

UNITED STATES PATENT OFFICE.

FREDERICK F. JACKSON, OF CHICAGO, ILLINOIS.

DEVICE FOR AUTOMATICALLY CONTROLLING CLOSING HATCHWAY OR OTHER DOORS.

SPECIFICATION forming part of Letters Patent No. 554,517, dated February 11, 1896.

Application filed August 21, 1894. Serial No. 520,895. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK F. JACKSON, of Chicago, in the county of Cook and State of Illinois, have invented a new and Improved Device for Automatically Controlling the Closing of Hatchway or other Doors, of which the following is a full, clear, and exact description.

My invention relates to a device for automatically controlling the closing of hatchway-doors or other forms of doors; and it has for its object to provide a system of wiring used in connection with thermostats, the wiring being connected with a lock mechanism through the medium of which the door or doors will be permitted to close by the action of heat upon the thermostats, and furthermore, if desired, to provide a retarding mechanism by means of which the doors may be prevented from closing for a predetermined length of time, although the thermostats, wiring system, and other operating mechanism connected with the doors have been set in operation, and furthermore, if desired, to provide an alarm to be sounded when the thermostats have been acted upon by a suitable degree of heat.

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 and letters of reference indicate corresponding parts in all the views.

Figure 1 is a sectional view of a building, illustrating the application of the invention to the several floors thereof. Fig. 2 is a diagrammatic view illustrating the wiring of one of the floors and the arrangement of the various parts operated from the said wires. Fig. 3 is a detail view of the thermostat employed. Fig. 4 is a transverse section through the thermostat, illustrating it as applied to a ceiling. Fig. 5 is a front elevation of the mechanism of the alarm and retarding device. Fig. 6 is a side elevation of one of the gravity-locks. Fig. 7 is an edge view thereof. Fig. 8 illustrates in detail the lock for holding the door open and the manner in which the said lock is directly operated; and Fig. 9 is a sec-

tion through one of the doors with the lock in side elevation.

The invention may be said to comprise a shifting device connected with the bolts or locks proper of the doors, a gravity-lock connected with the shifting device, and thermostatically-controlled wires, which being affected by heat cause the gravity-lock to release the catch mechanism of the doors and allow them to close, but so constructed that when desired the thermostatically-arranged wires may be conducted to an alarm and retarding mechanism and thence to the gravity-lock.

In Fig. 1 I have illustrated each floor as provided with a gravity-lock, but it will be evident from the description to follow that if it is desirable an alarm and retarding mechanism may be employed, the wiring of all the floors in that event being connected with one alarm and retarding device.

The gravity locking device A is shown in detail in Figs. 6 and 7, and is adapted to be secured to the ceiling. The frame of the device usually consists of two brackets or hangers 10 and 11, the bracket 11 being longer than the bracket 10, and the two brackets are connected by one or more cross-bars 12. Bearings 13 are secured upon the cross-bars 12, and a shaft 14 is journaled in said bearings. Upon this shaft 14 a gravity-lever 15 is pivoted, provided with a segmental inner end surface 16, which segmental inner end usually consists of a plate riveted or otherwise secured to the lever. At the opposite end of the shaft 14 a trip-lever 17 is pivoted, and these two levers are usually connected by means of a cross-bar 18; but, when the levers are fast to the shaft and the shaft revolves, the cross-bar may be omitted. A weight 19 is connected by a link or otherwise to the outer end of the gravity-lever 15, and a wire 19^a is secured to the outer end of the trip-lever 17, adapted to be carried to an alarm and retarding mechanism.

A retaining and releasing lever 20 is fulcrumed near its lower end between or upon the cross-bars 12 of the frame, as shown in Fig. 6. The said lever is hooked or curved at its lower end to receive a link 21, attached to a shifting-lever 23, fulcrumed preferably between its center and one end upon the extension of the hangers 11, and said shifting-lever

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WILLIAM C. JEROME, OF MAYFIELD, NEW YORK.

BOTTLE.

SPECIFICATION forming part of Letters Patent No. 554,518, dated February 11, 1896.

Application filed May 20, 1895. Serial No. 549,900. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM C. JEROME, residing at Mayfield, in the county of Fulton and State of New York, have invented a new and Improved Bottle, of which the following is a specification.

My invention, which generally relates to improvements in bottles, jars or other vessels, with a view to preventing the withdrawal of the cork and tampering with the contents of the receptacle, refers more particularly to bottles containing choice and expensive brands of liquor, patent medicines, &c., which it is desired to keep to their original unadulterated state until the time for their use.

My invention primarily has for its object to provide a bottle of this character adapted to be sold and used the same as any ordinary bottle, and which will require no special material for sealing the same, and to which, when applied for use, sealing material, such as is to be found in any drug-store or bottling establishment can be connected, the main purpose being to provide a bottle having a supplemental or sealing portion so arranged that no special means whatever will be required to apply the seal, as is now required in the use of bottles of this kind heretofore invented.

Furthermore, my invention has for its object to provide a bottle having a supplemental sealing portion so arranged and constructed that when ruptured to admit of access to the bottle the said supplemental portion will break off even and in such a manner as to leave the bottle in a normal or ordinary form, whereby it can, after the contents have been removed, be used again as an ordinary bottle.

My invention also has for its object to provide a bottle having a supplemental sealing member so arranged and formed that the bottle will have a slightly appearance and nothing upon the outer surface which will serve to indicate that the bottle is not of the ordinary kind.

With these and other minor objects in view, my invention consists of a bottle constructed in the peculiar and novel manner hereinafter first described in detail and then specifically pointed out in the appended claim, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective view of a bottle constructed in accordance with my invention. Fig. 2 is a longitudinal section thereof. Fig. 3 is a similar view showing the supplemental or seal end as broken off. Fig. 4 is a perspective view of the bottle with the seal end broken off and contents removed; and Fig. 5 is an enlarged detail view illustrating how the sealing material is kept in position, even when shrunk sufficient to separate from the sides of such supplemental portion.

Referring now to the accompanying drawings, A represents the bottle, which may be of any form, and B the neck portion proper, which terminates in the usual bead edge *b*, as most clearly shown in Fig. 2, and from which extends the upper or supplemental neck portion C, the upper edge of which is preferably rounded, as at *c*.

It will be noticed by reference to Fig. 2 the main and supplemental neck members B and C have their outer edges in the same vertical line, and such members are of substantially the same thickness, which in practice is required to give the required strength to withstand the pressure imposed thereon in forcing the cork D into the neck portion proper, B.

The upper neck, C, has its internal bore made tapering from the bottom or its joint with the lower neck, so that the upper end of the portion C will be slightly contracted for a purpose presently explained.

At the meeting-point where the upper and lower neck portions B and C join, which it should be stated is just in line with the top of the bead portion, (see line *x* in Fig. 5,) there is formed an annular internal groove E, which considerably thins the thickness of the glass at this point, thereby serving to form a breaking-point when the supplemental neck is tapped against some hard substance or tapped by such a substance.

The object of providing the groove at the point shown is for a double purpose: first, it serves to weaken the glass at the lowermost end of the supplemental neck, and, secondly, it forms an annular seat in which the plastic sealing material (indicated by G) will spread and form a lock or bind, whereby it will be prevented from falling or being pulled out in case it should shrink or lose its adhesiveness on the glass. To further prevent the seal G from

device in its normal position, a thermostatically-controlled connection secured to said locking mechanism and normally exerting tension thereon in one direction, and operating means likewise secured to the locking mechanism and permanently exerting tension thereon in the opposite direction to the thermostatically-controlled connection to so actuate the locking mechanism, upon the automatic operation of the thermostatically-controlled connection, as to release the retaining device and thereby allow the shifting device to be operated, substantially as described.

3. In a device for automatically operating doors of hatchways or other openings, a shifting device operatively connected with the doors, a weight for moving the shifting device, a retaining-lever for normally holding the said weight inactive, a locking-lever constructed to hold the retaining-lever in its normal position, a thermostatically-controlled connection secured to the locking-lever and exerting tension thereon in one direction, for holding the locking-lever in its normal position, and a weight likewise secured to the locking-lever and exerting tension thereon in the opposite direction to the thermostatically-controlled connection, for actuating the locking-lever to release the retaining-lever, upon the automatic operation of the thermostatically-controlled connection, and thereby release the weight which moves the shifting device, substantially as described.

4. In a mechanism for operating fire-doors, or doors for elevators, or for other openings, a releasing mechanism operated through the influence of heat, and a retarding device, whereby the operation of the releasing mechanism may be temporarily suspended, as and for the purpose set forth.

5. In a mechanism for operating fire-doors, or doors for elevators or other openings, zigzag tension-wires located upon a predetermined support, thermostats controlling said wires, a shifting device adapted for operation upon the fastenings of the doors, an alarm and retarding mechanism operated by the action of heat upon the thermostatically-controlled zigzag tension-wires when released by the thermostats, and a trip connection between the alarm and retarding device and the said shifting device, substantially as and for the purpose specified.

6. In a mechanism for operating fire-doors, or doors for elevators or other openings, a thermostat, zigzag tension-wires controlled by the said thermostat, an alarm and retarding device operated by the zigzag tension-wires when released from tension, a shifting device connected with and adapted to oper-

ate the locking mechanism of the doors, a trip connection between the alarm and retarding device and the shifting device, and the trip connection between the alarm and retarding device and the shifting device formed when slack occurs in the zigzag tension-wire, substantially as shown and described, as and for the purpose set forth.

7. In a mechanism for operating fire-doors, or doors for elevators or other openings, a shifting device adapted for operating the lock of the door, an alarm, a trip connection between the alarm and the shifting device, a releasing mechanism operated from the zigzag tension-wires and adapted to operate the said trip connection, and a retarding mechanism, whereby the action of the releasing device may be temporarily suspended, as and for the purpose set forth.

8. In a mechanism for operating fire-doors, or doors for elevators or other openings, a shifting device adapted for connection with the said doors, an alarm thermostatically operated, a trip connection between the alarm and the shifting devices, and a retarding mechanism, whereby the action of the said connection may be temporarily suspended, as and for the purpose specified.

9. In a mechanism for operating fire-doors, or doors for elevator or other openings, a device consisting of an alarm and a retarding mechanism, the said alarm being thermostatically operated, and a trip mechanism operated from the alarm, controlled by the retarding mechanism and adapted for connection with the latches of the doors under control, as and for the purpose specified.

10. In a device for controlling fire-doors, elevator-doors, or the equivalents thereof, a shifting mechanism connected with the locking devices of the doors, a gravity-lock connected with the shifting mechanism, an alarm thermostatically operated, and a trip connection between the said alarm and the gravity-lock, substantially as shown and described.

11. In a device for controlling fire-doors, elevator-doors, or the equivalents thereof, a shifting mechanism connected with the locking devices of the doors, adapted to operate the same, a gravity-lock connected with the shifting mechanism, a thermostatically-operated alarm and a retarding mechanism, and a trip connection, substantially as shown and described, between the alarm and the gravity-lock, as and for the purpose specified.

FREDERICK F. JACKSON.

Witnesses:

A. M. GARDNER,
CHARLES G. PELLE.