

Nov. 14, 1944.

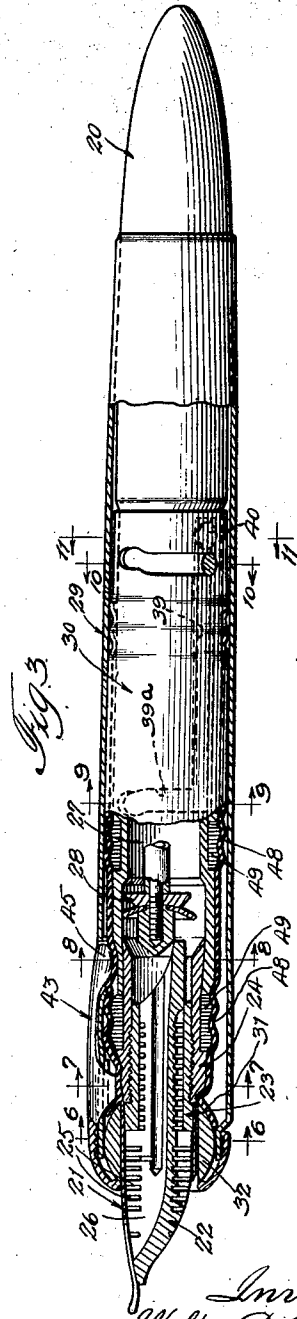
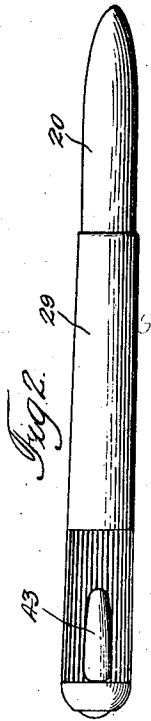
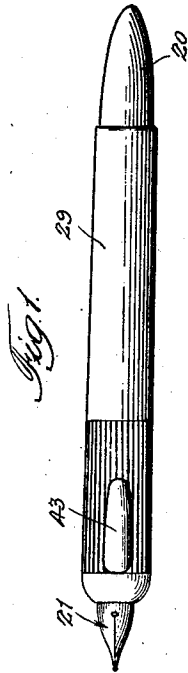
W. D. TEAGUE ET AL

2,362,948

FOUNTAIN PEN

Filed Nov. 24, 1943

3 Sheets-Sheet 1



Inventors
Walter D. Teague
Walter D. Teague, Jr.
Stone Mylers & Co.
Douglas D. Andrews:
By: Wilbur L. Stone *Attorney*

Nov. 14, 1944.

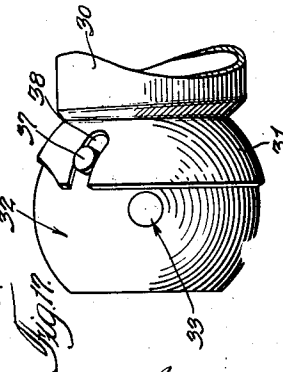
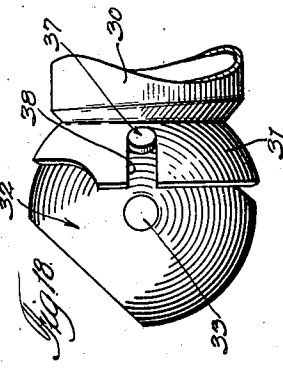
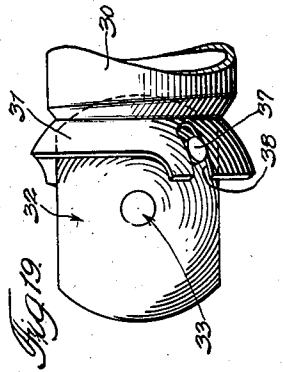
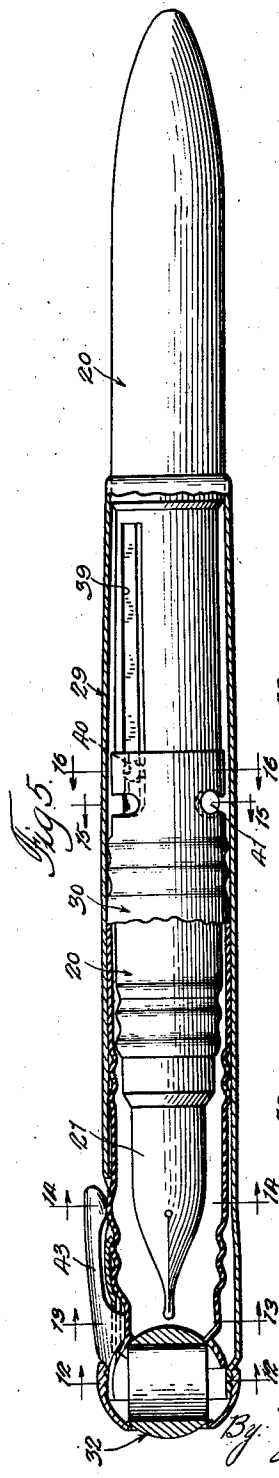
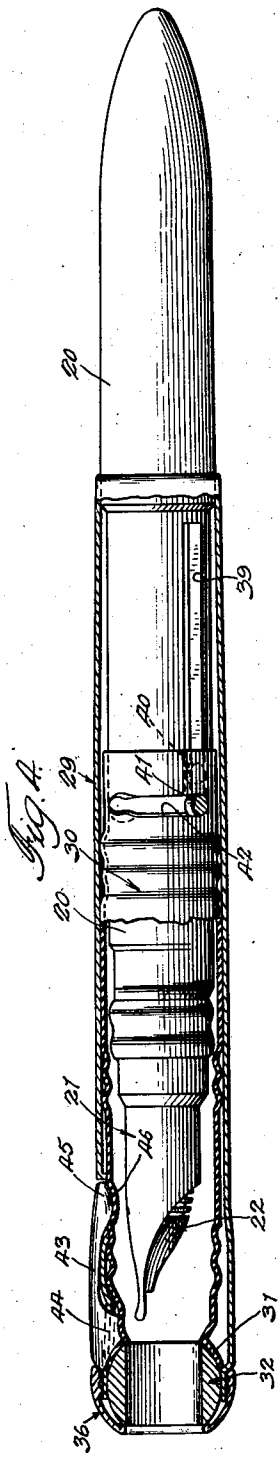
W. D. TEAGUE ET AL

2,362,948

FOUNTAIN PEN

Filed Nov. 24, 1943

3 Sheets-Sheet 2



Inventors:
Walter D. Teague
Walter D. Teague, Jr.
Stowe Myers &
Douglas D. Andrews.
By: *William S. Love*

Nov. 14, 1944.

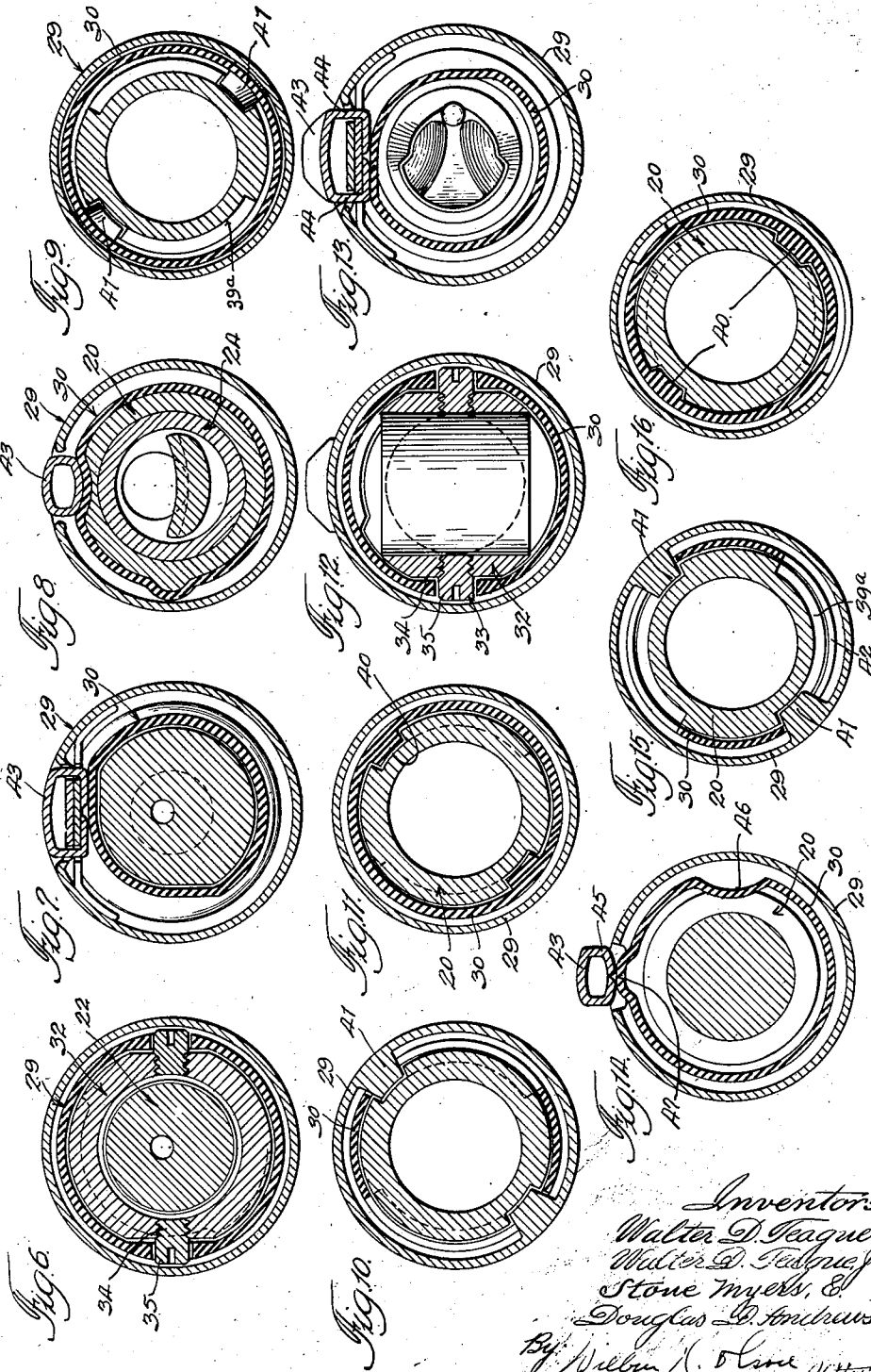
W. D. TEAGUE ET AL

2,362,948

FOUNTAIN PEN

Filed Nov. 24, 1943

3 Sheets-Sheet 3



Inventors:
Walter D. Teague
Walter D. Teague, Jr.
Stone Myers, &
Douglas D. Andrews.
By: Wilbur S. Lane, Attor.

UNITED STATES PATENT OFFICE

2,362,948

FOUNTAIN PEN

Walter Dorwin Teague, River Farm, and Walter Dorwin Teague, Jr., Alpine, N. J., and Stowe Myers and Douglas D. Andrews, New York, N. Y., assignors to W. A. Sheaffer Pen Company, Fort Madison, Iowa, a corporation of Delaware

Application November 24, 1943, Serial No. 511,524

14 Claims. (Cl. 120—49)

This invention relates to a fountain pen and has special reference to a fountain pen of the so-called sacless type in which the writing point is housed and is thereby sealed apart from the atmosphere by means which are not detachable from the barrel of the fountain pen but have relative movement therewith.

More particularly this invention relates to a fountain pen comprising a barrel having a writing point and a fluid feeding mechanism extending from one end thereof with an open-ended casing movable on the barrel selectively to house and to expose the writing point, there being means in the open end of the casing actuated by the relative movement between the barrel and casing to seal the open end when the writing point is housed.

There is need in a great number of instances for a fountain pen of a type to accommodate a user who has one hand occupied at the time he must make a written record. In the use of an ordinary pocket fountain pen, it is practically impossible or at least very inconvenient to unscrew the cap and place it on the barrel end opposite the writing point with only one free hand. For example, in telephoning one often has need for writing and in the case of a fountain pen of the pocket type it must be withdrawn from the pocket, the cap removed and placed on the end opposite to the writing point end for use in writing while one hand is occupied in holding the receiver to the ear. Similarly in the case of a reporter where notes must be made with a note book in one hand while attempting to adjust the fountain pen with the other hand. The present invention contemplates the elimination of the necessity for using both hands in adjusting the fountain pen from a closed position to a writing position, by means of a simple relative movement between the two elements of the fountain pen. It is not necessary to remove the cap from the writing point end and place it on the barrel end. There is no removable or detachable cap which may become accidentally displaced and possibly lost.

It is desirable in carrying a fountain pen about the person that the writing point end is held upwardly, and thus the clip, which is usually provided for preventing accidental loss of a fountain pen, is positioned adjacent the writing point

end. Since the present invention contemplates the elimination of a detachable cap and since the clip is usually permanently fixed to the cap, the clip in the instance of the present pen is fixed to the writing point end of the pen substantially at the gripping portion thereof. It is, of course, not desirable to have any projections on the gripping portion while the pen is held in a writing position, yet in order to hold a fountain pen in a pocket the clip must extend beyond the confines of the portion to which it is affixed. The present invention provides that the clip be seated in a recess when in the normal writing position of the fountain pen and be extended from that recess automatically by relative movement of the elements of the fountain pen when it is moved into a closed position.

One of the objects of this invention is to provide a fountain pen of the character described above which is simple in construction, efficient in operation and is durable.

A further object of this invention is to provide a fountain pen of the character referred to above in which the writing point is retracted and is sealed apart from the atmosphere when in one position and is extended to a writing position by a simple relative movement of elements of the fountain pen.

Also, it is an object of this invention to provide a fountain pen of the type referred to above in which the clip for detachably securing the fountain pen to the pocket or the like is received in a recess for use in a writing condition of the fountain pen and is moved automatically to an extended position when the writing point is housed.

Other objects and advantages of this invention will hereinafter be more particularly pointed out and for a more complete understanding of the characteristic features of this invention, reference may be had to the following description when read together with the accompanying drawings, in which latter:

Figure 1 is a face elevational view of the fountain pen incorporating the features of this invention, the device being shown in writing position;

Fig. 2 is a view similar to Fig. 1 showing the fountain pen in a closed position;

Fig. 3 is a side elevational view of Fig. 1, sub-

stantially enlarged, showing a portion of the fountain pen at the writing point end thereof in section;

Fig. 4 is a side elevational view of Fig. 2, substantially enlarged, showing a portion at the writing point end thereof in section;

Fig. 5 is a view similar to Fig. 4 showing a changed position of the writing point end of the fountain pen;

Fig. 6 is a sectional view taken on the line 6—6 of Fig. 3;

Fig. 7 is a sectional view taken on the line 7—7 of Fig. 3;

Fig. 8 is a sectional view taken on the line 8—8 of Fig. 3;

Fig. 9 is a sectional view taken on the line 9—9 of Fig. 3;

Fig. 10 is a sectional view taken on the line 10—10 of Fig. 3;

Fig. 11 is a sectional view taken on the line 11—11 of Fig. 3;

Fig. 12 is a sectional view taken on the line 12—12 of Fig. 5;

Fig. 13 is a sectional view taken on the line 13—13 of Fig. 5;

Fig. 14 is a sectional view taken on the line 14—14 of Fig. 5;

Fig. 15 is a sectional view taken on the line 15—15 of Fig. 5;

Fig. 16 is a sectional view taken on the line 16—16 of Fig. 5;

Fig. 17 is a fragmentary side elevational view of the ball seal and operating means therefor;

Fig. 18 is a view similar to Fig. 17 showing a changed position thereof; and

Fig. 19 is a view similar to Fig. 17 showing a still further changed position thereof.

Referring now more particularly to the drawings, the present invention is shown as being embodied in a fountain pen having a barrel 20 preferably formed of plastic, hard rubber, metal or any similar rigid material. A writing point 21 and fluid feeding mechanism 22 extend from one end of the barrel 20.

The writing point 21 is shown as having a tubular shank which surrounds and is affixed to the head portion of a plug 23, shown more particularly in Fig. 3, the reduced shank portion of the plug being externally threaded to engage internal threads of a sleeve 24. The sleeve 24, in turn, frictionally engages the bore of the barrel 20 at the open end thereof.

The fluid feeding mechanism 22 comprises an enlarged head having a reduced shank engaging the bore of the plug 23, the head and shank portions of the fluid feeding mechanism 22 being provided with laterally extending comb cuts 25 and a longitudinally extending fissure 26 communicating with the comb cuts and with the writing point 21 for directing writing fluid from the reservoir 27 of the barrel to a writing surface. The reservoir 27 is filled with writing fluid in any usual manner, there being a plunger assembly 28 shown in the drawings for longitudinal movement in the reservoir to create a pressure differential for causing the reservoir to be filled with writing fluid. The plunger assembly just described and the operation thereof is more clearly set out in the patent to W. A. Sheaffer, No. Re. 19,530, dated April 9, 1935.

An open ended casing 29 is movably mounted on the barrel 20, the casing being preferably formed of metal although any rigid or substantially rigid material may be employed. Metal is selected for this purpose because of its being pos-

sible to provide a relatively thin wall to reduce to a minimum the diameter of the pen as a whole as will presently appear. The outer casing has slidable movement both longitudinally and rotatably about the axis of the barrel.

An internal sleeve 30 is disposed between the outer casing 29 and the barrel 20, the sleeve extending from adjacent the writing point end of the outer casing to a point intermediate the length thereof. The inner sleeve is preferably formed of metal for the same reasons as given with respect to the outer casing 29 although any suitable rigid or semi-rigid material may be satisfactorily employed. One end of the inner sleeve 30 is provided with an outwardly extending annular flange 31 which forms a seat for receiving an axially apertured sealing member or ball 32.

The ball 32 is rotatably supported on trunnions 33 having a threaded shank portion 34, threadedly engaging apertures on diametrically opposed sides of the ball and having head portions 35 seated in apertures adjacent the writing point end of the outer casing 29. The ball 32 is thus permitted rotatable movement about the trunnions 33 at the end of the outer casing 29, the spherical surface of the ball 32 being seated in this rotative movement on the flange 31 of the inner sleeve 30. A cap 36 is provided with internal threads at one end thereof for threadedly engaging external threads at the end of the outer casing 29, the cap urging the ball 32 in a sealed relation against the seat of the flange 31.

Referring now more particularly to Figs. 4 and 5 of the drawings, it will be noted that the ball 32 occupies two different positions, one in which the aperture is coaxial with the axis of the fountain pen so as to present an opening through which the writing point 21 is extended in writing as in Fig. 3. The other position of the ball 32 shows the writing point as being retracted and sealed apart from the atmosphere, the aperture extending transversely to the axis of the fountain pen.

In order to obtain the two positions mentioned above; that is, where the pen is extended through the aperture into normal writing position and where the pen is retracted and sealed to be carried in a pocket, a pin 37 is disposed off-center relative to the fulcrums 33 on the surface of the ball 32 and engages a slot 38 in the flange 31. Referring now particularly to Figs. 17, 18, and 19 of the drawings, the position of the ball in Fig. 17 corresponds to that in Fig. 4, and the position of the ball in Fig. 19 corresponds to that of Fig. 5, whereby Fig. 17 shows an open position and Fig. 19 shows a closed position with Fig. 18 showing an intermediate position. A rotation, therefore, of the inner sleeve 30 moves the ball to either open or closed position, the movement being through an arc of approximately 90°.

The barrel 20 is provided with an L-shaped groove having a longitudinal extending leg 39 for receiving a lug 40 fixed to and extending radially inwardly from the inner sleeve 30 and a second lug 41 fixed to and extending radially inwardly from the outer casing 29. The lug 41 extends through a transverse slot 42 in the inner sleeve 30 thereby fixing the inner sleeve and outer casing against relative longitudinal movement therebetween. The groove 39 in the barrel guides the outer casing 29 and inner sleeve 30 in a longitudinal movement thereon. While the inner sleeve and outer casing are fixed against relative longitudinal movement the slot 42 permits relative rotatable movement therebetween. Thus the

barrel 20 has relative longitudinal movement with respect to both the inner sleeve 30 and outer casing 29 while the inner sleeve 30 has relative rotatable movement with respect to the outer casing 29.

The fountain pen in a normal retracted and sealed condition in readiness for being carried in the pocket of the user is shown in Fig. 5. The lug 41, extending radially inwardly from the outer casing, occupies a position at the end of the slot 42 opposite to the end in alignment to the slot 39 of the barrel 20, the lug 40 remaining seated in the groove 39 adjacent to the transverse slot 42. The lug 41 also extends through the slot 42 into the transversely extending portion 39a of the L-shaped groove in the barrel.

When it is desired to project the writing point for use in writing, a relative longitudinal movement between the inner sleeve 30 and the outer casing 29 through an arc of about 90° carries the lug 41 into alignment with the groove 39. Thereafter a relative longitudinal movement of the inner sleeve 30 and the outer casing 29 with respect to the barrel 20 projects the pen through the aperture of the ball 32 to the position shown in Fig. 3. During the initial rotational movement of the inner sleeve with respect to the outer casing the ball 32 is moved from a closed to an open position to permit the succeeding longitudinal movement to project the writing point out of the aperture of the ball.

When it is desired to retract the writing point into a sealed position within the casing and inner sleeve, a relative longitudinal movement is produced between the barrel and the fixed inner sleeve and casing members until the pin 41 is in alignment with the transverse slot 42 whereafter the rotational movement previously recited moves the lug 41 to the end of the transverse slot 42 and groove 39a to the position shown in Fig. 5 wherein the several parts are locked against relative longitudinal movement.

When the pen is in position for writing it is desirable that the clip thereof be received in a recess so as not to obstruct the gripping portion of the pen and thereby to avoid discomfort in writing. A clip 43 of any usual type is fixed to the outer casing 29, the clip being provided with spaced ears 44 which extend through spaced apertures in a depressed portion of the outer casing 29, the ears being bent over behind the material between the slots to form a cleat.

The end of the clip opposite to the end carrying the ears 44 is provided with a bead 45, as is usual in clips, for facilitating the entrance of the cloth or other material of a pocket or the like underneath the bead of the clip and thus between it and the wall of the casing. In writing position the bead 45 is seated in a depression 46 in the wall of the outer casing 29 so that the clip occupies a position substantially within the confines of the casing to thus present a smooth continuous surface on the gripping portion of the pen. When it is desired to carry the pen in a pocket the clip is extended outside the confines of the casing by means of the bead 45 riding out of the recess 46 and on top of an arcuate projection 47 as shown more particularly in Fig. 14. This movement to extend the clip outside the confines of the casing is furnished by the relative longitudinal movement between the outer casing and the inner sleeve to move the ball 32 from its open to its closed position. Thus the relative rotational movement between the inner sleeve and the outer casing has a three-fold function

namely, one, to rotate the ball 32 to an open or closed position, two, to extend the clip from a position within the confines of the casing to a position outside the confines thereof, and three, to lock the pen in position against relative longitudinal movement between the barrel and the outer casing to which latter the inner sleeve is fixed.

The inner sleeve 30 is provided with a series of corrugations 48 in spaced relation adjacent the writing point end thereof for receiving relatively soft rubber portions 49 surrounding the barrel 20. The soft rubber portions are shaped to conform somewhat in outline to the corrugations and provide a sealed relation between the pen and the sleeve and also to frictionally hold the sleeve and the barrel in a position against accidental displacement.

While but a single embodiment of this invention is herein shown and described, it is to be understood that various modifications thereof may be apparent to those skilled in the art without departing from the spirit and scope of this invention and, therefore, the same is only to be limited by the scope of the prior art and the appended claims.

We claim:

1. A fountain pen of the character described comprising a barrel having a writing point and fluid feeding mechanism extending from one end thereof, an outer open ended casing movable on said barrel selectively to house and to expose said writing point, a clip mounted on said casing adjacent the writing point end of said barrel and extensible from a position substantially within the confines of said casing to a position outside the confines thereof, and means in said open end actuated by said relative movement between said barrel and said casing to seal said open end when said writing point is housed.

2. A fountain pen of the character described comprising a barrel having a writing point and fluid feeding mechanism extending from one end thereof, an open ended casing movable on said barrel selectively to house and to expose said writing point, a clip mounted on said casing and extensible from a position substantially within the confines of said casing to a position outside the confines thereof, and means in said open end actuated by said relative movement between said barrel and said casing to seal said open end when said writing point is housed, said clip being actuated in its said positions by said relative movement between said barrel and said casing.

3. A fountain pen of the character described comprising a barrel having a writing point and fluid feeding mechanism extending from one end thereof, an open-ended casing movable on said barrel selectively to house and to expose said writing point, means for directing relative longitudinal and rotational movement between said casing and said barrel, and means in said open end actuated by said relative rotational movement between said barrel and said casing to seal said open end when said writing point is housed by said relative longitudinal movement.

4. A fountain pen of the character described comprising a barrel having a writing point and fluid feeding mechanism extending from one end thereof, an L-shaped groove in the surface of said barrel, an open-ended casing movable longitudinally and rotatably on said barrel selectively to house and to expose said writing point, a projection on said casing engaging said groove to direct said longitudinal and rotatable movement,

and means in said open end actuated by said relative movement between said barrel and said casing to seal said open end when said writing point is housed.

5. A fountain pen of the character described comprising a barrel having a writing point and fluid feeding mechanism extending from one end thereof, a sleeve slidable longitudinally on said barrel, an outer open-ended casing on said sleeve, said casing and said sleeve having relative rotatable movement therebetween and being slidable longitudinally together selectively to house and to expose said writing point, and means in said open end actuated by said relative rotatable movement between said barrel and said sleeve to seal said open end when said writing point is housed.

6. A fountain pen of the character described comprising a barrel having a writing point and fluid feeding mechanism extending from one end thereof, a sleeve slidable longitudinally on said barrel, a seat at the end of said sleeve, an outer open-ended casing on said sleeve, said casing and said sleeve having relative rotatable movement therebetween and being slidable longitudinally together selectively to house and to expose said writing point, an apertured ball in said open end engaging said seat and actuated by said relative rotatable movement between said barrel and said sleeve to seal said open end when said writing point is housed.

7. A fountain pen of the character described comprising a barrel having a writing point and fluid feeding mechanism extending from one end thereof, a sleeve slidable longitudinally on said barrel, the end of said sleeve being formed to provide an arcuate seat, an outer open-ended casing on said sleeve, said casing and said sleeve having relative rotatable movement therebetween and being slidable longitudinally together selectively to house and to expose said writing point, and an apertured ball in said open end, opposed trunnions on said ball for the rotatable support thereof, said ball engaging said seat and being rotated on said trunnions by said relative rotatable movement between said barrel and said sleeve to seal said open end when said writing point is housed.

8. A fountain pen of the character described comprising a barrel having a writing point and fluid feeding mechanism extending from one end thereof, a sleeve slidable longitudinally on said barrel, an outer open-ended casing on said sleeve, a slotted flange on the end of said sleeve, said casing and said sleeve having relative rotatable movement therebetween and being slidable longitudinally together selectively to house and to expose said writing point, an apertured ball in said open end seated on said flange, opposed trunnions on said ball for the rotatable support thereof, a pin offset with respect to the axis of said trunnions for engaging the slot of said flange, said ball being rotatable from a position wherein said aperture thereof is coaxial with respect to said barrel to a transverse position by said relative rotatable movement between said barrel and said sleeve to expose and to seal said writing point.

9. A fountain pen of the character described comprising a barrel having a writing point and fluid feeding mechanism extending from one end thereof, a sleeve slidable longitudinally on said barrel, a recess and a projection on said sleeve, an outer open-ended casing on said sleeve, said casing and said sleeve having relative rotatable movement therebetween and being slidable lon-

5 gitudinally together selectively to house and to expose said writing point, a clip mounted on said casing and received at least in part by said recess, and means in said open end actuated by said relative rotatable movement between said barrel and said sleeve to seal said open end when said writing point is housed, said clip being moved out of engagement with said recess and into engagement with said projection by said relative rotatable movement between said barrel and said casing.

10. A fountain pen of the character described comprising a barrel having a writing point and fluid feeding mechanism extending from one end thereof, a sleeve slidable longitudinally on said barrel, a recess in said sleeve, an outer open-ended casing on said sleeve, said casing and said sleeve having relative rotatable movement therebetween and being slidable longitudinally together selectively to house and to expose said writing point, a clip mounted on said casing and received at least in part by said recess, and means in said open end actuated by said relative rotatable movement between said barrel and said sleeve to seal said open end when said writing point is housed, said clip being moved into and out of engagement with said recess by said relative rotatable movement between said barrel and said casing.

30 11. A fountain pen of the character described comprising a barrel having a writing point and fluid feeding mechanism extending from one end thereof, a sleeve slidable longitudinally on said barrel, a detent on said sleeve, an outer open-ended casing on said sleeve, said casing and said sleeve having relative rotatable movement therebetween and being slidable longitudinally together selectively to house and to expose said writing point, a clip mounted on said casing and engaged by said detent, said clip being extensible from a position substantially within the confines of said casing to a position outside the confines thereof, and means in said open end actuated by said relative rotatable movement between said barrel and said sleeve to seal said open end when said writing point is housed, said clip being disengaged from said detent and actuated into an extended condition by said relative movement between said barrel and said casing.

50 12. A fountain pen of the character described comprising a barrel having a writing point and fluid feeding mechanism extending from one end thereof, guiding means on said barrel, a sleeve slidable longitudinally on said barrel, an outer open-ended casing on said sleeve, said casing and said sleeve having relative rotatable movement therebetween and means on said sleeve and casing associated with said guiding means for directing longitudinal movement of said sleeve and casing selectively to house and to expose said writing point, and means in said open end actuated by said relative rotatable movement between said barrel and said sleeve to seal said open end when said writing point is housed.

75 13. A fountain pen of the character described comprising a grooved barrel having a writing point and fluid feeding mechanism extending from one end thereof, a slotted sleeve slidable longitudinally on said barrel, an outer open-ended casing on said sleeve, a projection on said casing extending through the slot of said sleeve for permitting relative rotatable movement therebetween, said projection engaging said groove to direct slidable movement of said sleeve

and casing longitudinally of said barrel selectively to house and to expose said writing point, and means in said open end actuated by said relative rotatable movement between said barrel and said sleeve to seal said open end when said writing point is housed.

14. A fountain pen of the character described comprising a barrel having a writing point and fluid feeding mechanism from one end thereof, an L-shaped slot on the surface of said barrel, a slotted sleeve slidable longitudinally on said barrel, an outer open-ended casing on said sleeve, a projection on said casing extending through the slot of said sleeve into said L-shaped

slot to receive longitudinal and rotative direction, said sleeve and said casing having relative rotatable movement therebetween and being slidable longitudinally together selectively to house and to expose said writing point, and means in said open end actuated by said relative rotatable movement between said barrel and said sleeve to seal said open end when said writing point is housed.

WALTER DORWIN TEAGUE.
WALTER DORWIN TEAGUE, JR.
STOWE MYERS.
DOUGLAS D. ANDREWS.