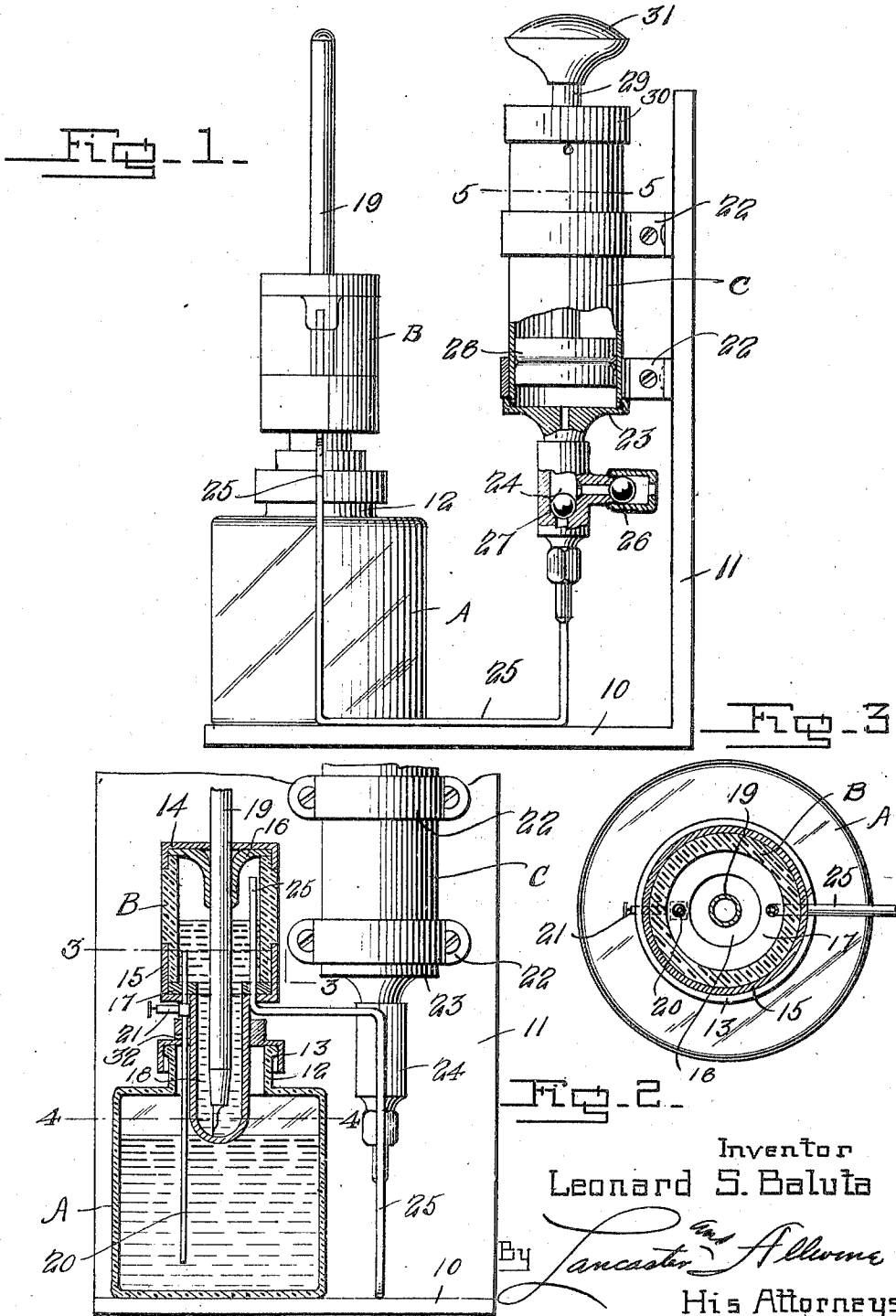


L. S. BALUTA.
 FOUNTAIN PEN FILLER.
 APPLICATION FILED OCT. 4, 1916.

1,249,709.

Patented Dec. 11, 1917.

2 SHEETS—SHEET 1.



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2 SHEETS—SHEET 2.

Fig. 4.

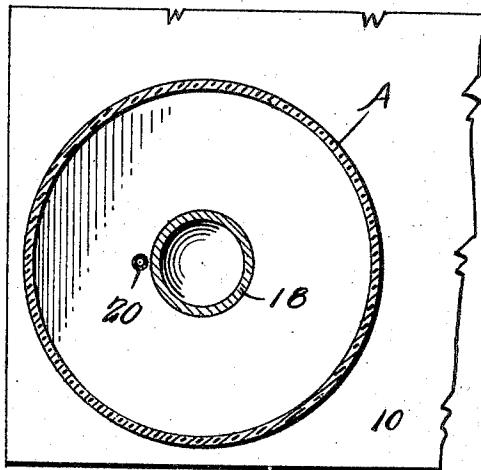


Fig. 5.

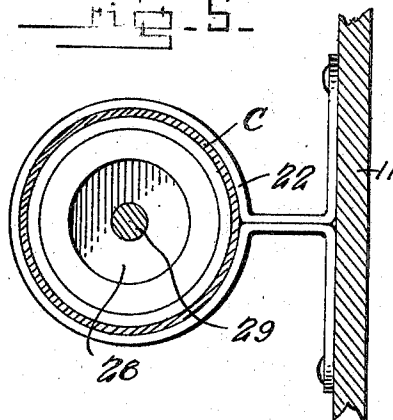


Fig. 7.

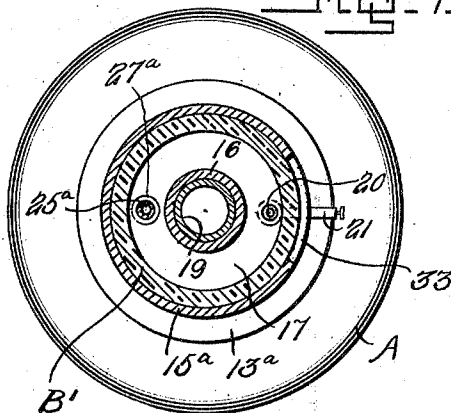


Fig. 6.

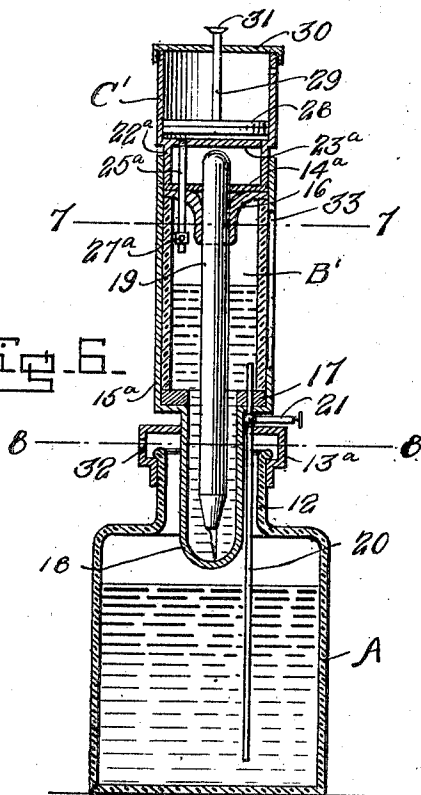
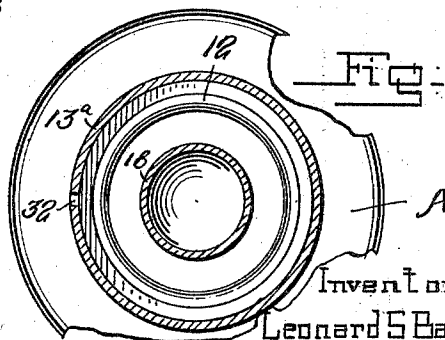


Fig. 8.



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UNITED STATES PATENT OFFICE.

LEONARD S. BALUTA, OF ROARING CREEK, PENNSYLVANIA.

FOUNTAIN-PEN FILLER.

1,249,709.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, LEONARD S. BALUTA, a citizen of the United States, and a resident of Roaring Creek, in the county of Columbia and State of Pennsylvania, have invented a certain new and useful Improvement in Fountain-Pen Fillers, of which the following is a specification.

The present invention relates to a device for filling fountain pens, and has for an object to provide a device which creates a vacuum in the pen barrel to extract air therefrom, and which seals the open end of the barrel with the ink or other fluid to be placed in the pen to thus insure a complete filling of the pen.

A further aim of the invention is to provide a device of this character which is relatively small and compact, and which may be used for filling large numbers of pens, one at a time, without handling the ink, and by merely inserting the open end of the pen in the device and operating the latter.

A still further object of this invention is to provide a fountain pen filler of this character which may be applied to ink bottles or receptacles of the usual form and size, which may be economically manufactured and handled, and which is inexpensive in up-keep.

The above, and other objects and advantages of this invention will be more specifically brought out in the following detailed description of the present embodiment of this invention, the same being illustrated in the accompanying drawings wherein:

Figure 1 is a side elevation of a fountain pen filler constructed according to the present invention, parts of the same being shown in section.

Fig. 2 is a transverse section taken through the fluid-container and filling receptacle, the suction-creating means being shown in elevation.

Fig. 3 is a horizontal section taken on the line 3—3 of Fig. 2, showing the interior arrangement of the parts of the filling receptacle.

Fig. 4 is a similar view taken on the line 4—4 of Fig. 2, showing the location of the lower end of the filling receptacle in the ink container and the feed pipe which projects into the latter.

Fig. 5 is a detail enlarged sectional view taken on the line 5—5 of Fig. 1, showing the upper end of the suction-creating device.

Fig. 6 is a vertical central sectional view taken through a modified form of the device of Fig. 1.

Fig. 7 is a transverse sectional view taken on the line 7—7 of Fig. 6 through the upper end of the filling receptacle.

Fig. 8 is a horizontal sectional view taken on the line 8—8 of Fig. 6, through the supporting cap which closes the upper end of the container.

Referring to these drawings, wherein like parts are designated by similar characters of reference throughout the several views, the device comprises three main parts, an ink container or receptacle A, a filling receptacle B into which a fountain pen is adapted to be inserted, and a suction-creating device C.

The embodiment of the invention which is illustrated in Figs. 1 to 5 inclusive is preferably mounted upon a frame of preferably L-shape form. The frame provides a base 10 and an upright 11 at one end thereof. The ink container A may be in the form of a bottle provided with a neck 12 adapted to receive a supporting cap 13 thereon held in place by friction, or by any suitable fastening means desired.

The filling receptacle B is in the form of a glass tube to the upper and lower ends of which are fitted the upper and lower caps 14 and 15. Packing washers 16 and 17 are arranged respectively in the caps 14 and 15 and bind against the opposite ends of the tube to seal the caps thereon. The lower cap 15 is provided centrally with a depending hollow projection 18 forming a well which communicates with the lower end of the tube. The upper cap 14 is provided with a central aperture adapted to snugly receive the barrel of a fountain pen 19 therethrough, and the washer 16 is provided immediately beneath the aperture with a depending apertured projection adapted to bind frictionally upon the barrel of the pen and to seal the same in the cap 14. A feed pipe 20 extends at its lower end through the supporting cap 13 and into the receptacle or container A, the feed pipe 20 terminating adjacent to the bottom of the container. The upper end of the feed pipe 20 projects through the lower cap 15, the washer 17 and terminates in the lower end of the filling receptacle B. A valve 21 is interposed in the pipe 20 between the container A and

the receptacle B, and is adapted to close communication at times between the same.

Any suitable means may be employed for exhausting air from the filling receptacle B. In the present instance the device C is shown, the same being in the form of a suction pump. The cylinder of the pump C is supported by clips 22 secured to the standard 11 at a convenient height, and the lower head 23 is connected by a coupling sleeve 24 to an exhaust pipe 25 which extends into the filling receptacle B. Preferably, the pipe 25 passes upwardly through the lower cap 15 and terminates at a point adjacent to the upper end of the tube. The coupling sleeve 24 is provided in one side with a check valve 26 which opens outwardly to permit of escape of air from the cylinder of the pump, and which prevents ingress of air during the suction stroke of the pump. A second check valve 27 is located in the coupling sleeve 24 at the adjacent end of the suction pipe 25 and is adapted to open inwardly to admit exhaust of air through the pipe 25, and to seal the pipe and prevent the passage of air thereinto from the pump. The pump C is provided with a plunger 28 connected to the inner end of a rod 29 which extends upwardly through the cylinder and through the top cap 30 of the pump. A knob 31 or the like is mounted on the upper end of the plunger 29 and may be grasped by the hand for drawing the plunger upwardly to produce the suction stroke.

In operation, a fountain pen is projected at its open end through the cap 14 of the filling receptacle B. The washer 16 seals the pen in the receptacle. The plunger 28 is now drawn upwardly in the suction-creating device C, and air is exhausted from the upper end of the filling receptacle B. The valve 21 is open at this time, and ink or other fluid from the container A is drawn upwardly through the pipe 20 into the filling receptacle B. The open end of the pen 19 is extended into the well 18, and the fluid passing into the receptacle B fills the well 18 and part of the receptacle, the height of the fluid being observed through the glass tube. Further suction of the pump C exhausts air from the interior of the pen 19, the air passing upwardly through the liquid seal in the receptacle B. This suction creates a partial vacuum in the barrel of the pen and exhausts all the air therefrom. The ink in the filling receptacle B now enters the pen A and completely fills the same. The pen 19 may be withdrawn and a second pen inserted through the cap 14. The pump C is in a like manner again operated to exhaust air from the barrel of the second pen, the ink in the well 18 forming a seal and entering the barrel of the pen as soon as the air is exhausted. After the filling receptacle

B has been filled to the desired height with liquid from the container A, the valve 21 is closed to prevent the ink from flowing into the exhaust pipe 25 which opens into the top of the filling receptacle B. The supporting cap 13 is provided with an air inlet opening 32 in one side to permit air to enter the container A as the ink is drawn therefrom.

In Figs. 6, 7 and 8, there is shown a slightly modified construction of the device of this invention, and wherein the container A is provided upon its upper end with a supporting cap 13^a, the lower end of which may be resilient for gripping around the neck 12 of the container and to permit of the forcing of the cap 13^a over the head on the upper end of the neck 12. The filling receptacle B' has the upper head 14^a thereof in the form of a disk adapted to lie flat upon the upper face of the washer 16. The lower head 15^a is in the form of a cylindrical tube adapted to inclose the glass tube and provided in one side with a sight-opening 33. The lower head 15^a projects upwardly above the top of the tube and provides means for holding the disk 14^a from lateral displacement.

The suction-creating device C' is in the form of a cylinder having a closed bottom 23^a and a depending flange 22^a adapted to fit in the upper end of the tube 15^a to hold the suction-creating device on top of the filling receptacle B'. A suction pipe 25^a is secured at one end through the bottom 23^a of the cylinder and extends downwardly through the disk 14^a and washer 16 into the upper end of the filling receptacle B'. A check valve 27^a is located in the lower end of the suction pipe 25^a. In other respects, the construction shown in Fig. 6 is similar to that disclosed in Fig. 1.

It is of course understood that various other modifications and changes may be made in the constructions above illustrated without departing from the spirit of the invention, and limited only by the scope of the following claims.

I claim.

1. In a fountain pen filler, the combination with a relatively deep receptacle adapted to contain and receive the open end of a pen for sealing the latter by the ink, and a suction-creating means connected to the receptacle for exhausting air therefrom and from the pen, whereby when the suction is broken, the ink is adapted to enter the pen.

2. In a fountain pen filler, the combination of a filling receptacle adapted to contain a quantity of ink and adapted to receive the open end of a pen therein for submersion in the ink, and a suction-creating device connected to said receptacle for withdrawing air therefrom and from the barrel of the pen, the ink in said receptacle being

adapted to seal the open end of the barrel and to enter the same upon the exhaustion of air therefrom.

3. In a fountain pen filler, the combination with a container adapted to receive a quantity of ink, a fountain pen filling receptacle connected to the container and adapted to receive the open end of a fountain pen therein, a suction-creating means connected to the transparent receptacle to feed ink to the same from the container, means for closing communication between the container and the receptacle when the latter is held to the desired height and to seal the pen, said suction-creating means being adapted to be operated for exhausting air from the receptacle and the pen, whereby ink in the receptacle is adapted to enter the pen when the suction is broken.

4. In a fountain pen filler, the combination of an ink container, a filling receptacle connected to said ink container to receive ink therefrom and provided in its lower end with a well adapted to receive therein the open end of a fountain pen, a suction-creating device connected to said filling receptacle to withdraw air therefrom and fill said well with ink from said container to seal the pen, means for cutting off communication between the container and the receptacle, said suction-creating device being adapted to further withdraw air from said receptacle and from the interior of said

pen whereby ink in said well is adapted to enter the interior of the pen.

5. In a fountain pen filler, the combination with an ink container provided with an open upper end, a supporting cap detachably fitting over the upper end of said container, a filling receptacle mounted on said cap, a feed pipe extending downwardly from said receptacle into the container, said receptacle being adapted to receive therein the open end of a fountain pen, suction-creating means connected to the upper end of said filling receptacle to withdraw air therefrom and raise ink from said container into the receptacle, a valve in said feed pipe to close the same, and a well in the lower end of said receptacle adapted to receive ink and form a seal about the open end of said pen.

6. In a fountain pen filler, the combination with a container adapted to contain a quantity of ink, a filling receptacle adapted for detachable mounting upon the open end of the container, and adapted to receive the open end of a fountain pen, and means connected to said filling receptacle for raising ink from said container into the receptacle, and for subsequently withdrawing air from the pen whereby to permit the ink in said receptacle to enter the interior of the pen by suction.

LEONARD S. BALUTA.