(No Model.) 2 Sheets—Sheet 1.

# A. M. DONALLY.

## BOTTLE FILLING APPARATUS.

No. 445,882. Patented Feb. 3, 1891.

Fig. 1.

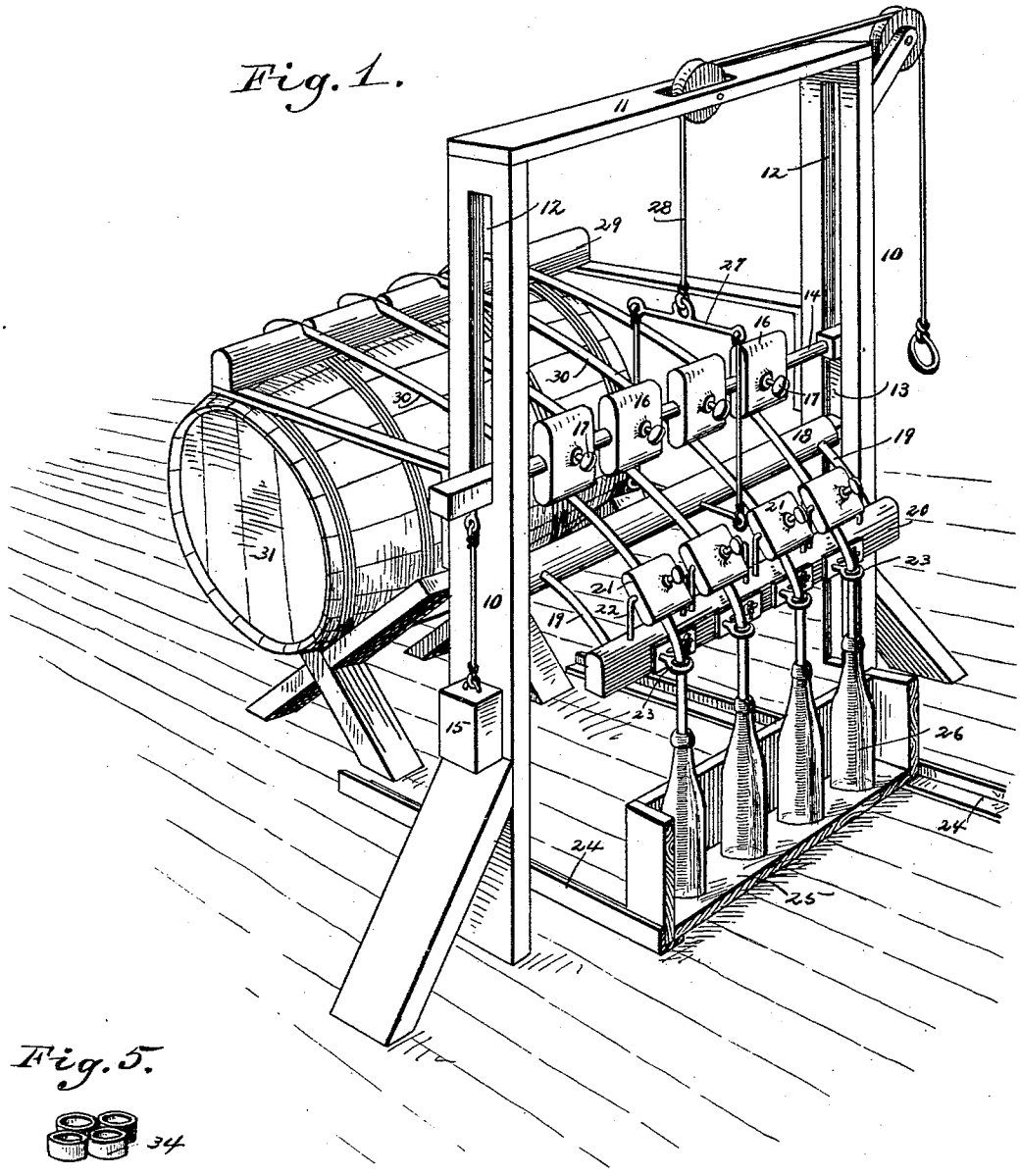
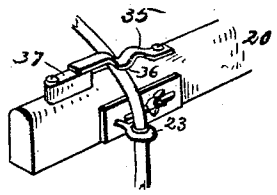



Fig. 5.




Fig. 4




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(No Model.) 2 Sheets—Sheet 2.

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## BOTTLE FILLING APPARATUS.

No. 445,882. Patented Feb. 3, 1891.

Fig. 2.

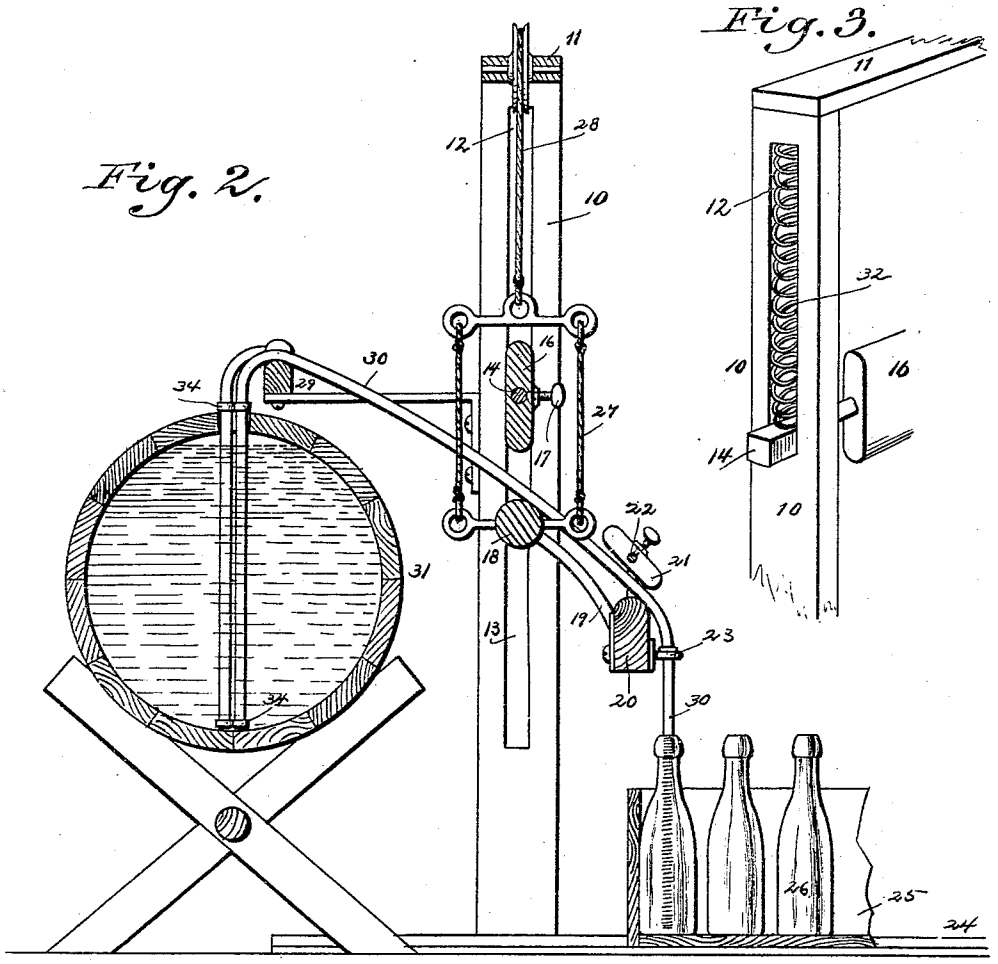



Fig. 3.




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# UNITED STATES PATENT OFFICE.

AMALIA M. DONALLY, OF NEW YORK, N. Y.

## BOTTLE-FILLING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 445,882, dated February 3, 1891.

Application filed June 21, 1890. Serial No. 356,182. (No model.)

*To all whom it may concern:*

Be it known that I, AMALIA M. DONALLY, of New York city, in the county and State of New York, have invented a new and useful Improvement in Bottle-Filling Apparatus, of which the following is a full, clear, and exact description.

My invention relates to an improved bottle-filling apparatus, and has for its object to provide a device of simple, durable, and economic construction whereby bottles may be conveniently and expeditiously filled with liquid drawn from any convenient storage-tank, keg, barrel, or like receptacle, and, further, to so extract the liquid from the receptacle and convey the same to the bottles that the liquid will be effectually prevented from foaming.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures of reference indicate corresponding parts in all the views.

Figure 1 is a perspective view of the complete apparatus illustrated in operative position. Fig. 2 is a central vertical section through the apparatus. Fig. 3 is a detail perspective view of a slight modification. Fig. 4 is a perspective view of a further modification of construction. Fig. 5 is a perspective view of the guide-rings for the hose or pipes detached.

The frame of the machine consists, preferably, of two uprights 10, suitably braced at their lower ends and connected at their tops by a cross-bar 11. Each upright is provided with a longitudinal slot 12, extending from a point near the center nearly to the upper end, and with a longitudinal groove 13 upon the inner face, leading upward into the slot.

In the slots 12 of the standards the ends of a bar 14 are held to slide. The said bar is circular throughout the major portion of its length. The ends, however, are made to conform in shape with the cross-sectional contour of the slots in which they slide. The extremities of the bar 14 extend beyond the standards 10 and have secured thereto or thereon a weight 15, whereby the ends of the bar 14 are normally made to rest upon the lower end portion of the slots 12. Upon the circular portion of the bar 14 a number of buttons 16 are secured, preferably by means of set-screws 17, the buttons being capable of turning upon the rod and being retained in proper position thereon by manipulating the set-screws 17.

In the grooves 13 of the standards the extremities of a second or anvil bar 18 are held to slide. The bar 18 is also preferably circular throughout its length; but the extremities entering the grooves are polygonal. Between the standards 10, from the ends of the lower bar 18, downwardly and outwardly curved arms 19 are projected, the said arms being connected in any suitable or approved manner at their lower ends with a horizontal guide or supporting bar or beam 20. The guide or supporting bar or beam is preferably provided with buttons 21, corresponding in number, location, and character to the upper buttons 16, the lower buttons 21 being preferably held to turn upon staples 22, attached to the said guide or supporting bar or beam. The lower buttons are held in the desired position also by means of set-screws.

Upon the outer side face of the supporting or guide bar 20 a number of eyes 23 or equivalent devices are secured, the said eyes being capable of lateral adjustment, and one of the eyes is arranged beneath each of the buttons 21.

Beneath the standards 10 of the frame upon the floor or other support tracks 24 are laid, and a box 25 or other equivalent receptacle is held to slide upon the said tracks, which box is adapted to contain bottles 26 or other vessels to be filled and arranged in rows, as illustrated.

The bar 18 is adapted to be elevated by the operator, and this may be accomplished in any suitable or approved manner. As illustrated, a yoke 27 is attached to the center of the bar, and a rope, cord, or chain 28 is secured to the upper portion of the yoke and passed over a pulley in the cross-bar of the frame and down at one side thereof; but it is evident that a lever may be substituted if in practice it is found desirable. A horizontal supporting-frame 29 is also preferably attached to the rear of the main frame, pro-

vided with a series of notches to receive conducting-tubes 30. The conducting-tubes 30 may be constructed of any suitable or approved material—such as block-tin or rubber—and the said tubes are adapted to be connected at their rear ends with a cask 31 or other receptacle from which the liquid is to be drawn. The tubes pass from the cask over the supporting-frame 29, beneath the upper buttons 16, between said buttons and the lower sliding bar 18, and thence downward beneath the lower buttons 21 and through the eyes 23, the lower ends of the tubes being adapted to enter the mouths of the bottles or other vessels to be filled. Where the tubes pass through the eyes 23 a washer is ordinarily attached, so that when the bar 18 is elevated the lower ends of the tubes will be raised also.

If in practice it is found desirable, the weights 15, connected with the upper bar 14, may be substituted by springs 32, as shown in Fig. 3, in which event the springs are located in the slots 12 of the standards, the lower ends of the springs bearing upon the upper surface of the bar and the upper ends against the upper wall of the slots.

The tubes may be made to enter the cask 31 in any suitable or approved manner—that is to say, the liquid may be drawn or siphoned from a bung-hole in the top of the cask. When the tubes are passed down through a bung-hole in the top of the barrel, a number of rings 34 corresponding to the number of tubes are soldered or otherwise attached to the tubes, said rings being illustrated in Fig. 5. The tubes are passed through two sets of rings, as illustrated in Fig. 2, one set of rings being located at the ends of the tube introduced in the liquid and the other set being located immediately above the mouth of the bung.

Instead of the lower buttons 21, the construction shown in Fig. 4 may be substituted, which construction consists of a spring 35, secured at one end to the supporting or guide bar 20, the said spring being provided with a downwardly-extending yoke projection 36 at or near its center, and the free end of the spring is made to rest upon a button 37, pivoted to the bar 20. The tubes are made to pass beneath the projection or extension 36 of the spring, and when the free end of the spring rests upon the button 37 the projection or extension 36 is held out of engagement with the tube. When the flow of liquid is to be stopped, by disengaging the button from the spring the projection or extension of the spring exerts sufficient tension upon the tube to effectually prevent the liquid from flowing through the same.

In the operation of the device as constructed in Fig. 1, by drawing down upon the rope 28 when the bottles have been filled, the operator forces the lower bar 18 upward, and when the upper buttons 16 are in the vertical position the tubes are pinched or compressed between said buttons and the elevated bar in such manner as to stop the flow. The flow of liquid may be turned onto any particular tube by carrying the button 16 above the tube to the horizontal position, and the flow of liquid through any one tube may be stopped by compressing the tube between the supporting or guide bar 20 and the button immediately above it. When the bar 18 is elevated, the tubes are carried out of the mouths of the filled bottles or vessels, and the case or box 25 containing said vessels is pushed forward a sufficient distance to present another row of bottles or vessels to the tubes when the bar 18 is again lowered.

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

1. The combination, with a shaft and compressing-blocks carried by the shaft, of an anvil-bar located beneath the blocks, a guide-bar supported from the anvil-bar, and flexible tubes passed between the blocks and anvil-bar and over the guide-bar, substantially as shown and described.

2. In an apparatus of the character described, the combination, with a shaft, compressing-blocks adjustable upon said shaft, and locking devices adapted to fasten the blocks to the shaft, of a movable anvil-bar located beneath the block-shaft, a guide-bar supported by the anvil-bar, adjustable guide devices attached to the guide-bar, and flexible tubes engaging with the blocks, the anvil-bar, the guide-bar, and guide devices, substantially as and for the purpose specified.

3. In a device of the character described, the combination, with a weighted shaft, compressing-blocks adjustably secured to the said shaft, an anvil-bar located beneath the compressing-blocks, and a lifting device connected with the anvil-bar, of a guide-bar located in front of and below the anvil-bar and connected therewith, guide devices attached to the guide-bar at one side, compressing devices adjustably secured to the upper surface of the guide-bar, and tubes passed between the compressing-blocks and anvil-bar, between the guide-bar and the compressing devices, and through the guide devices, substantially as shown and described.

4. In a device of the character described, the combination, with a shaft, compressing-blocks adjustable upon the said shaft, an anvil-bar located beneath the compressing-blocks capable of movement to and from the same, and a lifting device connected with the anvil-bar, of a guide-bar also connected with the anvil-bar, compressing devices adjustably supported above the guide-bar, and tubes passed between the blocks and the anvil-bar and between the compressing devices and guide-bar, as and for the purpose set forth.

5. In a device of the character described, the combination, with a shaft, compressing-blocks adjustable upon the said shaft, an anvil-bar located beneath the compressing-

blocks capable of movement to and from the same, and a lifting device connected with the anvil-bar, of a guide-bar also connected with the anvil-bar, compressing devices adjustably supported above the guide-bar, tubes passed between the blocks and the anvil-bar and between the compressing devices and guide-bar, and apertured plates adapted to bind the tubes together near one end, substantially as and for the purpose specified.

6. In a device of the character described, the combination, with a shaft, compressing-blocks adjustable upon the said shaft, an anvil-bar located beneath the compressing-blocks capable of movement to and from the same, and a lifting device connected with the anvil-bar, of a guide-bar also connected with the anvil-bar, compressing devices adjustably supported above the guide-bar, tubes passed between the blocks and the anvil-bar and between the compressing devices and guide-bar, apertured plates adapted to bind the tubes together near one end, tracks located beneath the guide-bar, and a carriage held to travel upon the tracks, substantially as shown and described.

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Witnesses:
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JAS. M. HENLEY.