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I. TORDIFF.
BOTTLE FILLING DEVICE.
APPLICATION FILED MAY 28, 1904.

NO MODEL.

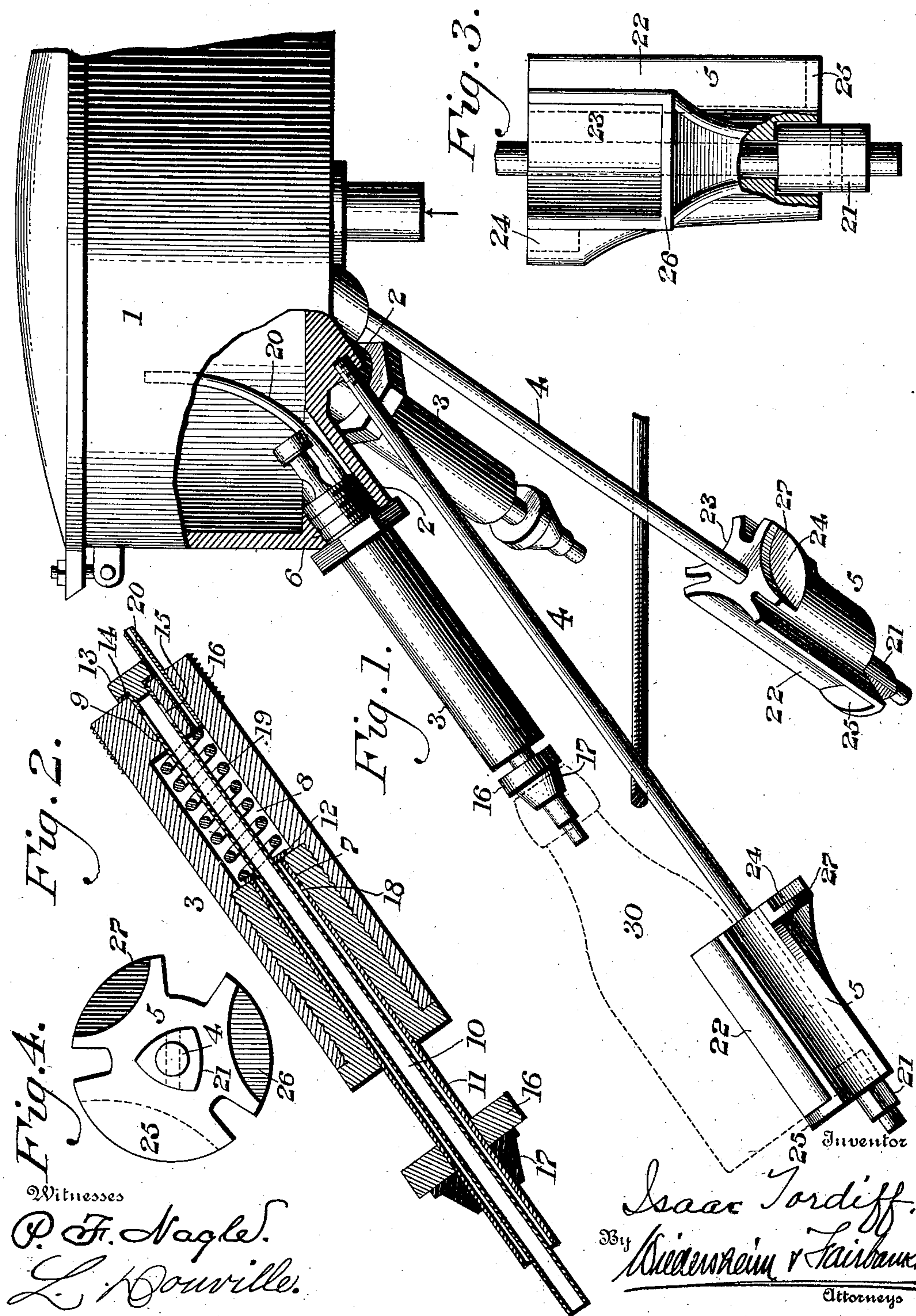


Fig. 4.

Witnesses

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BOTTLE-FILLING DEVICE.

SPECIFICATION forming part of Letters Patent No. 768,918, dated August 30, 1904.

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To all whom it may concern:

Be it known that I, ISAAC TORDIFF, a citizen of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Improvement in Bottle-Filling Devices, of which the following is a specification.

My invention relates to bottle-filling devices, and comprises novel means for supporting the bottle whereby one operator may handle a considerable number of them and of a novel filling-tube whereby provision is made for the escape of air from the bottle and whereby loss of liquid from the tank is prevented.

It further consists of novel features of construction, all as will be hereinafter fully set forth.

Figure 1 represents in elevation, partly broken away, a bottle-filling device embodying my invention. Fig. 2 is a vertical section of the filling-tube. Fig. 3 is a fragmentary elevation of the bottle-support. Fig. 4 is a bottom plan view of a portion shown in Fig. 3. The scale of the last three figures is enlarged.

Similar numerals of reference indicate corresponding parts in the figures.

Referring to the drawings, 1 designates a liquid-tank which may be of any desired shape or capacity. Projecting radially and downwardly from the tank 1 is a plurality of nipples 2, in each of which is secured a filling-tube 3, immediately beneath and parallel with which is a rod 4, at the foot of which is mounted a bottle-support 5. The filling-tube 3 is shown as provided with a thread 6 at its upper end, adapted to engage in the nipple 2. Its bore 7 is enlarged to form a chamber 8 and contracted at its upper end to a passage 9. Passing through the fitting 3 are concentric tubes 10 and 11, united by a washer 12 within the chamber 8. The tube 10 passes entirely through the fitting 3 and is provided with a head 13 at its upper end, between which and the head of the fitting 3 is interposed a washer 14. Lateral apertures 15 are cut near the upper end of the tube 10. Both tubes 10 and 11 extend out at the lower end of the fitting 3, the inner tube 10 extending somewhat farther

than the outer tube 11. Secured on the tube 11 is a washer 16, which forms an abutment for a resilient plug or stopper 17. The tube 11 is provided with lateral apertures 18 near its inner end. A spring 19 in the chamber 8 abuts against the upper end of the chamber and against the washer 12, thereby tending to force the tubes 10 and 11 outward. An air-vent tube 20 connects the chamber 8 with the interior of the tank 1 and extends, preferably, above the level of the liquid therein. At the lower end of the rod 4 is secured a triangular nut 21, on which is loosely mounted the fitting 5. This is shown as provided with three arc-shaped recesses 22 23 24 of different lengths, the recess 22 extending nearly to the foot of the fitting. The recesses terminate in ledges 25, 26, and 27, respectively.

The operation is as follows: The tank being filled with liquid, a bottle 30 is placed, as shown, resting in the recess 22 and with its bottom against the ledge 25. To place the bottle in this position, its mouth is first engaged with the stopper 17 and the bottle is forced inward and upward against the pressure of the spring 19, so that the lateral apertures 15 in the tube 10 open into the tank 1 and the lateral apertures 18 in the tube 11 open into the chamber 8. It is evident that the liquid in the tank will pass through the tube 10 into the bottle, that the air in the bottle will escape through the tube 11, chamber 8, and vent-tube 20, and that the bottle will be securely held in position between the stopper 17 and the ledge 25. As several fittings 3 and bottle-supports 5 are placed adjacent each other in the tank 1, it will be seen that one operator may handle a large number of the bottles, placing them successively in position and removing them as filled. It is also clear that on the removal of the bottle the spring 19 will instantly close both the liquid and air passages, so that no waste from the tank is permitted. When smaller bottles are to be filled, it is only necessary to slide the fitting 5 upward on the rod 4 to give it a partial rotation and to permit it to drop back into position with either the recess 23 or 24 uppermost, as desired.

It is evident that various changes may be

made by those skilled in the art which will come within the scope of my invention, and I do not, therefore, desire to be limited in every instance to the exact construction herein shown and described.

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

1. In a device of the character described, a filling-tube having a bore therethrough, a chamber in said tube, a tube mounted in said filling-tube, and having openings adjacent its upper end, a closure for said end, said openings being adapted to be closed by the wall of said bore when said tube is in normal position, a second tube surrounding said first-named tube and forming a space therebetween, said second-named tube being provided with lateral openings adjacent its inner end, means for connecting said tubes together and for closing the end of the space between said tubes, a spring mounted in said chamber and bearing against said tubes to hold the same in normal position and a vent communicating with said chamber.

2. A bottle-filling device comprising a tank, a fitting projecting from said tank, longitudinally-movable liquid-feeding and air-vent tubes in said fitting, means on said tubes for engaging the mouth of a bottle to be filled, and bottle-supporting means mounted for longitudinal and rotary movement and adapted

to support bottles of different sizes with their mouths in contact with said engaging means.

3. A bottle-filling device comprising a tank, a fitting projecting from said tank, a longitudinally-movable filling-tube in said fitting, means at the free end of said tube for engaging the mouth of a bottle to be filled, and a bottle-support mounted for longitudinal and rotary movement adjacent said fitting, provided with a plurality of bottle-holding recesses adapted to engage bottles of different sizes and to support them in contact with said engaging means.

4. A bottle-filling device comprising a tank, a fitting projecting from said tank, a longitudinally-movable filling-tube in said fitting, means at the free end of said tube for engaging the mouth of a bottle to be filled, a rod supported in said tank in parallel relation with said fitting, a polygonal nut at the lower end of said rod and a bottle-support longitudinally movable and rotatable on said rod and recessed to engage said polygonal nut, said support being provided with a plurality of recesses adapted to receive bottles of different sizes and to support them in contact with said engaging means.

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Witnesses:

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