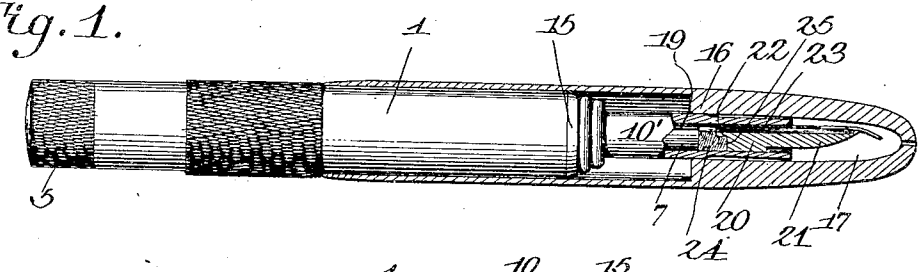
No. 808,880. PATENTED JAN. 2, 1906.

J. A. L. SNYDER.

FOUNTAIN PEN.

APPLICATION FILED JAN. 17, 1905.

Fig. 1.



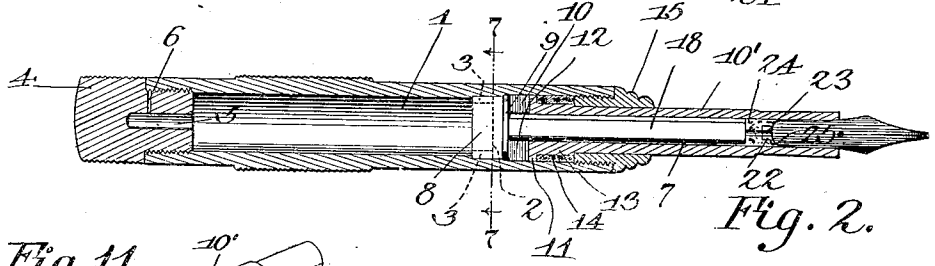


Fig. 2.

Fig. 11.

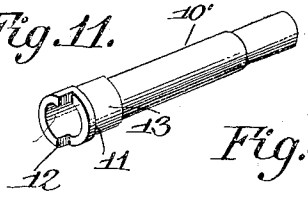


Fig. 3.

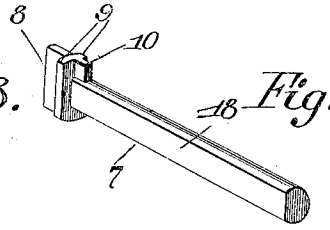
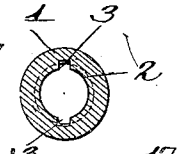


Fig. 7.



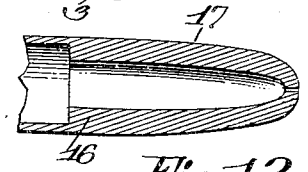


Fig. 12.

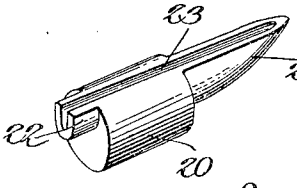


Fig. 6.

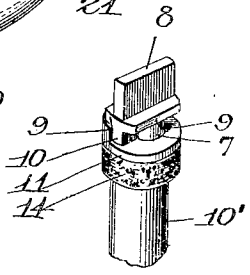


Fig. 5.

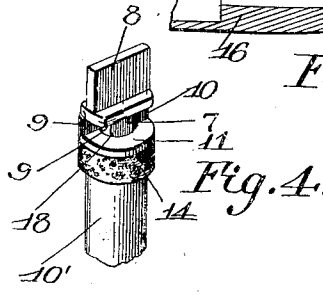


Fig. 4.

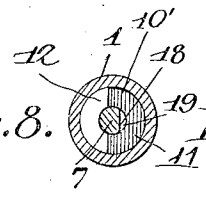


Fig. 8.

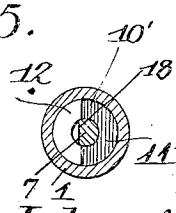


Fig. 9.

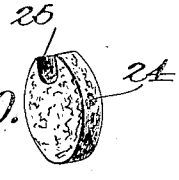


Fig. 10.

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UNITED STATES PATENT OFFICE.

JOHN A. L. SNYDER, OF SOMIS, CALIFORNIA.

FOUNTAIN-PEN.

No. 808,880. Specification of Letters Patent. Patented Jan. 2, 1906.

Application filed January 17, 1905. Serial No. 241,483.

To all whom it may concern:

Be it known that I, JOHN A. L. SNYDER, a citizen of the United States, residing at Somis, in the county of Ventura and State of California, have invented a new and useful Fountain-Pen, of which the following is a specification.

This invention relates generally to fountain-pens, and particularly to that class wherein means is provided for controlling the feed of ink to the pen-point.

The objects of the invention are in a novel manner to render unnecessary the removal of any of the parts of the pen to regulate the supply of ink, either to increase or to diminish, or, when desired, wholly to discontinue its flow; to establish a feed of ink to the pen-point in the act of removing the cap or closure and to discontinue the feed in the act of replacing it; to regulate the supply of ink as requisite; to prevent bleeding; to obviate any tendency of the ink to clog the ink ducts or channels; to permit ready cleansing of the parts when necessary; to allow bodily disconnection of the pen and its feed from the barrel when required; to facilitate filling; to adapt the pen to be carried in any position either vertical or horizontal, and generally to improve fountain-pens of the character described.

With the above and other objects in view, as will appear as the nature of the invention is better understood, the same consists, generally stated, in a fountain-pen embodying a barrel, an ink-feeder rigid therewith, a penholder inclosing a portion of the ink-feeder and adapted for rotary movement thereon, a pen-feeder combined with the penholder, and a cut-off interposed between the pen-feeder and the ink-feeder. The construction and coöperation of the parts is such that when the penholder is turned in one direction a flow of ink will be supplied from the barrel by the ink-feeder to the pen-feeder, and when turned in the other direction, the supply of ink will positively be cut off, thereby to prevent any bleeding of the pen when carried in the pocket. The cut-off between the pen-feeder and ink-feeder is yielding in character, so that without undue friction, and thus resistance in turning, a positive seal will be secured between the parts.

Another feature of the invention resides in making the penholder with the pen-feeder and ink-feeder bodily detachable from the barrel, thereby to permit ready filling of the barrel and also to facilitate the cleansing of the parts.

Another feature of the invention resides in the fact that the barrel is adapted to be opened at both ends, the plug or closure employed in connection with the upper end of the barrel, or that opposite the pen-point, permitting ready filling of the pen from that end, thereby obviating the necessity of removing the penholder and its combined parts for this purpose.

Further and more specific details of construction will hereinafter fully appear.

In the accompanying drawings, forming a part of this specification, and in which like characters of reference indicate corresponding parts, there is illustrated one form of embodiment of the invention capable of carrying the same into practical operation, it being understood that the elements therein exhibited may be varied or changed as to shape, proportion, and exact manner of assemblage without departing from the spirit thereof.

In the drawings, Figure 1 is a view in elevation, partly in section, of a fountain-pen constructed in accordance with the present invention. Fig. 2 is a view in vertical longitudinal section throught the pen proper, the cap or closure being removed. Fig. 3 is a perspective detail view of the ink-feeder. Fig. 4 is a perspective detail view of a portion of the penholder and ink-feeder, showing the position occupied by the latter when ink is supplied to the pen-point. Fig. 5 is a similar view showing the position of the part similar view showing the position of the parts when the supply of ink is cut off. Fig. 6 is a perspective detail view of the pen-feeder. Fig. 7 is a transverse sectional view taken on the line 7 7, Fig. 2, the ink-feeder being omitted. Fig. 8 is a sectional detail view showing the position of the ink-feeder when the supply of ink is cut off. Fig. 9 is a similar view showing the position of the ink-feeder when the ink is fed to the pen. Fig. 10 is a perspective detail view of the cut-off between the ink-feeder and pen-feeder. Fig. 11 is a perspective detail view of the penholder. Fig. 12 is a sectional detail view of a portion of the cap or closure, showing the means combined therewith by which the penholder may be rotated to effect opening or closing of the ink-duct.

Referring to the drawings, 1 designates the barrel of the pen, which is provided on the in-

ner side of each terminal with threads and intermediate of its ends with a circumferential shoulder 2, having oppositely-disposed recesses 3. The end of the barrel that will be the upper one in use is closed by a threaded plug 4, having a longitudinal bore 5, intersecting which is an air-vent 6, the latter being provided to permit the escape of caged air when the plug is screwed home, thereby to prevent bleeding. This plug is readily detachable from the barrel and is removed when ink is to be supplied thereto, thereby obviating the necessity of removing the penholder and the ink-feeder, as will hereinafter more fully appear.

Arranged within the end of the barrel that will be the lower one in use is the ink-feeder, which comprises a shank 7, a head 8 to engage the recesses 3, a pair of shoulders 9 at the base of the head to contact with the shoulder or stop 2, and thus limit the insertion of the ink-feeder, and an abutment 10, disposed at right angles to the length of the shank and adjacent to the shoulders. The ink-feeder when positioned within the barrel is rigid or stationary relatively thereto, and the term "stationary" hereinafter employed in defining the ink-feeder is to be understood as meaning fixed relatively to the barrel. By preference all of the parts of the ink-feeder are made integral; but, if preferred, they may be made as separate elements and assembled, and as this will be readily understood detailed illustration of such arrangement is deemed unnecessary.

The shank is housed by a penholder 10′, which is provided at its inner end with an annular head 11, having at one side of its bore a segmental stop 12, which when the penholder is rotated engages with the abutment 10, and thus limits the rotation of the penholder on both movements either to establish a flow of ink to the pen-point or to cut it off. Adjacent to the head 11 the holder is slightly reduced in cross-diameter to form a bearing 13 to receive a packing 14, which may be of cork, as shown, or of any other suitable compressible and liquid-proof material, this packing being engaged by the inner end of a collar 15, engaging the threads at the outer end of the barrel and serving to compress the packing, and thus expand it laterally to produce an ink-tight joint between it and the inner wall of the barrel. From the bearing 13 the holder is slightly reduced in cross-diameter and fits snugly within the collar 15, and this reduced portion is frictionally engaged by an internal collar 16, formed on the inner wall of the cap 17, the collar operating to rotate the penholder when the cap is positioned or removed, the twisting movement given to the cap in either of these operations serving to secure the function designed. This feature is one of importance, inasmuch as it renders unnecessary any turning of the holder by hand and further insures the cutting off of the supply of ink when the cap is replaced, which might otherwise be overlooked by the user if dependence had to be placed upon the manual operation of the penholder when the user was through with the pen. As shown in Fig. 3, the shank is a segment in cross-section, and its chord 18, in conjunction with the inner wall of the penholder, forms an ink-channel 19, Figs. 8 and 9, through which the ink passes from the barrel into the penholder.

In the lower end of the penholder is arranged the pen-feeder which comprises, as usual, a cylindrical body portion 20 to engage frictionally with the inner walls of the penholder and a beak 21, and in addition to these features, which are common to most pen-feeders, there is combined with the body at the end opposite the beak a teat or extension 22, which, as well as the body and the beak, is provided with an ink-channel 23, that terminates at a point near the end of the beak. The teat is provided to hold in position a cut-off 24, which is disposed between the pen-feeder and the outer terminal of the ink-feeder. This cut-off may be constructed of any suitable material, preferably of rubber or cork, and is provided in its periphery with a semicircular recess 25, which engages the teat 22, the coaction between the teat and recess operating to prevent the cut-off from turning when the penholder is revolved. In addition to performing the function of a cut-off the part 24 also serves when the penholder is revolved to rub off from the end of the ink-feeder any accumulation of ink which might operate to clog the ink-channel 19.

The shank 7 fits the inner wall of the bore of the penholder with sufficient frictional resistance as to remain combined therewith when the penholder is removed, thereby obviating the necessity of catching hold of the shank, which would be objectionable on account of soiling the hands. Thus when the collar 15 is detached from engagement with the barrel a slight outward pull upon the penholder will remove it and the ink-feeder, thereby leaving the interior of the barrel free for purpose of cleansing or otherwise.

One of the principal features of this invention is the provision of the collar 16 upon the cap or closure 17, which by frictional engagement with the penholder will result in turning the same, and thus positively insure the cutting on or off of the supply of ink to the pen-point.

Of course it is to be understood that the penholder may be adjusted by the fingers to regulate the supply of ink in case the same be so copious as to cause bleeding, but under ordinary circumstances the adjustment of the penholder by the cap relatively to the ink-feeder will be effective in supplying the proper amount of ink.

While the improvements herein described

and illustrated are thoroughly effective in use and will secure the functions designed, it is to be understood in practice that changes and modifications as to the structural arrangement of the parts may be adopted and still be within the scope of the invention.

Having thus described the invention, what is claimed is—

1. A fountain-pen embodying a revoluble penholder, a stationary ink-feeder housed thereby and having a reduced side constituting an ink-channel in conjunction with the inner wall of the penholder.

2. A fountain-pen embodying a revoluble penholder provided with a cut-off, a stationary ink-feeder housed thereby and coacting with the cut-off, and a cap provided intermediate of its ends with means to engage the penholder to effect its turning when being applied or removed.

3. In a fountain-pen, the combination of a penholder, an ink-feeder arranged therein, a pen-feeder provided at its inner end with a teat, and a cut-off interposed between the pen-feeder and the ink-feeder and held from rotation by the teat.

4. In a fountain-pen, an ink-feeder, a penholder coacting therewith to control the flow of ink to the pen, and a cap or closure provided intermediate of its ends with means to actuate the holder.

5. A fountain-pen having a stationary ink-feeder, a revoluble penholder, a pen-feeder rigid with the holder, a cut-off interposed between the pen-feeder and the ink-feeder and held against rotation by the former.

6. A fountain-pen comprising a barrel, an ink-feeder rigid therewith, a penholder revolubly mounted upon the ink-feeder, a collar combined with the barrel and holder to maintain the latter in operative position, a pen-feeder carried by the penholder, and a cut-off disposed between the ink-feeder and pen-feeder.

7. A fountain-pen comprising a barrel, an ink-feeder rigid therewith, a penholder revolubly mounted upon the ink-feeder and carrying a packing, a collar combined with the barrel and engaging the packing to present an ink-tight joint, a pen-feeder carried by the penholder, and a cut-off combined with the pen-feeder and coacting with the ink-feeder.

8. A fountain-pen comprising a barrel open at both ends and provided intermediate of its ends with a shoulder or stop having recesses, a removable plug combined with one end of the barrel, an ink-feeder combined with the other end of the barrel and provided with a head to engage the said recesses, and with an abutment, a penholder revolubly mounted upon the ink-feeder and having a segmental stop to engage the abutment, a collar combined with the barrel for holding the penholder in position thereon, a pen-feeder carried by the penholder, and a cut-off interposed between the ink-feeder and the pen-feeder.

9. The combination with a barrel or ink-reservoir provided with interior recesses, of an ink-feeder reduced on one side to form a longitudinal ink-passage, and with one terminal constructed to engage the recesses, a penholder to inclose the feeder, and means to permit a partial revolution of the holder to open and close the ink-passage.

10. The combination with an ink-reservoir provided with interior recesses, of an ink-feeder constructed with a part to fit within the recesses, and with a projecting abutment, and a penholder provided at one end with a segmental stop to coöperate with the abutment to limit the rotary movement of the penholder to a partial revolution in either direction.

11. The combination with an ink-reservoir provided with interior recesses, of an ink-feeder constructed with a part to fit within the recesses and with a projecting abutment, a penholder provided with a segmental stop at its inner end, and a threaded collar to secure the penholder to the adjacent end of the reservoir.

12. The combination with a barrel provided with interior recesses, of an ink-feeder longitudinally reduced at one side to form an ink-passage and constructed with a part to fit within the recesses, and with projecting abutment, a penholder having a segmental stop at one end, means to connect the penholder and barrel and a pen-feeder to fit within the holder and provided with a longitudinal ink-passage.

13. The combination with a barrel, of a stationary ink-feeder arranged therein and forming an ink-passage in conjunction therewith, a penholder detachably connected with the barrel and within which the feeder extends, means to permit a partial revolution only of the holder about the feeder, and a pen-feeder removably secured within the outer end of the holder and formed with a longitudinal groove or passage to register with the ink-passage in said holder.

14. A fountain-pen comprising a barrel provided intermediate of its ends with recesses, an ink-feeder provided with a head to engage the recesses and with means to limit its insertion within the holder, a penholder revolubly mounted upon the feeder, and means to maintain the holder against longitudinal movement relatively to the feeder.

15. A fountain-pen embodying a revoluble penholder, a stationary ink-feeder housed thereby and having a reduced side constituting an ink-channel in conjunction with the inner wall of the penholder, and a cap having means to engage frictionally with the penholder to effect turning thereof.

16. A fountain-pen having a stationary ink-

feeder, a revoluble penholder, a pen-feeder rigid with the holder, a cut-off interposed between the pen and feeder and held against rotation by the former, and a cap having means coacting with the penholder to effect its rotation to control the feed of ink.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

JOHN A. L. SNYDER.

Witnesses:
F. A. SNYDER,
H. C. BEASLEY.