B. T. NEDLAND.

FOUNTAIN PEN.

APPLICATION FILED JUNE 13, 1916.

1,262,547. Patented Apr. 9, 1918.

Fig. 1,

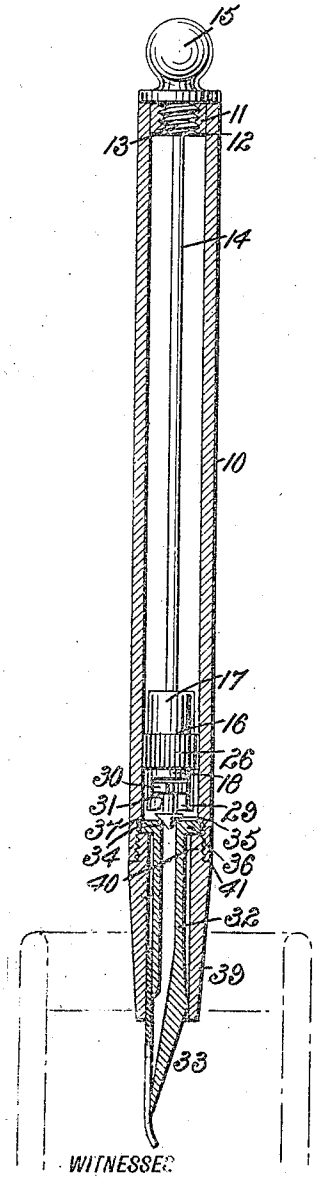


Fig. 2,

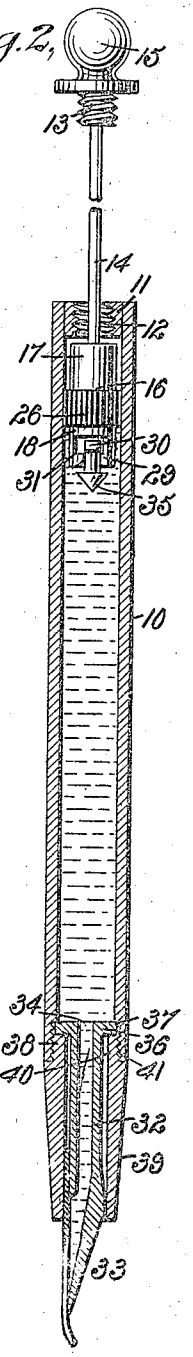


Fig. 3,

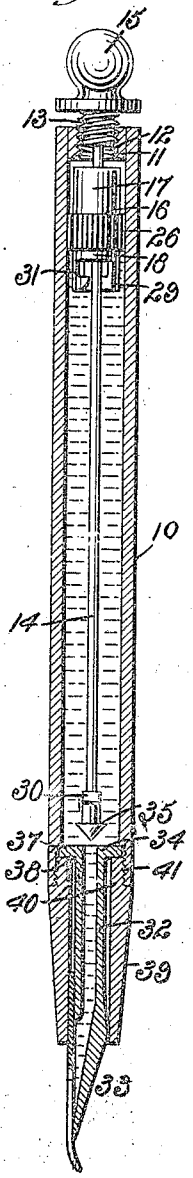


Fig. 4,

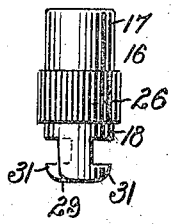


Fig. 5,

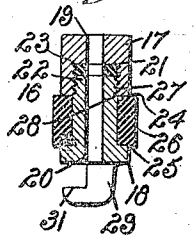
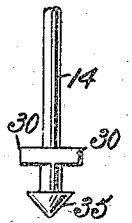


Fig. 6.



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FOUNTAIN-PEN

1,262,547. Specification of Letters Patent. Patented Apr. 9, 1918.

Application filed June 13, 1916. Serial No. 103,464.

To all whom it may concern:

Be it known that I, BERENT TOLLAKSON NEDLAND, a citizen of the United States, and a resident of Hillsboro, in the county of Traill and State of North Dakota, have invented a new and Improved Fountain-Pen, of which the following is a full, clear, and exact description.

My invention has for its object to provide a fountain pen with a feeder in the form of a hollow tube and which has at its inner end a valve seat which may be closed by a valve with which the pen is provided, it being possible by this means to absolutely seal the feeder at its inner end when the pen is not in use.

Another object of the invention is to so construct the plunger that leakage at the rod and around the plunger may be prevented.

Still another object of the invention is to detachably secure a nozzle at one end of the barrel, a pen being disposed through the nozzle and having a flange which is pressed by the nozzle against a shoulder on the barrel.

Still other objects of the invention will appear in the following specification, in which the preferred form of the invention is disclosed.

In the drawings similar reference characters denote similar parts in all the views, in which—

Figure 1 is a view showing a sectional elevation of the fountain pen;

Fig. 2 is a view similar to that shown in Fig. 1, but with the plunger in the position which it assumes when it has been moved to draw ink into the barrel of the fountain pen, the rod being shown in the position which it assumes when it is to be freed from the plunger;

Fig. 3 is a sectional view, illustrating the position of the plunger and the valve carried by the rod, when the pen is to be used;

Fig. 4 is a view illustrating the plunger;

Fig. 5 is a sectional view of Fig. 4; and

Fig. 6 is a fragmentary view of the rod illustrating the flanges and the puppet valve mounted thereon.

By referring to the drawings, it will be seen that the fountain pen is provided with a barrel 10, one end of which is closed by a plug 11 having a threaded opening 12 in which a thread 13 is adapted to mesh, this thread 13 being mounted on a rod 14, the rod 14 being mounted on a head 15 by which it may be operated. Disposed within the barrel 10 and mounted on the rod 14 there is a plunger 16, this plunger 16 being constructed in two sections 17 and 18, the section 17 having an orifice 19, and the section 18 having an orifice 20. These orifices 19 and 20 are in alinement with each other, the rod 14 being disposed through the said orifices. The section 17 has an inner shoulder 21, and the section 20 has an inner shoulder 22, packing 23 being disposed between these shoulders. The section 17 also has an outer shoulder 24, and the section 18 has an outer shoulder 25, a packing 26 being disposed between the said shoulders 24 and 25. The section 17 has an inner thread 27, and the section 18 has an outer thread 28, and when the sections 17 and 18 are connected together as illustrated in Fig. 5 of the drawings, it will be understood that the packing 23 and the packing 26 will be compressed, the packing 23 being by this means pressed against the rod 14, and the packing 26 being pressed against the inner sides of the barrel 10. By this means, leakage between the plunger 16 and the rod 14, and the plunger 16 and the barrel 10, will be prevented. The rod 14 may move freely through the orifices 19 and 20 in the plunger 16, but when desired, the plunger 16 may be operated by the rod 14.

The means which I provide by which the plunger 16 may be operated by the rod 14, are best illustrated in Figs. 4 and 5 of the drawings. It will be seen that the plunger 16 has a longitudinally extending slot 29 in which the flanges 30 on the rod 14 may move. The slot 29 has laterally extending portions 31 in which the flanges 30 may move to detachably secure the plunger 16 to the rod 14. It will be seen that the construction is such that there is no danger of the parts becoming inoperative because of ink drying thereon; and, this being so, the plunger 16 may be attached to and detached from the rod 14 at any time, as occasion may require.

When ink has been drawn into the barrel 10 of the fountain pen by an upward movement of the plunger 16, as illustrated in Fig. 2 of the drawings, the rod 14 is rotated relatively to the plunger 16 so that the rod 14 may be freed from the plunger and may be pressed down. The pen may now be operated, as the ink will flow from the barrel 10 through a feed passage 32 in the feed 33, but when desired the flow of ink from

the barrel 10 into the feed passage 32 may be regulated, since the feed 33 at the inner end of the feed passage 32 is provided with a valve seat 34, against which a puppet valve 35 on the rod 14 may be moved, it being understood that when the puppet valve 35 is disposed in close proximity to the valve seat 34, the flow of ink from the barrel 10 to the feed 33 will be limited. On the other hand, when the valve 35 is moved a considerable distance from the valve seat 34, the ink may flow more freely to the feed passage 32. When the pen is not to be used, the valve 35 may be moved against the feed passage 34, thereby preventing any escape of ink from the barrel 10. Inasmuch as the position of the rod 14 may be regulated by the thread 13 therein, which meshes with the threaded opening 12 in the plug 11, it will be understood that the valve 35 may be secured in adjusted position.

The feed 33 is provided with an outwardly extending flange 36 which is held against an inner shoulder 37 on the barrel 10 by the end 38 of a nozzle 39, the feed 33 extending through this nozzle, and the said nozzle being secured to the barrel 10 by means of its outer thread 40 which meshes with an inner thread 41 of the barrel. By this means, the feed 33 may be readily detached from the barrel 10 when desired.

It will be understood that any desired form of protecting cap may be used to inclose the feed 33.

The pen may of course be used with the valve seat 34 closed by the valve 35, as there will be sufficient ink in the feed passage 32 to permit this.

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

1. In a fountain pen, a barrel having a shoulder at one end, a nozzle adapted to be disposed at the said end of the barrel and having means by which it may be secured thereto, a feeder in the form of a hollow tube disposed in the nozzle and having at its inner end a valve seat and an outer flange for disposal between the inner end of the nozzle and the shoulder by which the feeder may be held in place, and a valve in the barrel for coöperating with the valve seat for closing the inner end of the feeder.

2. In a fountain pen, a barrel, a feeder in the form of a hollow tube at one end of the barrel provided at it. inner end with a valve seat, a nozzle secured to the said end of the barrel and having means for holding the feeder in place, and a valve in the barrel for coöperating with the valve seat for closing the inner end of the feeder.

BERENT TOLLAKSON NEDLAND.