G. F. BRANDT.

FOUNTAIN PEN.

APPLICATION FILED MAR. 19, 1917.

1,267,624. Patented May 28, 1918.

Fig. 1.

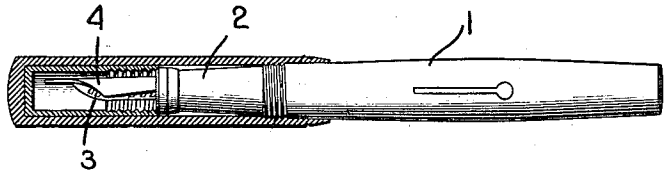


Fig. 2.

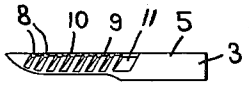


Fig. 3.

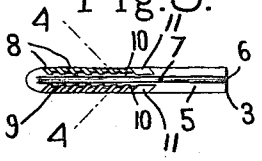
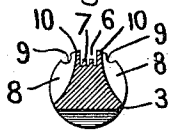


Fig. 4.



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UNITED STATES PATENT OFFICE.

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FOUNTAIN-PEN.

1,267,624. Specification of Letters Patent. Patented May 28, 1918.

Application filed March 19, 1917. Serial No. 155,654.

To all whom it may concern:

Be it known that I, GEORGE F. BRANDT, a citizen of the United States, residing at Boston, county of Suffolk, State of Massachusetts, have invented an Improvement in Fountain-Pens, of which the following description, in connection with the accompanying drawing, is a specification, like characters on the drawing representing like parts.

This invention relates to fountain pens and its object generally is to provide a novel and improved construction of feed.

The feed is that portion of the fountain pen which conducts the ink from the reservoir in the barrel to the nibs of the pen, and, in the usual construction the ink frequently flows too freely during its conduction from the barrel through the feed-bar to the pen. Various types of overflow pockets and wells have been provided in the feed-bar which communicate directly or indirectly with the groove in the feed-bar with the frequent result that the ink can easily flow to these pockets, be there briefly stored and suddenly dislodged in large blots. Broadly, to obviate this disadvantage there have been provided a plurality of grooves on each side of the feed-bar adjacent to, but not communicating with, the usual median groove which feeds the ink directly to the pen nibs. These grooves are preferably connected by a trough so they are intercommunicating.

Other objects and features of the invention will more fully appear from the following description and the accompanying drawings and will be pointed out in the annexed claims.

In the accompanying drawing there has been disclosed a construction designed to carry out the objects of the invention, but it is to be understood that the invention is not confined to the exact features shown, as various changes may be made within its reasonable scope.

In the drawings,

Figure 1 is a side elevation of the fountain pen with the cap shown in section;

Fig. 2 is a side elevation of the feed-bar;

Fig. 3 is a view of the grooved side of the same;

Fig. 4 is an enlarged sectional detail on the line 4—4 of Fig. 3.

In the selected embodiment shown in the drawings there is disclosed a fountain pen having the usual, generally cylindrical, barrel 1. The barrel may be of any suitable shape or type, self-filling or otherwise. The point section 2 of the barrel receives therein the feed which comprises the novel feed-bar 3 and the usual pen 4. The inner end 5 of the feed-bar is substantially cylindrical in shape and fits snugly within the point section 2. The pen 4 is placed upon the upper face of the feed-bar and also has its heel or end opposite the nibs snugly positioned within the end of the point section. This novel feed-bar has the usual median longitudinal groove 6 which extends from the end of the cylindrical portion 5 to a point adjacent the outer end and is here disclosed as having the usual groove slits 7. The function of this groove 6 is to provide a small duct to permit passage of ink from the supply in the barrel 1 to the nibs of the pen 4.

One important feature of this invention consists in the provision of a plurality of small grooves to take up and retain any abnormal flow of ink when the pen is in use—due to a variety of causes. For example, the sudden warming of the fountain pen by contact with the hand may cause a sudden expansion of the barrel content and result, as do sudden jars, in causing the feed-bar to become "flooded." These grooves are formed in the feed-bar, at its outer portion, and are thus beneath the pen 4 when the parts are assembled into a working device.

These grooves 8 in the preferred form shown are milled in the outer portion of the feed bar, are preferably parallel and are formed at an oblique angle to the main feed groove 6, and, as here shown, slant in a downward direction when the pen is held in normal working position. They function to retain and store any ink that may leak from the normal groove supply and to take up and retain any excessive flow and thus prevent flooding and the deposit of drops of ink on the writing surface. When the fountain pen is in inverted position, as for example, in a vest pocket, the angle of the grooves 8 aids the return of the ink to the supply in the barrel 1.

Preferably these grooves are made intercommunicating. A selected embodiment of such novel structure is best disclosed in Figs.

3 and 4 wherein troughs 9 are cut substantially paralleling the median longitudinal groove 6. One such trough is provided on each side of the groove 6 and connects each side series of grooves 8. The troughs are comparatively shallow cuts extending across the ribs 10 which separate the grooves 8. By this provision, the complete filling of one groove while the others are empty is prevented, as the filled groove may communicate a portion of its excessive supply to the adjacent groove on the same side. Similarly, facility of re-flow to the barrel 1 is afforded. These intercommunicating troughs 9 do not communicate with the median groove and preferably extend only from the first to the last groove 8. In this embodiment of the invention there is preferably employed a pair of supplementary channels 11. These supplementary channels are each relatively enlarged and are capable of holding a greater quantity of surplus ink than any of the similar grooves 8. The troughs 9 extend and connect these supplementary channels 11 with the grooves 8. These relatively large supplementary channels 11, which thus communicate with all the grooves on the same side of the main groove serve as a supplementary well for the holding of any surplus ink. They are particularly useful when excessive flooding of a pen occurs due to the rapidity of ink flow when the supply is approximately exhausted.

While there has been shown herein a selected embodiment of the invention, it is to be understood that the construction is illustrative but not restrictive and that the same may be modified within the meaning and scope of the claims which follow.

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

1. A fountain pen including a feed bar having a longitudinal feed-groove and having a plurality of grooves independent of said feed-groove on either side thereof, and troughs extending longitudinally of and effecting direct intercommunication between said grooves.

2. A fountain pen including a feed bar having a longitudinal feed-groove along the median of its upper face and having a plurality of grooves diagonally cut in each side of the bar adjacent said upper face, said grooves being independent of said feed-groove, and troughs extending longitudinally of and effecting direct intercommunication between said grooves.

3. A fountain pen including a feed bar having a longitudinal feed-groove along the median of its upper face, a plurality of grooves cut in each side of the bar, each groove extending from a point adjacent the feed-groove and non-communicating therewith to a point adjacent the under face of the bar, and a longitudinal trough extending on each side of the feed-groove intersecting each groove whereby the grooves on each side are intercommunicating.

4. A fountain pen including a feed-bar having a longitudinal feed-groove along the median of its upper face, a plurality of grooves cut in each side of the bar adjacent said upper face, an enlarged supplementary channel at each side of the feed-groove and nearer the inner end of the feed bar, and a longitudinal trough on each side of the feed groove and connecting the grooves and the channel on each side.

5. A fountain pen including a feed bar having a longitudinal feed-groove along the median of its upper face, a plurality of grooves in each of the sides of the bar adjacent said feed-groove, said grooves being formed in said sides at an acute angle to the downward working flow of the ink so that any surplus may readily flow into the grooves and re-flow to the barrel supply when the fountain pen is held in normal inverted position, and troughs extending longitudinally of and effecting direct intercommunication between said grooves.

In testimony whereof I have signed my name to this specification.

GEORGE FRANKLIN BRANDT