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B. CHOLET
FOUNTAIN PEN
Filed April 6, 1959

2,996,750

FIG. 1

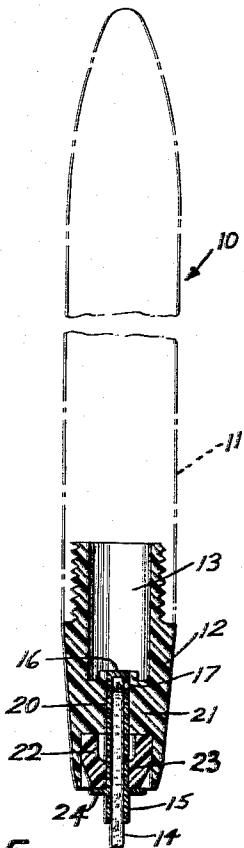


FIG. 2

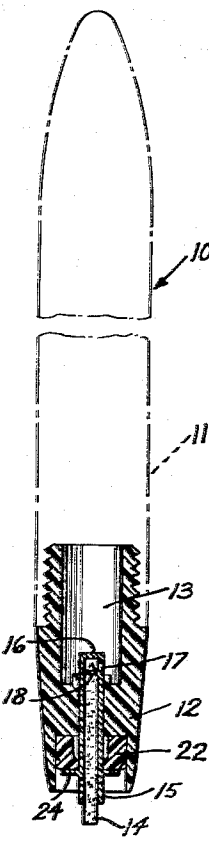
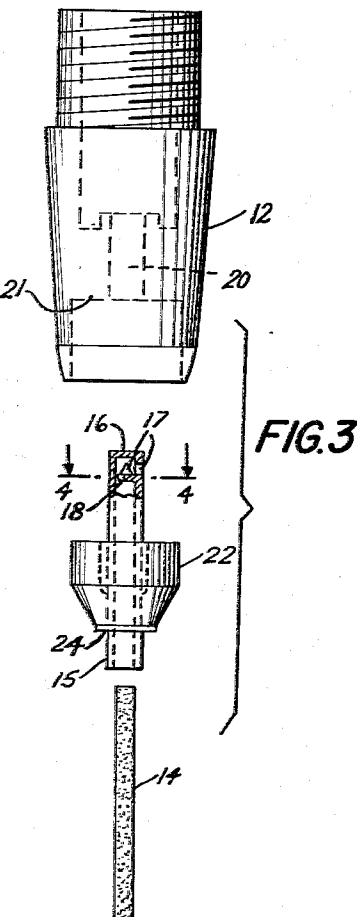


FIG. 5

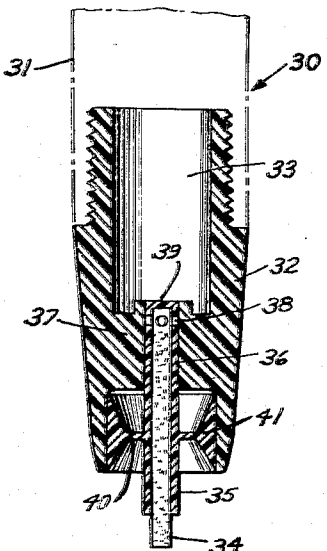
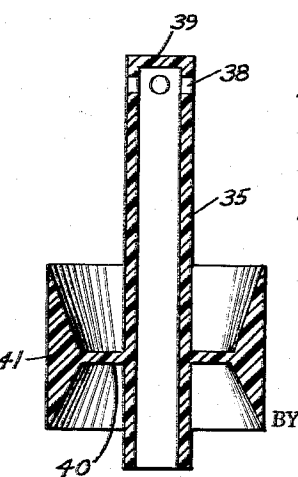
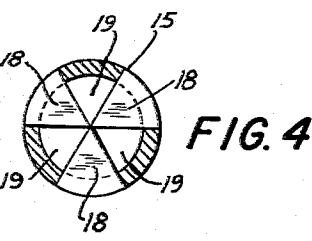


FIG. 6



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FOUNTAIN PEN

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This invention relates to a valve controlled fountain pen.

An object of the invention is to provide a fountain pen in which the feeding of the ink to the stylus is automatically controlled by the requirement of the flow thereof.

Another object of the invention is to provide a fountain pen adapted for use by artists and draftsmen for producing firm or heavy lines which require the feeding of a constant and full supply of ink in relation to the width of the lines produced and which may be made without removing the stylus from the paper and the flow of which is constant to the full area of the end of the stylus. The present invention, therefore, provides a fountain pen in which the flow of ink to the stylus is controlled by the pressure applied to the end of the stylus.

Another object of the invention is to provide a fountain pen having a stylus in the form of a relatively stiff wick disposed in protruding relation in a tube having a valve inlet in the upper end thereof for controlling the flow of ink to the stylus.

Another object of the invention is to slidably mount the valve means in the forward end of the fountain pen for movement to and from closed relation and for biasing the valve means toward closed relation when the tube is moved to open relation by pressure applied against the end of the stylus.

With the foregoing and other objects in view, reference is now made to the following specification and accompanying drawings in which the preferred embodiments of the invention are illustrated.

In the drawings:

FIG. 1 is a view partially in section of a fountain pen constructed in accordance with the invention and showing the valve means therefor in closed relation.

FIG. 2 is a similar view showing the valve means in open relation.

FIG. 3 is an enlarged view of the lower end portion of the barrel with the parts contained therein in separated juxtaposition.

FIG. 4 is a transverse sectional view taken approximately on line 4—4 of FIG. 3.

FIG. 5 is a fragmentary view shown partly in section embodying a modified form of the invention.

FIG. 6 is a vertical sectional view of the stylus holder. Referring to the drawings and more particularly to the form of the invention illustrated in FIGS. 1 to 4 inclusive thereof, the pen includes a barrel 10 consisting of an elongated portion 11 and an end piece 12 threadedly secured on the elongated portion 11 and which with said elongated portion provides an ink reservoir 13.

A stylus 14 in the form of a relatively stiff wick of felt or equivalent material protrudes from the end piece 12 and feeds the ink from the reservoir to the end thereof in relation to the width of the lines produced by the stylus. The stylus 14 is mounted in a tube 15 having an inner end wall 16 and provided with a plurality of openings 17 in the side wall thereof adjacent the end wall 16 for the flow of ink from the reservoir. The openings 17 of triangular formation are formed by cutting and bending inwardly triangular portions 18 of the side wall into horizontal relation to provide an abutment against which the inner end of the stylus is positioned. Between the triangular shaped portions 18 are openings 19 through which the ink flows to the inner end of the stylus.

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The tube 15 is slidable in an axially disposed opening 20 in a partition 21 extending transversely of the end piece 12 for the closing off and opening up of the openings 17 to the reservoir. This provides a valve at the inner end of the tube 15 which is normally closed and is moved to open relation by pressure applied to the stylus when using the pen. For this purpose a resilient member 22 of rubber composition or the like is disposed against the partition 21 in the end piece 12 in surrounding relation with the tube. The tube snugly fits the opening 23 in the resilient member 22 and is provided with an annular flange 24 positioned against the lower end thereof. Pressure applied to the protruding end of the stylus 14 will compress the resilient member 22 whereby the tube 15 will be moved inwardly to dispose the openings 17 in open relation to thereby admit ink to the stylus which will convey the ink longitudinally thereof to its outer end and provide a constant and full flow of the ink in relation to the width of the line produced. Upon release of pressure on the stylus, the resilient member 22 will expand so as to move the tube 15 downwardly to dispose the openings 17 in closed relation within the opening 20 in the partition 21. The tube 15 fits the opening 20 so as to prevent the flow of ink between the tube and the partition 21 and the tube snugly fits the opening 23 in the resilient member 22 as hereinbefore described in order to retain the tube in position therein and seal the opening 23 against the flow of fluid between said opening and the tube 15.

The barrel 10 and elongated portion 11 of the pen may be of any desired material such as polystyrene and the tube 15 may be of metal such as brass.

Instead of the resilient member 22, the tube may be provided with a flexible web as illustrated in FIGS. 5 and 6 of the drawings. In this form of the invention, the pen similarly includes a barrel 30 consisting of an elongated portion 31 and an end piece 32 threadedly secured on the elongated portion 31 and which together therewith provides an ink reservoir 33.

A stylus 34 in the form of a relatively stiff wick similar to the stylus 14 in the previous form of the invention protrudes from the lower end of a tube 35 which is slidably mounted in an axially disposed opening 36 in a transversely extending partition 37 in the end piece 32. The tube 35 is provided with a plurality of openings 38 in the side wall thereof adjacent the end wall 39 and the tube is formed with an annular web 40 having an enlarged annular flange 41 at the periphery thereof which snugly fits within the end piece 32 against the partition 37 to close and seal the lower end of the tube 35 against the flow of fluid between the flange 41 and the end piece 32. Preferably the tube 35 is of polyethylene and the web 40 and flange 41 are formed integrally therewith. This provides means by which pressure applied to the protruding end of the stylus 34 will move the tube 35 inwardly to dispose the openings 38 in open relation and flex the annular web 40 to thereby bias the tube toward closed relation. Upon release of pressure on the stylus, the web 40 will return to its original position and move the tube 35 to closed relation within the opening 36 in the partition 37.

It will be understood that the abutment formed by the instruck wall portions 18 in the from of the invention illustrated in FIGS. 1 to 4 inclusive of the drawings function to entrap a small quantity of the ink in the inner end of the tube when the same is in closed relation. The ink so entrapped feeds downwardly through the wick when the pen is not in use so as to maintain the wick full of ink at all times. Dyestuff inks and the like are preferably employed in this type of pen.

While the preferred form of the invention has been shown and described herein, it is to be understood that

the same is not so limited but shall cover and include any and all modifications of the invention which fall within the purview thereof.

What is claimed is:

1. In a fountain pen of the character described, an elongated barrel providing an ink reservoir and having a partition wall adjacent the lower end thereof and a cavity extending from said partition wall and opening through the lower end of said barrel, an axial opening in said partition wall opening into said reservoir and into said cavity, a tube having a closed inner end and at least one aperture in the side wall thereof adjacent said inner end, said tube being mounted in said axial opening and extending through said cavity in protruding relation from the lower end of the barrel for axial sliding movement to dispose said aperture in open relation in said reservoir and in closed covered relation by said partition wall, a stylus in the form of a wick mounted in said tube and protruding from the lower end thereof, a solid resilient body of compressible material arranged in said cavity against said partition wall and in snug surrounding relation with said tube to prevent the flow of fluid between said tube and said body, and said tube having a flange arranged against the outer face of said body to normally maintain the tube with the inner end thereof in closed relation to the flow of ink from said reservoir, said tube being moved inwardly by pressure applied to the stylus against a surface to thereby dispose the inner end of said tube in open relation with reference to the flow of ink from the reservoir through said aperture and to compress said solid resilient body inwardly whereby said tube is thereby biased toward closed relation by the compressed resilient body and will be moved to closed relation when pressure on the stylus is released.

2. In a fountain pen of the character described, an elongated barrel providing an ink reservoir and having a partition wall adjacent the lower end thereof and a cavity extending from said partition wall and opening through the lower end of said barrel, an axial opening in said partition wall opening into said reservoir and into said

cavity, a tube having a closed inner end and at least one aperture in the side wall thereof adjacent said inner end, said tube being mounted in said axial opening and extending through said cavity in protruding relation from the lower end of the barrel for axial sliding movement to dispose said aperture in open relation in said reservoir and in closed covered relation by said partition wall, a stylus in the form of a wick mounted in said tube and protruding from the lower end thereof, a solid resilient body arranged in said cavity against said partition wall and in snug surrounding relation with said tube to prevent the flow of fluid between said tube and said body, and said body having a recess in the inner face thereof extending about said tube to provide space for distorting said body by inward compression, and said tube having means engaging said body to normally maintain the tube with the inner end thereof in closed relation to the flow of ink from said reservoir, said tube being moved inwardly by pressure applied to the stylus against a surface to thereby distort said solid resilient body inwardly and to dispose the inner end of said tube in open relation to the flow of ink from said reservoir through said aperture whereby said tube is biased toward closed relation by the distorted resilient body and will be moved to closed relation when pressure on the stylus is released.

References Cited in the file of this patent

UNITED STATES PATENTS

183,470	Rollin	Oct. 17, 1876
864,676	Nagely	Aug. 27, 1907
1,218,528	Curcio	Mar. 6, 1917
1,394,139	Bright	Oct. 18, 1921
1,574,626	Hackman	Feb. 23, 1926
2,210,528	Garvey	Mar. 6, 1940
2,320,823	Kingson	June 1, 1943
2,624,902	Soldner	Jan. 13, 1953
2,663,040	Leckler	Dec. 22, 1953

FOREIGN PATENTS

539,626	Belgium	Oct. 18, 1921
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