

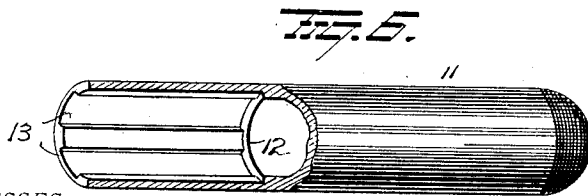
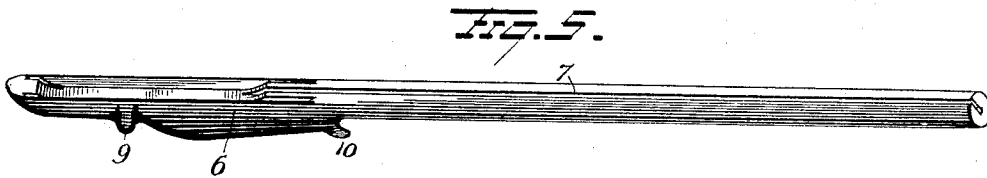
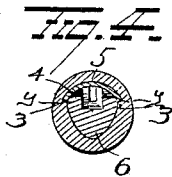
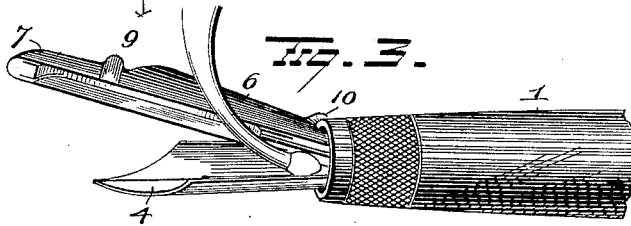
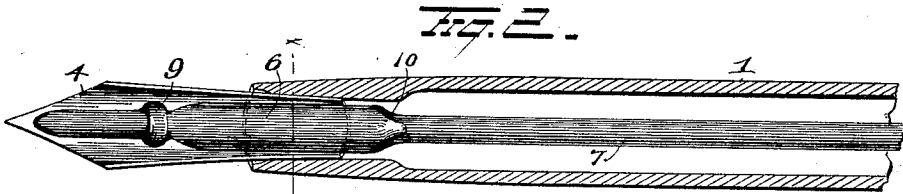
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Patented Nov. 19, 1901.

J. F. BETZLER.
FOUNTAIN PEN.

(Application filed June 4, 1901.)

(No Model.)



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FOUNTAIN-PEN.

SPECIFICATION forming part of Letters Patent No. 686,920, dated November 19, 1901.

Application filed June 4, 1901. Serial No. 63,139. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH F. BETZLER, a resident of Akron, in the county of Summit and State of Ohio, have invented certain new and useful Improvements in Fountain-Pens; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to an improvement in fountain-pens, the object of the invention being to provide a pen of this character in which a rigid support will be provided for the pen and the latter not dependent in the slightest upon the feed-tube for its support in the holder.

A further object is to provide a fountain-pen at one end with a bore or opening of such peculiar shape as to form a rigid support for the pen independent of the feed-tube and prevent rotary movement of the latter.

A further object is to provide a fountain-pen with improved means for insuring the proper relative positions of the pen and feed.

With these objects in view the invention consists in certain novel features of construction and combinations and arrangements of parts, as will be more fully hereinafter described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a view in elevation of my improved pen complete. Fig. 2 is a view in longitudinal section of the same on the line *yy* of Fig. 4, with the feed-tube shown in elevation. Fig. 3 is a view of the pen, showing the parts in position for filling the reservoir. Fig. 4 is a view in section on the line *xx* of Fig. 2. Fig. 5 is a view of the feed-tube removed, and Fig. 6 is a view in section of the cap removed.

1 represents the tubular penholder or ink-reservoir, which is preferably of hard rubber and made into one integral tubular reservoir closed at one end and slightly contracted at its open end. This penholder or ink-reservoir 1 may, however, be made in two sections screwed together, but will operate with equal effectiveness if made jointless into one integral tube, as shown. The opening or bore in the end of tube 1 is made in cross-section in the peculiar shape shown in Fig. 4, wherein

shoulders 3 are formed at opposite sides of the bore to receive the side edges of pen 4, and the upper portion 5 thereof is curved in the arc of a circle conforming to the curve of the pen, so that when the latter is forced into place it will be held tightly on shoulders 3 and flush against the curved top 5 in the natural shape of the pen without cramping or distorting it and be held in place independent of other means.

The lower portion of the bore of penholder 1 is closed by the enlarged portion 6 of feed-tube 7, which latter is somewhat elastic and preferably made long, extending a considerable distance into the reservoir and made with an ink-channel along its upper face and projecting out to near the point of pen 4. An enlargement or lip 9 is made on the outer end of tube 7 to afford a shoulder to receive the thumb-nail of the operator and facilitate the removal or replacement of the feed-tube. A lip 10 is provided on the inner end of enlargement 6 to rest over the end of the penholder and hold the feed-tube in position for filling the reservoir, and said enlargement 6 is preferably made beveled on its lower face at its inner end, so as to have a form resembling one-half of a wedge, as shown, to tightly wedge itself in the holder and hold the ink-channel tight against the pen and also to permit adjustment of the feed-tube relatively to the pen. It will be seen that as the enlarged portion of tube 7 is not a perfect circle in cross-section, nor is the bore of the penholder into which it fits, there is no possibility of the feed-tube being inserted improperly and the perfect operation thereof will be insured.

A suitable cap 11 is provided for inclosing the pen and is preferably made with an internal shoulder 12 and longitudinal grooves 13 from its open end to the shoulder 12, the latter striking against the end of the penholder and limiting the movement of the cap, hence dispensing with the necessity of providing a shoulder on the penholder and the grooves serving to permit the escape of air when the cap is placed over the end of the reservoir to prevent the formation of an air-cushion within the cap.

When it is desired to fill the pen, it is simply necessary to force the feed-tube outward by

inserting the thumb-nail behind the lip 9, and as of course the pen can be filled with the feed-tube entirely removed, still this is not necessary nor, in fact, desirable, as air-bubbles are liable to form when the end of the tube is open, this being entirely obviated by simply withdrawing the feed-tube far enough to entirely remove the enlargement 6, resting lip 10 over the end of the reservoir and, if necessary, pressing the projecting portion of the feed-tube outwardly from the pen and then forcing the ink against the inner contracted end of the feed-tube by any suitable device, the ink following the tube down into the reservoir, and when the pen is properly filled the feed-tube can be forced into its proper position by slight pressure on lip 9 after lip 10 has been released from the end of the reservoir, and hence the operation of filling can be quickly accomplished without danger of getting ink on the fingers or clothes of the operator.

As fountain-pens have heretofore been constructed the pen is usually (and particularly on such with under feed) set into screw-section on end of barrel or tube or feed by means of a round opening. The pen, not being the same shape as the receptacle, in time forces the softer article to the shape thereof, and thereby makes the whole device more or less useless. With my improvements the pen is held in its natural position against the top of penholder by the shoulders 3 and there is no danger whatever of wear.

Various slight changes might be made in the general form and arrangements of the several parts described without departing from the spirit and scope of my invention, and hence I would have it understood that I do not wish to limit myself to the precise details set forth, but consider myself at liberty to make such slight changes and alterations as fairly fall within the spirit and scope of my invention.

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

1. A fountain-pen having an opening in one end to receive the pen and feed-tube, a curved seat for the pen in the wall of said opening and shoulders at the sides of said seat to receive the side edges of the pen so as to firmly seat the pen in said opening independently of the feed-tube.

2. A fountain-pen having an opening in one end to receive the pen and feed-tube, shoulders formed in the open end of the penholder

constituting bearings for the side edges of the pen to firmly hold it against displacement in the upper portion of said opening independent of the feed-tube.

3. A fountain-pen having an opening in one end to receive the pen and feed-tube, said feed-tube provided with a portion having an eccentric contour and a portion of the wall of said opening forming a seat for the pen and another portion of the wall of the opening being eccentric in conformity to the eccentric contour of the feed-tube, so as to support the feed-tube independently of the pen and prevent rotary motion of said feed-tube.

4. A fountain-pen having an opening in one end, shoulders in the open end of the fountain-penholder to firmly hold the pen in its natural position in the top portion of said opening, and an enlargement on the feed-tube snugly fitting the said open end, and said enlargement being beveled substantially as described.

5. In a fountain-pen, the combination with a reservoir and cap therefor, of an annular shoulder in the cap to strike against the end of the reservoir and limit the movement of the cap, said cap having grooves extending from the open end thereof to said shoulder.

6. In a fountain-pen, the combination with a reservoir and a feed-tube, of a lip on the feed-tube normally disposed within the reservoir and adapted to rest against the mouth or end of the reservoir during the filling operation.

7. In a fountain-pen, the combination with a tubular holder having an opening in one end, and a pen supported in the wall of said opening, of a longitudinally-movable feed-tube supported in the holder independently of the pen and having a beveled face to engage the holder and control the relation of said feed-tube to the pen.

8. In a fountain-pen, the combination with a tubular holder having an opening in one end and a pen supported in the wall of said opening, of a feed-tube supported independently of the pen and adjustable longitudinally of and also at right angles to the face of the pen.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

JOSEPH F. BETZLER.

Witnesses:

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LEORA E. BACHTEL.