(No Model.)

R. JEWELL.

APPARATUS FOR CONTROLLING AND REGISTERING THE DELIVERY OF BOTTLES.

No. 443,365. Patented Dec. 23, 1890.

Fig. 1.

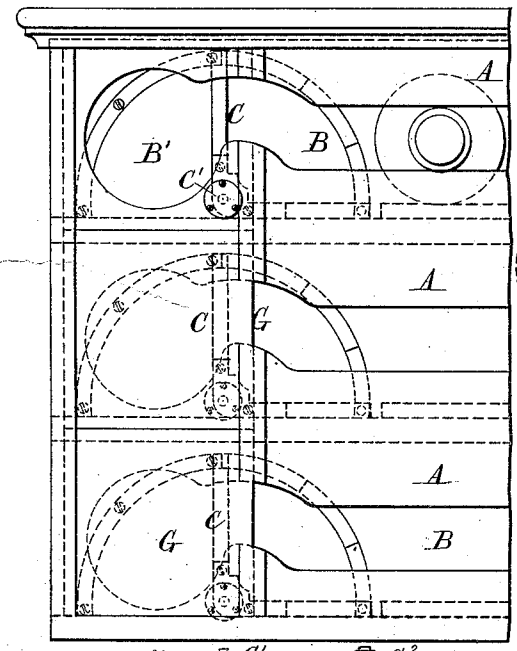


Fig. 5.

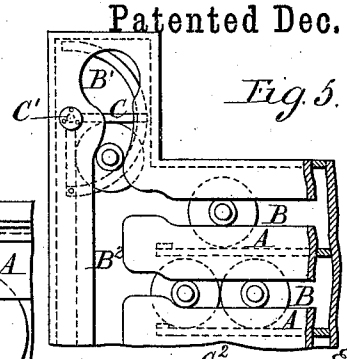


Fig. 3.

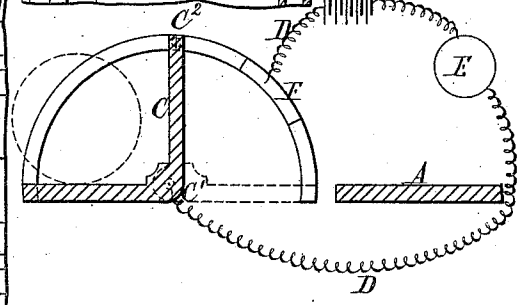


Fig. 2.

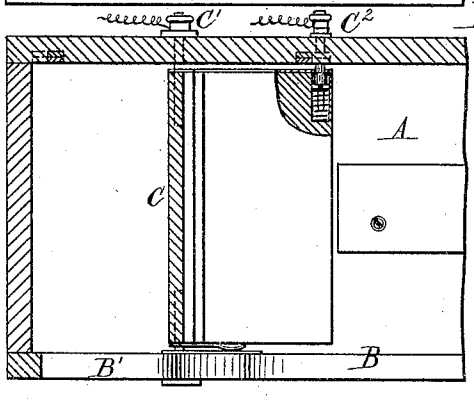
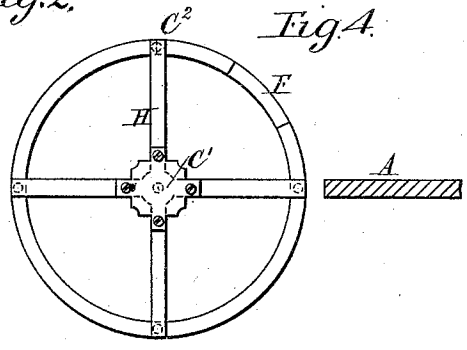


Fig. 4.



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UNITED STATES PATENT OFFICE.

ROBERT JEWELL, OF LONDON, ENGLAND.

APPARATUS FOR CONTROLLING AND REGISTERING THE DELIVERY OF BOTTLES.

SPECIFICATION forming part of Letters Patent No. 443,365, dated December 23, 1890.

Application filed June 20, 1890. Serial No. 356,097. (No model.) Patented in England August 15, 1889, No. 12,902, and in France June 13, 1890, No. 206,347.

To all whom it may concern:

Be it known that I, ROBERT JEWELL, a citizen of England, residing at 9 Victoria Road, Battersea Park, in the county of Surrey, England, have invented new and useful Apparatus for Controlling and Registering the Delivery of Bottles and other Articles from Bins, Shelves, Racks, and Similar Receptacles, (for which I have obtained Letters Patent in Great Britain dated August 15, 1889, No. 12,902, and in France dated June 13, 1890, No. 206,347,) of which the following is a specification.

My invention has for its object to control and register the delivery or removal of bottles containing liquids and other articles of a compact nature from bins, shelves, racks, and other receptacles. For this purpose I construct the bin, rack, shelf, or other receptacle so that when charged with bottles or other articles these can only be removed from one end thereof, the bin, &c., being constructed with an opening of sufficient size either to allow the protrusion through it of the necks of the bottles or to allow of the passage of the hand for shifting the bottles or other articles along it. At the discharge end I provide a turnstile made as a movable double flap consisting of two plates fixed at right angles to each other and capable of turning upon pivots situated at the angle of the two plates, so that in turning the flap on its pivots in one direction the one plate assumes a horizontal position while the other assumes a vertical position, closing the exit of the bin, the space between the two being turned away from the latter, while in turning the flap in the contrary direction the first-named plate assumes the vertical and the second the horizontal position, with the space between the two presented toward the bin. For removing a bottle this is first moved into the said space between the plates when the flap is in the last-named position, and the flap is then turned over so as bring the bottle to the outside, thus enabling it to be removed. In order now to remove a second bottle it is necessary first to turn the flap back again and then to repeat the above operation. With the flap are combined electric contacts so arranged that at each movement thereof for removing a bottle an electrical circuit is closed, actuating an electrical registering or counter mechanism of any suitable kind, whereby the number of bottles, &c., removed, or the value thereof, is registered, such mechanism being, if necessary, made also to actuate an audible signal. The electrical contacts for the above purpose may conveniently consist of two fixed metallic surfaces, to which the terminals of the electric circuit are connected, and a sliding contact on the flap, so that the latter closes the circuit during a portion of its motion and then breaks it again.

Instead of effecting the registration by means of an electric current, the axis or pivot of the flap can be mechanically connected to a counter, so as to actuate this at each movement for removal of a bottle.

Instead of employing a double flap, as described, a wheel having four compartments or pockets can be used, which is turned in one and the same direction through a quarter of a revolution for each removal of a bottle, &c. I arrange any desired number of such above-described bins or shelves one above the other, with their delivery ends all opening into a vertical discharging-passage, in which, according to one construction, all the discharging-openings except one are closed by vertically-sliding doors of known construction, whereby when the one bin or shelf is free to have a bottle removed therefrom all the others must be closed, so as to render it impossible to remove simultaneously two or more bottles from two or more bins while effecting only a single registration on the counter.

Figure 1 of the accompanying drawings shows a part elevation of a set of bins with controlling apparatus constructed according to my above-described invention. Figs. 2 and 3 show details of the registering-flap.

The bins or shelves A A A are arranged within a box or casing having horizontal slots B, through which the necks of the bottles protrude, each slot terminating in an enlargement B′, through which the bottles can be withdrawn. Between the narrow part of the slot and the enlargement is situated a turnstile composed of an angular flap C, pivoted to the bin at C′, so as to be capable of turning from the position shown at Fig. 1 to the position shown at Fig. 3, so that in order to re-

move a bottle from the bin it has first to be brought onto the flap when this is in the position shown at Fig. 1, whereupon the flap is turned into the position shown at Fig. 3, so as to bring the bottle opposite the enlargement B′. The one pivot of the flap C is in conducting-connection, first, with a contact at C^2 on the end face of one of its wings, and, secondly, with the one terminal of a battery-circuit D, in which is included the electrical counter or registering mechanism E, which may be of any suitable known construction, the other terminal of the circuit being connected to a contact-piece F, attached to the back of the bin A in such a position that the contact C^2 on the flap C will pass over it when turned as above described, so that every time a bottle is removed from the bin by bringing it onto the flap and then turning this over, as described, the said contact is made, thereby effecting the required registration on the counter E. The counter may either be so arranged that the registration is only completed on making a second contact when the flap is turned back into its original position, or the one contact may be made to effect a complete registration and the contact on the return motion of the flap be prevented by a suitable cam arrangement acting upon the contact C′. The backward movement of the flap may be effected either by hand or by a spring. Branch wires extend from the one circuit D to the contacts of all the flaps C, so that the removal of a bottle from any bin is registered on the one counter E.

In front of the discharge-openings B′ are arranged a series of vertically-sliding doors G, these being one less in number than the number of bins, so that the discharge-opening of one or other of these is always uncovered while all the rest are closed, the doors being slid up or down, according to the particular bin from which it is desired to remove a bottle. By this means it is impossible to commit a fraud by simultaneously removing bottles from two or more of the bins, which would be possible without this arrangement.

Instead of an oscillating turnstile composed of the flap C, a revolving one may be employed, as at H, Fig. 4, this being turned through a quarter of a revolution for each removal of a bottle, and held in position by a suitable spring-catch.

According to another modification of the above-described arrangement I dispense with the sliding shutters, and I arrange a single flap so as to serve for a number of bins or shelves, as shown at Fig. 5. In this case all the horizontal slots B are made to communicate with a vertical passage which is closed in front by a slot B^2, similar to B, which is closed at the upper end by a flap C, similar in construction and action to that previously described, so that a bottle moved out of any one of the bins into the vertical passage cannot be withdrawn until it has been raised up past the flap, by the motion of which its removal will be registered, as described.

Having thus described the nature of my invention and the manner of carrying the same into practical effect, I claim—

1. A bottle-bin consisting of a casing having a horizontal slot terminating in an enlarged orifice for the withdrawal of the bottles, a bottle-supporting shelf, and a turnstile pivoted in the casing between the horizontal part of the slot and its enlarged orifice, and a register operated by the turnstile, substantially as described.

2. A bottle-bin consisting of a casing containing a bottle-supporting shelf and having in its front wall a horizontal slot, a turnstile pivoted in the casing at one end of the slot, and a register operated by the turnstile, substantially as described.

3. A bottle-bin consisting of a casing containing a bottle-supporting shelf and having a horizontal slot, a turnstile pivoted in the casing at one end of the slot and having a contact-piece C^2, a battery-circuit including a register E and connected with the pivot of the turnstile, and a stationary contact-piece F in the battery-circuit, substantially as described.

4. In combination with a series of shelves or bins containing bottles and similar articles, a narrow slot arranged in the front of the shelf or bin and leading to a pivoted flap or turnstile, the rotation of which on the passage of a bottle effects the closing of an electrical circuit, whereby a counter or registering mechanism is actuated, a delivery-opening beyond such flap or turnstile for the removal of the bottles, and a series of sliding doors or shutters closing all the delivery-openings except one, substantially as and for the purpose described.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 9th day of June, A. D. 1890.

ROBERT JEWELL.

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