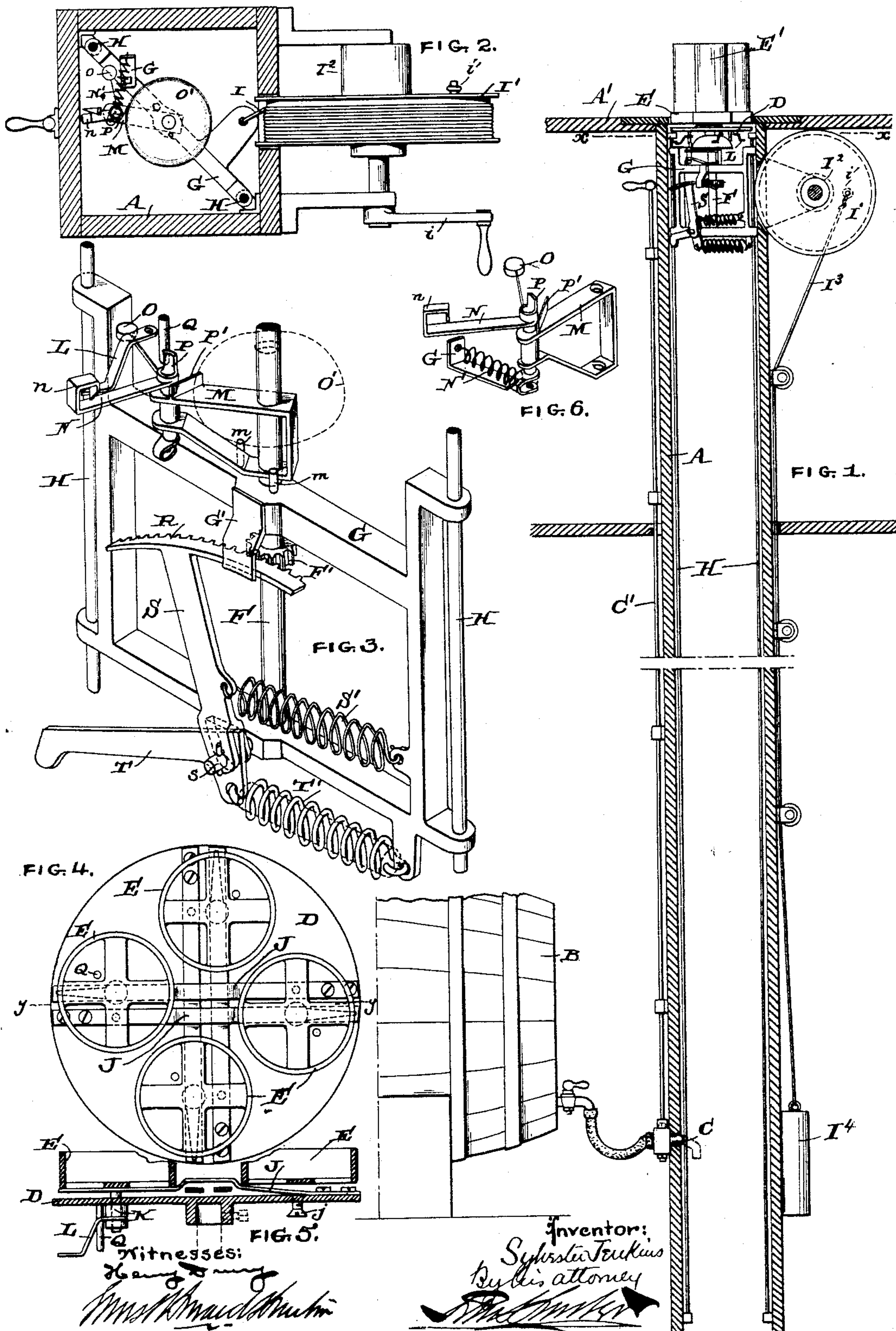


(No Model.)

S. JENKINS.  
APPARATUS FOR DELIVERING LIQUIDS.

No. 449,778.

Patented Apr. 7, 1891.





# UNITED STATES PATENT OFFICE.

SYLVESTER JENKINS, OF LANSDALE, PENNSYLVANIA, ASSIGNOR OF TWO-THIRDS TO WILLIAM E. DOAN, JR., OF SAME PLACE, AND ARTHUR M. JENKINS, OF NORRISTOWN, PENNSYLVANIA.

## APPARATUS FOR DELIVERING LIQUIDS.

SPECIFICATION forming part of Letters Patent No. 449,778, dated April 7, 1891.

Application filed July 28, 1890. Serial No. 360,181. (No model.)

*To all whom it may concern:*

Be it known that I, SYLVESTER JENKINS, of Landsdale, county of Montgomery, and State of Pennsylvania, have invented an Improvement in Apparatus for Delivering Liquids, of which the following is a specification.

My invention relates to apparatus for delivering liquids, &c.; and it consists of certain improvements which are fully set forth in the following specification, and shown in the accompanying drawings, which form a part thereof.

The object of my invention is to provide a convenient apparatus for filling receptacles with liquids or other articles in a cellar from an upper room, and then raising the filled receptacles from the cellar.

My invention is particularly adapted to use in bar-rooms for the delivery of ale and other liquids which by their nature must be kept in a vault or cellar. Ordinarily it is necessary for the attendant to descend into the cellar whenever it is desired to draw a glass of ale, or pressure devices are employed to raise the liquor to the upper room. Elevators have been devised heretofore in which the receptacle is lowered to the cask and filled therefrom by operating a valve from the upper room, but in none of these devices has it been possible to fill a number of separate glasses upon each lowering of the elevator-platform, and it has been usual when a number of glasses were to be drawn to fill a large receptacle and subsequently pour the liquor therefrom into the different glasses at the bar. In my apparatus, however, it is possible at one operation of the elevator to fill a number of glasses or receptacles in succession, the apparatus operating automatically to bring each glass successively in position under the spigot of the barrel and notifying the attendant in the upper room when each glass has been filled.

In carrying out my invention I employ a support for the glasses or receptacles, which is raised and lowered in an elevator shaft, and by means of suitable mechanism is rotated upon reaching a position under the spigot of the barrel, the rotation being interrupted by means of stop mechanism until each glass has been filled, when the weight of the liquid or

article introduced into the receptacle automatically causes the operation of the stop mechanism to permit the support to rotate so as to bring the next receptacle or glass in position under the spigot. In connection with these devices I employ an alarm or indicator, which notifies the attendant in the upper room when each receptacle is filled, and after the proper number has been filled the support is raised in the elevator-shaft.

My invention also consists of certain novel improvements and combinations of parts which are hereinafter more fully set out and claimed.

In the drawings, Figure 1 is an illustrative view of my improved apparatus, showing the elevator-shaft in vertical section and the support for the receptacles and its operative mechanism and the barrel in side elevation. Fig. 2 is a horizontal sectional view of my improved apparatus on the line  $x x$  of Fig. 1. Fig. 3 is a perspective view of the mechanism for intermittently rotating the support for the receptacles. Fig. 4 is a plan view of the receptacle-support. Fig. 5 is a cross-sectional view of the same on the line  $y y$  of Fig. 4, and Fig. 6 is a perspective view of the stop mechanism removed from the other parts.

A is an elevator-shaft extending from the upper room into the cellar or lower room, where the barrel or reservoir B is located. The upper portion of the shaft A preferably terminates in a table A'.

C is a valved spigot or delivery-opening, connected with the barrel B in any convenient manner and movable into the elevator-shaft A.

C' is a rod connected with the spigot C and extending up into the upper room, whereby the spigot C may be moved out into shaft A and the valve may be simultaneously opened.

D is a rotatable frame, provided with a series of supports or holders E for the receptacles or glasses E'.

F is a central rod, carrying the frame D and journaled in a frame G.

H H are guides in the elevator-shaft A, upon which the frame G is guided in its ascent and descent.



I is a rope connected with the frame G, and adapted to be wound upon a drum I' by means of a handle *i*, to raise and lower the frame G. The drum I' is carried upon a drum I<sup>2</sup>, and a rope I<sup>3</sup>, provided with a weight I<sup>4</sup>, is connected with the drum I' at a point *i'* a distance from the drum I<sup>4</sup>, as shown in Fig. 1. With this construction it will be seen that the rope I<sup>3</sup> will be wound upon the drum I<sup>2</sup> when the frame G is lowered, and will be unwound therefrom when the frame G is raised. When the frame reaches the top of the elevator-shaft, as shown in Fig. 1, the rope I<sup>3</sup> will be entirely unwound from the drum I<sup>2</sup> and a leverage will be obtained from the point *i'*, so that the effect of the weight I<sup>4</sup> will be increased sufficiently to hold the frame G with the required degree of strength at the top of the elevator-shaft and prevent it accidentally descending by any slight jar or increase of weight. If desired, any other convenient means may be employed for raising and lowering the frame in the elevator-shaft A.

The supports E E for the glasses are supported by springs J, connected to the frame. By means of adjusting-screws *j*, Fig. 5, the tension of the springs may be adjusted. Normally each support E is supported above the frame D by means of the springs J, so that when the weight upon the support E is increased by the addition of the liquid the spring J will be depressed.

K is a pin or projection, carried by each support E or spring J, extending through an opening in the frame D. Carried by each pin K is a finger L. It is apparent that the fingers L may be otherwise connected with the supports E, as desired.

M is a bracket, journaled upon the central rod F, having an arm N journaled in it. The outer end of the arm N is formed with an extension or bent-over portion *n*, which is adapted to engage the end of the finger L.

O is a hammer carried by the arm N, adapted to strike a gong O', which may be arranged upon the central rod F or in any other convenient position.

N' is a spring connecting the arm N with the frame G and tending normally to move the hammer O into contact with the gong O'. The tendency of this spring is also to turn the bracket M, journaled upon the rod F. Stops *m m* may be used, arranged upon the frame G, to limit the movement of the bracket M in either direction.

Carried by the arm N is a curved or segmental projection P, with which the pins Q, upon the rotary frame D, successively come into contact when the frame rotates. This projection P and the pins Q act in conjunction with the arm N and fingers L, in the manner hereinafter more fully described, to intermittently interrupt the rotation of the frame D.

P' is a guard to protect the bearings of the arm N and bracket M from contact with the liquor that may be spilled.

Carried by the rod F is a pinion F', engaging with a rack R, which is carried by a lever S, pivoted to the frame G at *s*. A spring S' between the lever S and frame G operates the rack and thereby rotates the rod F.

T is a locking-lever, pivoted at *s* or in any other convenient position, and adapted to press against the lever S to normally lock the lever S and rack R from acting.

T' is a spring of greater power than the spring S' between the lever T and the frame G. This spring normally forces the lever T against the lever S, overcoming the action of the spring S'. The lever T projects out beyond the frame G, so that when the frame is lowered in the shaft the lever will strike the base of the elevator-shaft or any obstruction arranged therein and will be moved, overcoming the tension of the spring T', thereby releasing the lever S and permitting it to be operated by the action of the spring S'. The lever T thus forms a lock for the lever S.

G' is a guard upon the frame G to protect the rack and pinion and the rod F from contact with any liquor.

It is obvious that the rotation of the frame F and supports E might be accomplished in many other ways than by the particular mechanism specified, and while I prefer the construction shown and described, consisting of the rack and pinion and the springs S' and T', I do not limit my invention so far as its other features are concerned to the particular form of mechanism employed to rotate the frame and glass supports.

The operation of the apparatus is as follows: The glasses E' are placed in the supports E and the apparatus is lowered in the shaft A by means of the rope I. As heretofore set forth, the rod F is locked against rotation by the lever T and its spring T'; but upon reaching a position at the bottom of the shaft the lever T is raised and the rod is free to rotate by the action of the spring S'. Rotation is, however, prevented by the arm N and projection P, which are respectively in contact with one of the fingers L and pins Q. The spigot C is then turned, allowing the liquor to flow into the glass under it. As the weight supported by the spring J is increased by the addition of the liquor in the glass, the spring will be depressed, allowing the support E to descend, so as to move the finger L below the end *n* of the arm N. The action of the spring N' will rotate the arm N, and as the curved or segmental projection P is turned the pin Q will be free to pass, and by the action of the spring S' the rod F and frame D will rotate until the next glass is brought into position under the spigot, when further motion will be arrested by the arms N and projection P engaging with the finger L and pin Q, in the manner heretofore described.

The arm N, which acts as the stop for the finger L, it will be observed, is a yielding or spring stop, so that its action in arresting the rotation of the frame D is gradual and there



is no jar, while the greater portion of the strain is taken by the segmental projection P, which also constitutes a yielding stop for the pin Q, the bracket M being free to move slightly. By this construction, also, the friction of the parts is reduced to a minimum. It is apparent, however, that the projection P and pin Q may, if desired, be omitted, the entire strain being taken by the arm N.

When the finger L comes in contact with the arm N, it moves it against the operation of the spring N', and thus moves the hammer O away from the gong O', so that each time the arm N is released by the finger L the gong O' is sounded. The attendant is thus notified when each glass has been filled, and when the desired number has been obtained the apparatus is raised in the shaft A.

If desired, the spigot C may be turned off after each glass is filled and until the next is brought into position by the rotation of the frame, in order to prevent any spilling of the liquor. I have found, however, in practice that this precaution is unnecessary, since the quantity of liquor spilled is extremely small if the glasses are so arranged that their adjacent edges touch.

By adjusting the tension of the springs J, which support the glass-holders E, the amount of liquid to be received before each operation of the rotatable frame may be regulated. It is apparent that any convenient form of springs may be employed, and, if desired, the separate glass-holders E E may be dispensed with, and the supports for the glasses may be made integral with the springs.

I prefer the details of construction which have been shown; but I do not limit my invention to them, as it is apparent that they may be varied in many ways without departing from the principles of it.

What I claim as new, and desire to secure by Letters Patent, is—

1. The combination of a rotatable frame for supporting a series of receptacles, means to raise and lower said frame, and a stop to intermittently arrest the rotation of said frame.

2. The combination of a rotatable frame for supporting a series of receptacles, means to raise and lower said frame, an intermittently-operating stop to interrupt the rotation of said frame, and an alarm actuated by said stop.

3. The combination of a rotatable frame for supporting a series of receptacles, means to raise and lower said frame, a lock to normally lock said frame against rotation, and means to actuate said lock when the frame is lowered to unlock the frame and permit it to rotate.

4. The combination of a vessel having a delivery-opening or spigot, a rotatable frame, a series of supports carried by said frame successively under said delivery-opening or spigot, and means to intermittently arrest the rotation of said frame.

5. The combination, with a vessel having a

delivery-opening or spigot, of a series of supports for receptacles, means to rotate said supports to move them in succession under said delivery-opening or spigot, and an intermittently-operating stop arranged in the path of said supports to arrest them successively under the delivery-opening or spigot.

6. The combination, with a vessel having a delivery-opening or spigot, of a series of spring-supports for receptacles, means to rotate said supports to move the receptacles in succession under said delivery-opening or spigot, and a stop arranged in the path of said supports when in their normal positions, but out of the path of said supports when depressed, whereby each of said supports will be arrested by said stop in passing under the spigot, but when depressed by the weight of the liquor received in the receptacle will be released and free to rotate.

7. The combination, with the rotatable frame D, of the supports E, carried thereby and supported by springs J, the fingers L, carried by the supports E, and a stop arranged in the normal path of said fingers L, substantially as and for the purpose described.

8. The combination, with the rotatable frame D, of the supports E, carried thereby and supported by springs J, the fingers L, carried by the supports E, and a yielding stop arranged in the normal path of said fingers L, substantially as and for the purpose described.

9. The combination, with the rotatable frame D, of the supports E, carried thereby and supported by springs J, the fingers L, carried by the supports E, the pivoted stop N, arranged in the normal path of the fingers L, the hammer O, carried by the stop N, and the gong O'.

10. The combination, with the rotatable frame D, provided with pins Q, of the supports E, carried by the frame and supported by springs J, the fingers L, carried by the supports E, a pivoted stop N, arranged in the normal path of the fingers L, and the stop P in the path of the pins Q.

11. The combination, with the rotatable frame D, provided with the pins Q, of the supports E, carried by the frame and supported by springs J, the fingers L, carried by the supports E, a pivoted stop N, arranged in the normal path of the fingers L, and the curved stop P in the path of the pins Q, carried by the pivoted stop N and rotated thereby.

12. The combination of a rotatable frame provided with a series of pins or projections, a series of supports carried by said rotatable frame upon springs and provided each with a projecting finger, a bracket journaled adjacent to said rotatable frame, a stop pivoted in said bracket and arranged in the normal path of the fingers of the supports, a curved projection carried by said pivoted stop and rotated by it and arranged in the path of the pins upon the rotatable frame, and a spring for said bracket and pivoted stop.



13. The combination of a rotatable frame provided with a series of pins or projections, a series of supports carried by said rotatable frame upon springs and provided each with  
5 a projecting finger, a bracket journaled adjacent to said rotatable frame, a stop pivoted in said bracket and arranged in the normal path of the fingers of the supports, a curved projection carried by said pivoted stop and  
10 rotated by it and arranged in the path of the pins upon the rotatable frame, a spring for said bracket and pivoted stop, and stops to limit the movement of said bracket.

14. The combination, with a vertically-  
15 movable frame, of a rod journaled therein, a rotatable supporting-frame for a series of receptacles carried by said rod, a rack and pinion for rotating said rod, devices to operate said rack, a locking-lever to normally lock  
20 said devices against operation, and means to actuate said lever when the vertically-movable frame is lowered to unlock said devices.

15. The combination, with a vertically-movable frame, of a rod journaled therein, a  
25 rotatable supporting-frame for a series of receptacles carried by said rod, a rack and pinion for rotating said rod, a spring to actuate said rack, a locking-lever to lock said rack against the action of said spring projecting

beyond the frame, so as to be moved by contact with an obstruction, and a spring to draw said locking-lever in contact with said rack.

16. The combination of a vertically-movable frame for a receptacle, a vessel having  
35 an outlet for discharging liquor or other material into said receptacle when it has been lowered, an alarm, and devices to sound said alarm actuated by the support for the receptacle when the receptacle has been filled.

17. The combination of an elevator-shaft, a supporting-frame vertically movable therein, a lifting-rope connected with said frame, a drum, about which said lifting-rope passes, a smaller drum arranged concentric with  
45 the first drum, and a counterbalanced rope adapted to be wound upon the smaller drum and connected to the larger drum at a distance from the periphery of the smaller drum, whereby the leverage of the counterbalanced  
50 rope is greatest when unwound from the smaller drum.

In testimony of which invention I have hereunto set my hand.

SYL. JENKINS.

Witnesses:

R. M. HUNTER,  
ANDREW ZANE.