(No Model.)

2 Sheets—Sheet 1.

J. E. J. GOODLETT.

BARREL FILLING MACHINE.

No. 596,870. Patented Jan. 4, 1898.

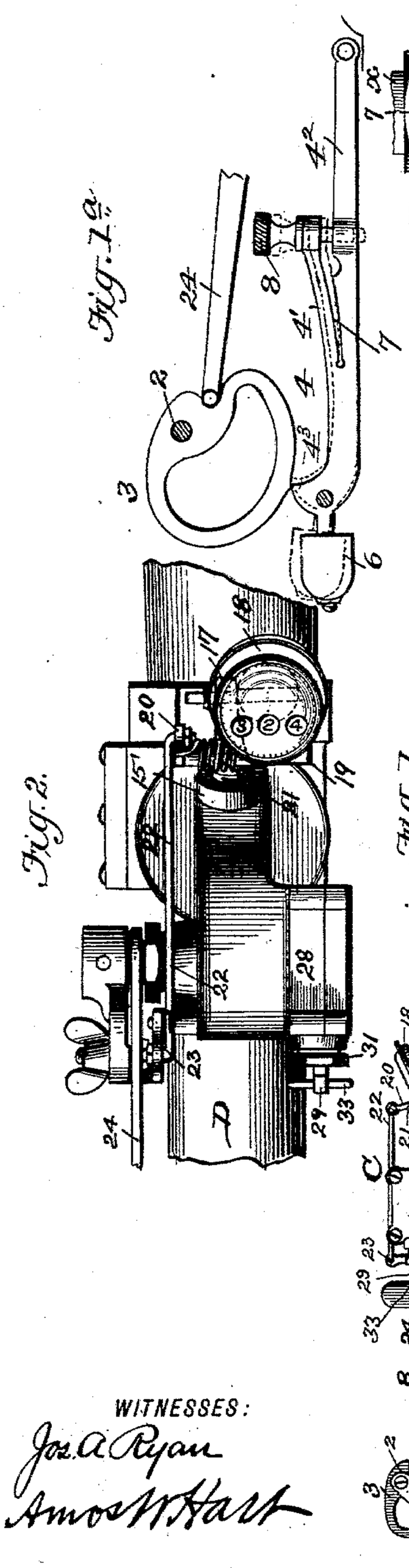

Fig. 2.

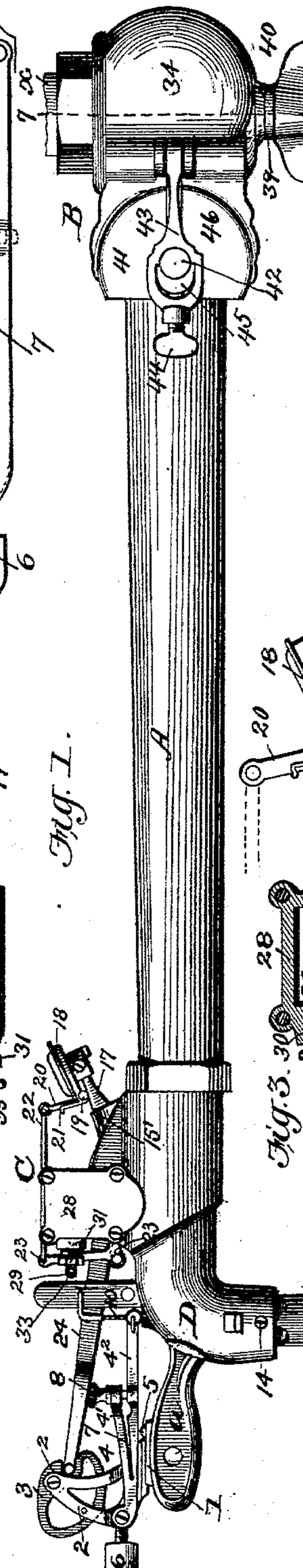

Fig. 1.

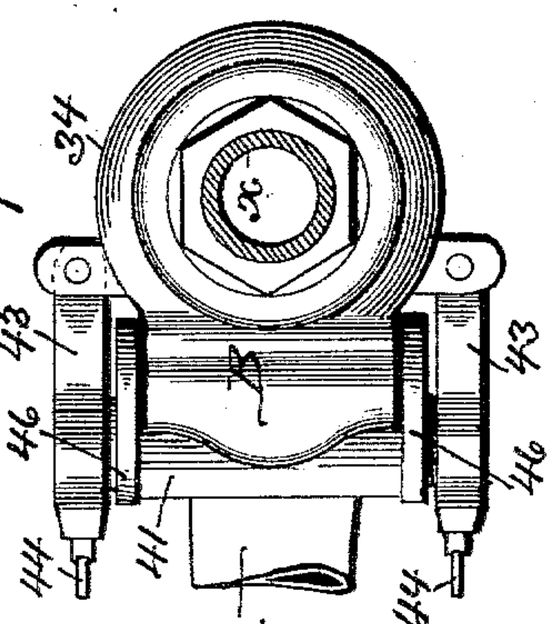

Fig. 4.

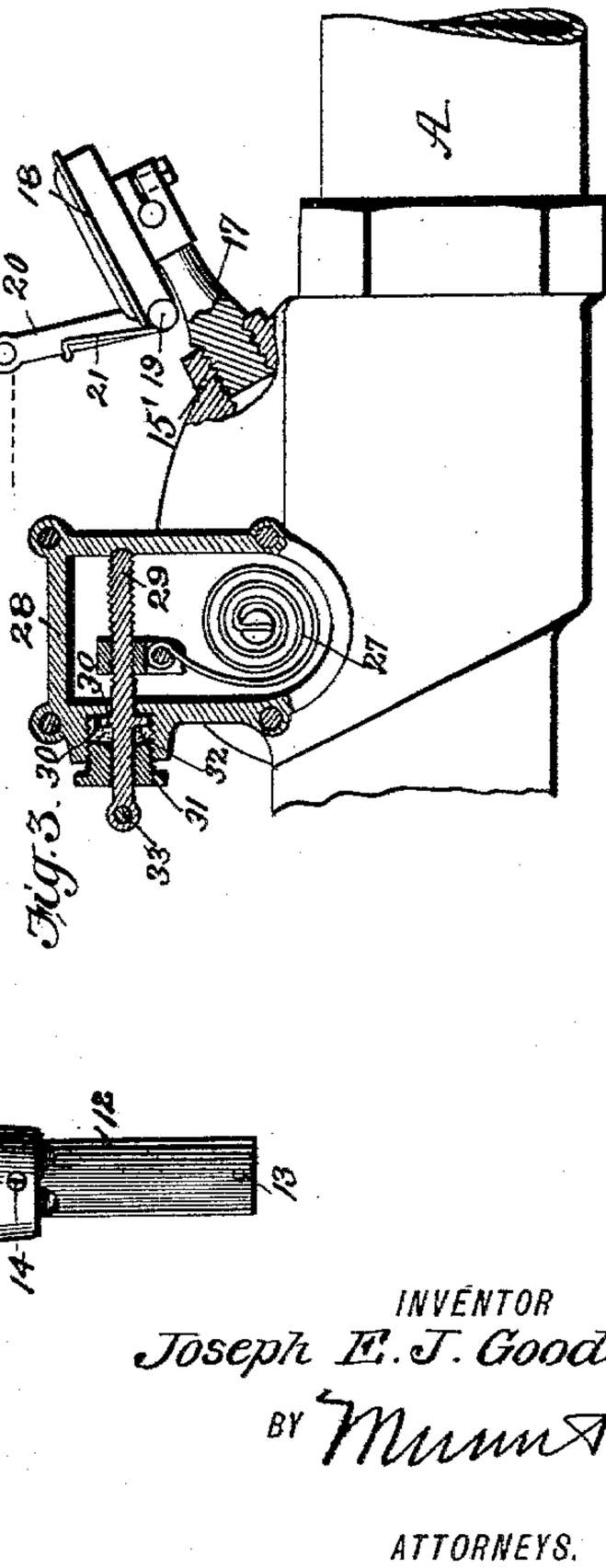

Fig. 3.

WITNESSES:

Jos. A. Ryan

Amos W. Hart

INVENTOR

Joseph E. J. Goodlett.

BY Munn & Co.

ATTORNEYS.

(No Model.) 2 Sheets—Sheet 2.

J. E. J. GOODLETT.

BARREL FILLING MACHINE.

No. 596,870. Patented Jan. 4, 1898.

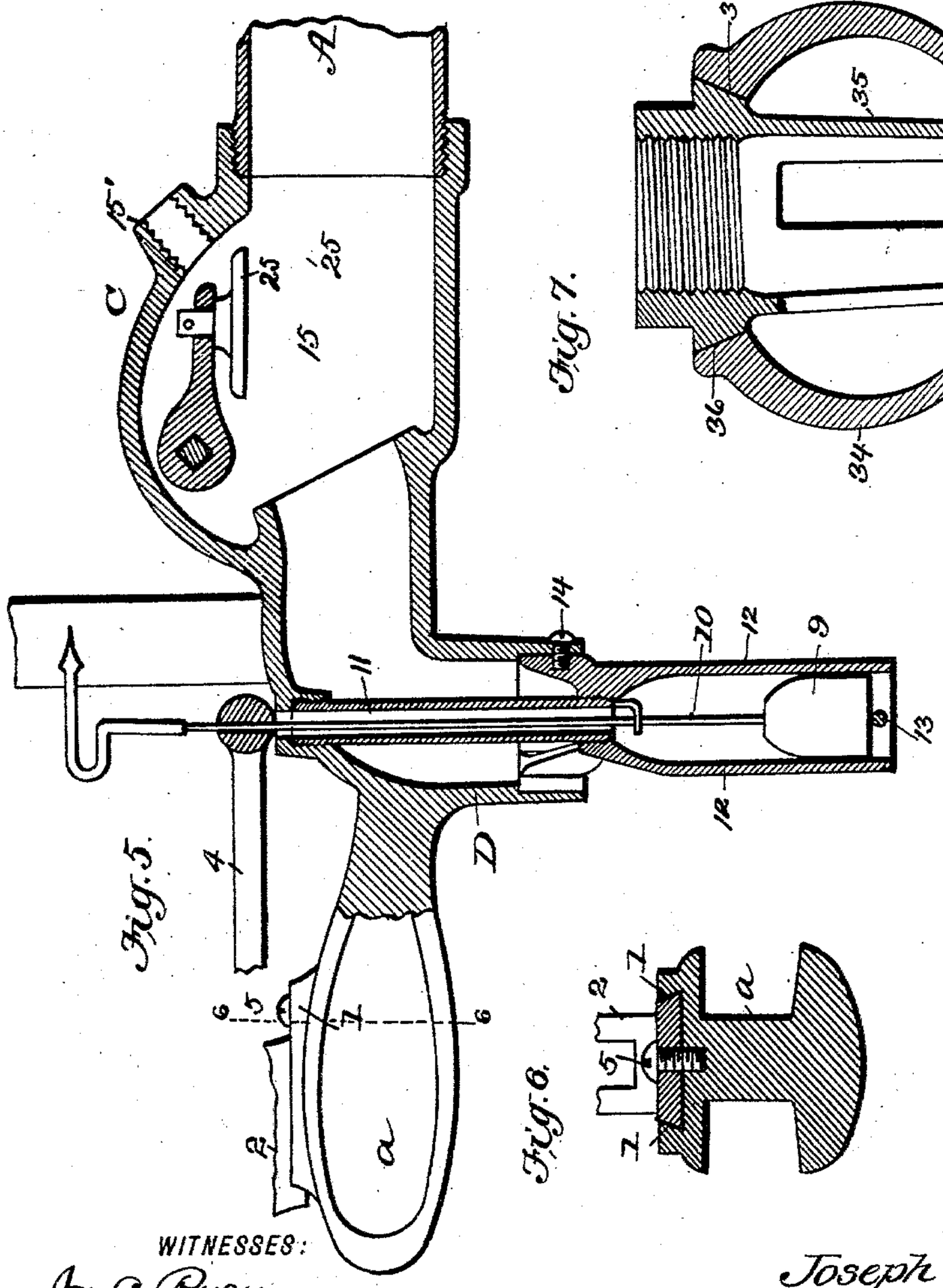

Fig. 5.

Fig. 7.

Fig. 6.

WITNESSES:

Jos. A. Ryan

Amos W. Hart

INVENTOR

Joseph E. J. Goodlett.

BY Munn & Co.,

ATTORNEYS.

UNITED STATES PATENT OFFICE.

JOSEPH ECCLESTON JOHNSTON GOODLETT, OF MEMPHIS, TENNESSEE.

BARREL-FILLING MACHINE.

SPECIFICATION forming part of Letters Patent No. 596,870, dated January 4, 1898.

Application filed March 23, 1897. Serial No. 628,850. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH ECCLESTON JOHNSTON GOODLETT, residing at Memphis, in the county of Shelby and State of Tennessee, have invented a new and useful Improvement in Barrel-Filling Machines, of which the following is a specification.

My present invention is an improvement upon that for which I have received Letters Patent No. 570,851, dated November 3, 1896.

The improvement relates to several features of construction and combination of parts which are hereinafter set forth in detail.

In the accompanying drawings, two sheets, Figure 1 is a side view of my improved machine. Fig. 1ª is a detail view illustrating the operation of the trip mechanism. Fig. 2 is an enlarged plan view of a portion of the same. Fig. 3 is a vertical section and side view of the part of the machine shown in Fig. 2. Fig. 4 is a plan view of another part of the machine. Fig. 5, Sheet 2, is an enlarged central longitudinal section of a portion of the machine. Fig. 6 is a transverse section on line 6 6 of Fig. 5; and Fig. 7 is an enlarged cross-section on line 7 7, Fig. 1.

As shown in Fig. 1, the main parts of the apparatus are, as in my former invention, a conducting-tube A, a universal joint or coupling B, and valve and float mechanism C, attached to a gooseneck D, forming an attachment of the tube A.

In my former invention the gooseneck and valve-chamber were formed separately, but in this case they are formed integrally and the valve-chamber is shortened, whereby a reduction in the cost of manufacture is effected. The handle *a*, extending from the gooseneck D, is provided on its upper side with a dovetailed keyway or slot 1, in which is secured the base of the bracket 2, in which the trigger 3 of the float-lever 4 is pivoted. The said bracket 2 is wedged into the keyway and held therein by means of a screw 5, inserted through its front end. By this means the bracket is secured so firmly in place that it cannot become loosened, and the operation of the trigger is not interfered with. The aforesaid float-lever is pivoted in the bracket and weighted at its outer end, the weight 6 being adjustable by means of a screw-thread on the lever, as shown. The angular shoulder or projection of the float-lever 4 engages a corresponding projection on the trigger 3, which prevents the latter from releasing the valve-lever 24 until the float-lever 4 is tilted by the float rising. The float-lever 4 is split or divided longitudinally, as shown at 7, and the shorter arm 4′ provided with a screw 8, which works in a threaded bore in the longer arm 4^2 of the lever 4. At the point where the said arm 4′ diverges the lever 4^2 is sufficiently thin and weak to give it a required degree of elasticity, so that by rotating the screw 8 the outer or weighted end of the lever may be tilted on its fulcrum to change the relation of its angle or shoulder 4^3 to the shoulder of the catch 3, which it engages. Thus, as shown by dotted lines, Fig. 1ª, the free end of the short arm 4^2 has been depressed by means of the screw 8, and the shoulder 4^3 of the lever 4 thereby tilted forward under the shoulder of the catch 3 to compensate for wear.

The float-rod 10 works in a tube 11, which is supported within the gooseneck, as in my former invention. The float tube or holder 12 is provided with a cross screw or rod 13 at its lower end, which prevents the float dropping out in case of its becoming detached. I also employ screws 14 for securing the brace-arms of the tube 12 to the gooseneck, as shown. The valve-chamber 15 is provided exteriorly on its upper side with a boss 15′, which is threaded interiorly to adapt it to receive an arm 17, having a T-shaped head. A counter or register 18 of any approved construction is affixed to one arm of such head and provided with a horizontal rock-shaft 19, on the outer end of which is fixed an arm or lever 20. A spring 21 is arranged in connection with such shaft and arm for the purpose of retracting the latter. The free end of the arm 20 is connected by rod 22 with one arm of an elbow-lever 23, which is pivoted to the gooseneck at a point adjacent to the pivot of the valve-lever 24, so that when said lever is detached it will strike upon the shorter arm of said elbow-lever and thereby trip or work the counter 18. When the valve-lever is depressed, it engages the trigger 3, as shown in Fig. 1, and the latter holds it thus depressed until the float 9 rises and thus trips the trigger and releases the said valve-lever 24, which in turn releases the elbow-lever 23, thus per-

mitting the spring-arm of the counter 18 to be retracted by its spring 21. Its retractile movement is arrested by the T-head of arm 17, as will be readily understood.

The valve 25, which is arranged within the valve-chamber 15, is connected with the aforesaid valve-lever 24, as in my former invention.

The valve-shaft 26 is provided with a volute spring 27 for rocking it to raise the lever 24 when released from the trigger, as before described. One end of the said shaft enters a chamber 28, forming a vertical extension of the valve-chamber 15. Instead of applying packing to the shaft, as in my former invention, I now arrange it as follows: The screw 29 for adjusting the tension of the aforesaid spring 27 (see Fig. 3) does not pass completely through the chamber 28, as in my former invention, but through one side thereof, and is socketed or journaled at its other end in the interior of said chamber, as shown. The screw is provided with a radial collar or flange 30, and a nut 31 screws into the socket formed on the side of the chamber 28. The said flange 30 abuts the inner side of said socket, and between it and the nut 31 is arranged packing 32, by which means the escape of liquid from said chamber 28 is effectually prevented. It is manifest that the screw-nut 31 enables said packing to be readily adjusted or compressed as occasion requires. This mode of packing is not only preferable in respect to function, but enables the apparatus to be produced at less cost. As a means for rotating the screw 29 a pin or cross-bar 33 may be arranged in its outer end, as shown. The arrangement of the screw also enables the packing to be readily removed whenever required, and new packing may be supplied without removing any part save the nut.

It will be observed, Fig. 1, that the tube A is tapered toward its discharge end or where it joins the gooseneck, which construction I have found of great practical advantage in facilitating the rapid flow and discharge of liquid.

The coupling B has been changed and improved, as will be now described. The chief desiderata for such couplings are that they shall have great flexibility or range of adjustment at different angles and also form a liquid-tight joint under all conditions of such adjustment. Barrel-fillers of this class have ordinarily been deficient in these particulars. The shell 34 is provided with lateral orifices to adapt it to receive a plug 35, to which any suitable connecting-pipe from a source of supply may be attached. To provide for such attachment, the said plug 35 is screw-threaded interiorly at its larger end. (See Fig. 7.) The said end is provided with a bevel-shoulder 36 exteriorly, which fits upon a corresponding seat of the shell 34. The smaller end of the plug has a screw-threaded extension 37, that passes through the smaller hole in the shell and is also provided with a bevel 38, which fits on a corresponding seat, as shown. A washer 39 is fitted on said extension 37 and provided with a keyway that prevents rotation. A wing-nut 40 screws on the stem 37 and bears upon said washer. It is obvious that by adjusting said nut the plug 35 may be drawn to seat with any required degree of force, so as to form perfectly liquid-tight joints without preventing its easy rotation. The aforesaid shell 34 has a semicircular cavity on one side, which adapts it to fit closely upon the corresponding head 41, attached to the end of the tube A. The said head has trunnions 42, and the shell is attached to these by means of pivoted arms 43, having set-screws 44, that bear upon blocks or brasses 45, that work in contact with the trunnions. By means of said screws the shell may be held in contact with the head 41 with any required degree of force, so that a liquid-tight joint is insured, and at the same time provision is made for ready and convenient detachment of the shell as required. It will be noted that the flanges 46 of the shell are extended, so as to form stops when they come in contact with the tube and thus limit the rotation of the shell.

The relative size of the shell 34, or, rather, its chambers, is such and the outlet-openings in the plug 35 are so large that the flow of liquid is not materially interfered with in swinging the filler proper from one barrel to another, and hence the filling-pipe (not shown) from the supply-tank may be placed in the center of the room containing the barrels to be filled and the filler moved in a complete circle and the barrels rapidly filled.

In practice when barrels are to be filled the plug 35 is screwed onto the tank-pipe x, Figs. 1 and 4, the shell or casing 34 then slipped on said plug, the washer 39 put in place, and the winged nut 40 screwed home to secure the parts properly together. The filler proper is now put on or attached, which is done by placing the head 41 in the concavity of the shell 34, and the pivoted arms 43 swung onto the gudgeons 42 and the screws 44 tightened on the bearing-blocks 45, thus making the final adjustment.

It is apparent that by providing a plug and shell or plug-casing for each tank the filler may be easily and quickly changed from one tank to another, thus saving time and labor as compared with filling apparatus having joints or couplings of ordinary construction.

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

1. In a barrel-filling machine, the combination with the conducting-tube and valve-chamber, the discharge-valve, the gooseneck, connected with such chamber, and a counter or register attached thereto, of a vertically-slidable float, a pivoted set-lever connected with the float, a trigger which engages said lever, the discharge-valve lever, which may engage the trigger, a movable device on which

the valve-lever acts, and means which connect such device with the counter, as shown and described for the purpose specified.

2. In a barrel-filling machine, the combination with the tube and gooseneck, valve and float mechanisms, and means interposed between the latter for tripping the valve mechanism when the float rises, a counter or register having a rock-shaft, a pivoted elbow-lever acted on by the valve mechanism, and a rod connecting such lever with the rock-shaft of the counter for operating, as shown and described.

3. In a barrel-filling machine, the valve-chamber, provided with an exterior boss having a socket, the T-head arm screwed in said socket, the counter attached to one side of the head of such arm, and having a rock-shaft, a spring arm or lever affixed to the latter and arranged as shown to strike on the T-head when retracted, a rod attached to said spring-arm, and valve mechanism which the rod connects with, all combined as shown.

4. In a barrel-filling machine, the goose-neck-arm having a dovetail slot or keyway, the valve and float trip mechanism, the bracket carrying said mechanism and having a base corresponding to said slot, and a screw inserted through said base, for preventing it sliding out of the slot, as shown and described.

5. In a barrel-filling machine, the combination of the valve-chamber, valve, valve-shaft, spring, and nut, said chamber having a socket in one of its inner walls and a transverse bore or opening at a directly opposite point in the parallel wall, an exterior boss which is concentric with such opening, a bored nut screwing into said boss, the elastic packing 32, and the rotatable shaft 29, having a radial flange fitting in the boss, the cylindrical portions which work in the nut and chamber opening being plain or smooth and the portion within the chamber screw-threaded, and its rounded end fitting in the aforesaid socket, whereby the shaft is supported in place and a liquid-tight joint formed, as shown and described.

6. The combination with the valve, valve-lever, and pivoted catch 3, of the pivoted float-lever 4, having the shoulder 4^3, which engages said catch, its longer arm having the short divergent arm 4, the adjusting-screw arranged as shown, and said float-lever being made duly elastic at the point where the shorter arm diverges, as and for the purpose specified.

JOSEPH ECCLESTON JOHNSTON GOODLETT.

Witnesses:
H. E. MAURY,
T. W. WHITE.