the member 20 is turned so that the side walls of the slot 21 are diagonal to the feed channel side walls thereby restricting the ink passageway through the member 20. The operation of this form, except as above stated, is the same as the previously described form. In both forms shown and described, the adjustments may equally well be made to increase or decrease the ink flow as the conditions require.

The advantages of my invention will be obvious from the foregoing. By making the proper adjustment, the ink may be fed freely, regardless of the kind of ink, the writing speed, the writing touch, the kind of pen point, etc.

It will be understood that while I have shown and described only two forms of my invention, other changes in details and arrangement of parts may be made without departing from my invention as defined in the claims which follow.

I claim:

1. In a fountain pen, a pen section including a nozzle member, a feed bar mounted in said nozzle having an open-sided ink feed channel along one side thereof, a nib mounted in said nozzle and embracing said feed bar so as to cover and form a side of said ink channel, said feed bar having an opening therein extending from said feed channel to its opposite side, a member rotatably mounted in said opening and having a projecting part extending into said channel to adjacent said nib for regulating the flow of ink through said channel.

2. In a fountain pen, a pen section including a nozzle member, a feed bar mounted in said nozzle having an open-sided ink feed channel along one side thereof, a nib mounted in said nozzle and embracing said feed bar so as to cover and form a side of said ink channel, said feed bar having an opening therein extending from said feed channel to its opposite side, a member rotatably mounted in said opening and having a projecting part extending into said channel to adjacent said nib, upon rotation of said member said channel part thereof being adapted to assume a diagonal position with respect to the walls of said channel to restrict to any desired extent the flow of ink through said channel.

3. In a fountain pen, a pen section including a nib and feed bar, the feed bar being slotted on one side to form with said nib an ink feed channel, said feed bar having an opening leading to said channel, a member mounted in said opening, a valve element at

the end of said member and controlled thereby to control the flow of ink through said channel in cooperation with the wall of said bar slot and said nib, and means accessible to the user for rotation of said member.

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4. In a fountain pen, a pen section including a feed bar slotted on one side and a nib engaging the slotted part of said feed bar to form an ink feed conduit, and means rotatable in said conduit and cooperating with the adjacent walls of said nib and slotted bar to restrict to varying extents the ink flow path through said conduit.

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5. In a fountain pen, a pen section including a nib having its rear portion of rounded cross-section, a feed bar rounded to fit to the rounded part of said nib, said bar being slotted longitudinally beneath said nib to form with said nib an ink feed conduit, and means for controlling the flow of ink through said conduit comprising a member rotatably mounted in said feed bar, a part on said member and of a shape in plan of the cross-sectional shape of said conduit, and another part on said member accessible for rotation of said member.

In testimony whereof, I have subscribed my name.

KENNETH S. PARKER.

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