

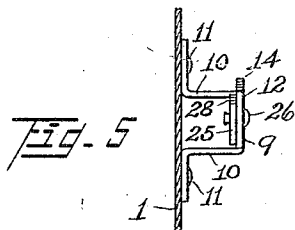
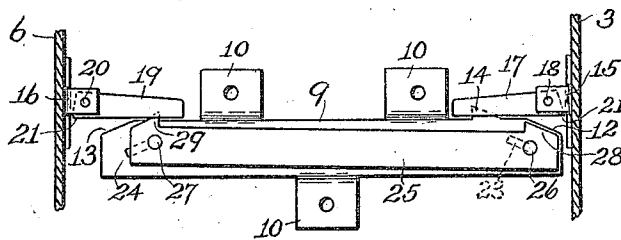
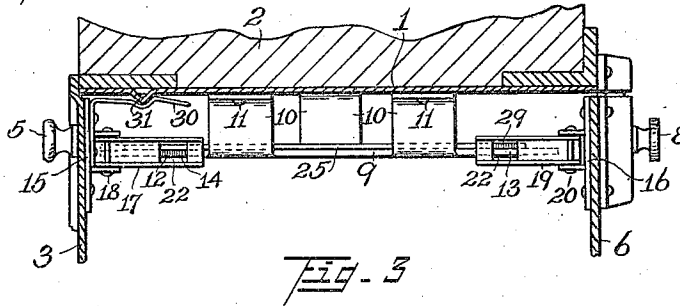
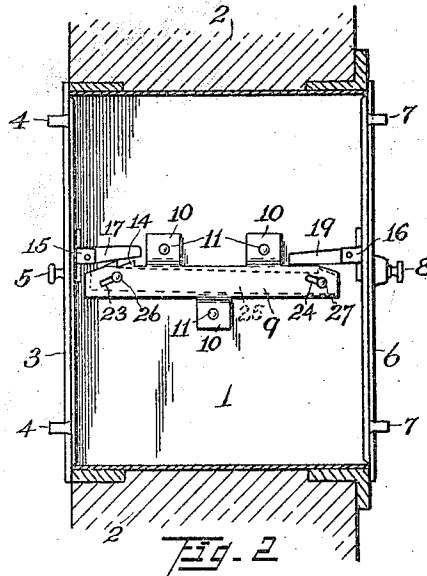
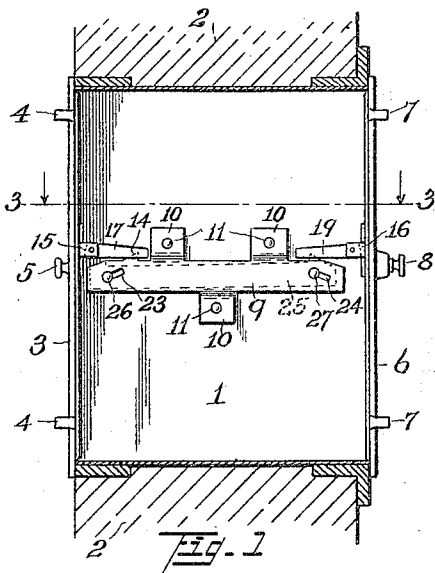
Dec. 25, 1923.

1,478,552

A. W. CHAPMAN

PACKAGE RECEIVER LOCK

Filed April 12, 1922



Inventor

Alfred W. Chapman,

By

L. H. Hopper,

Attorney

UNITED STATES PATENT OFFICE.

ALFRED W. CHAPMAN, OF CLEVELAND, OHIO, ASSIGNOR TO THE DONLEY BROTHERS COMPANY, OF CLEVELAND, OHIO, A CORPORATION.

PACKAGE-RECEIVER LOCK.

Application filed April 12, 1922. Serial No. 552,009.

To all whom it may concern:

Be it known that I, ALFRED W. CHAPMAN, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented new and useful Improvements in Package-Receiver Locks, of which the following is a specification.

This invention relates to locking means for deposit and collection receptacles, delivery boxes, or the like, to which access is had through oppositely placed doors.

The object of my present invention is to provide a simple, inexpensive and reliable locking mechanism designed to be operated by the doors of an in-wall package receiving box or compartment, whereby the outside door, though normally locked automatically upon its closing, is unlocked and set in that condition by an incipient or partial opening of the inside door. Thus the act of opening the inner door, or merely setting it ajar, releases the lock of the outer door, which permits the latter to be opened once from outside the wall to deposit articles in the box; but the initial opening of the outer door sets its lock so that, after being closed, it cannot be opened again until the inner door is opened.

Further objects of the invention are to produce automatic locking means for delivery boxes operative solely by the action of gravity in connection with the movement of the doors, and which have no tendency to shift their positions relatively to each other after being set.

Minor objects will become apparent from the following description of a preferred embodiment of my invention, reference being had to the accompanying drawing, in which—

Fig. 1 is a sectional elevation of a delivery box equipped with my lock and set in a wall, showing its outer door closed and locked.

Fig. 2 is a similar view showing the positions of the parts when the outside door is closed but unlocked.

Fig. 3 is an enlarged detailed plan view of the locking arrangement, the adjacent parts of the box and doors being sectioned on line 3—3 of Fig. 1.

Fig. 4 is a detailed elevation of the locking arrangement detached from the box, and

viewed from the side opposite that shown in Figs. 1 and 2.

Fig. 5 is an end view of the releasing bar and the latch-plate housing it.

The reference numeral 1 indicates a rectangular delivery box, or a compartment of a partitioned package receiver, set and secured in an aperture formed through an outer wall 2 of a house; said box having large openings in its outer and inner sides respectively adapted to the passage there-through of packages, bottles, or other articles, which may thus be safely and quickly delivered to the house. The outside opening is normally closed by a door 3 hinged, as at 4 and 4, to the box 1, and having an outside handle or knob 5. The inside opening is also provided with a tight closing door 6 hinged, as at 7 and 7, to the box 1, and having an exterior handle and readily releasable fastener, such as the well known spring-bolt catch 8. The hinges 4 and 7 of the doors are placed preferably, as shown, adjacent to the same side wall of the box 1, although one or both doors can be hinged at the bottom, and the doors open outward from the box.

An elongated latch-plate and releasing-bar housing 9 is bracketed out from the inner face of the side wall of the box 1 adjacent to the free edges of the doors 3 and 6, extends transversely of the box and terminates near the doors respectively, being a flat metal plate vertically disposed, and provided with flanged legs 10 through which it is secured by rivets 11, or otherwise, to the side wall of the box. The end portions of the plate 9 project beyond the legs 10 and form ears with upper edges aligned and substantially level, save for beveled terminations, as shown at 12 and 13. The ear 12 of the latch-plate is opposed to the outside door 3, and has upon its upper edge about midway of the horizontal part thereof an upstanding ratch-shaped tooth 14, which is adapted to trip and engage a latch on said door to lock the same.

Although the separate legs 10 of the housing 9 are preferred, the middle part of the housing may be channeled and flanged if desired; and, when the box 1 is of unusual length from door to door to accommodate a thick wall 2, the housing 9 may be divided

vertically into two parts separated in horizontal alignment the proper distance from each other, since the middle portion of the housing performs no indispensable function.

Bracket plates 15 and 16, each having a pair of vertically disposed ears projecting at right angles thereto, are rigidly secured by rivets, or otherwise, to the interior faces of the doors 3 and 6 respectively. Rectangular steel plates having ears cut and bent up therefrom as shown are preferred, but upright ribs integral with, or otherwise made fast to the doors, may be substituted therefor. A latch 17 is hinged on a pin 18 between the ears of the plate 15, and a latch 19 is hinged on a pin 20 between the ears of the plate 16; said latches being adapted to swing freely and drop by gravity in vertical planes at right angles to the doors respectively. The latch, bracket-plate and hinge-pin arrangement for the door 3 may be an exact duplicate of that for the door 6. The latch 17 or 19 is preferably channel-shaped, its heel 21 being adapted to stop against its bracket-plate 15 or 16 and prevent its falling below an approximately horizontal position, and a rectangular aperture 22 is formed in its bottom web near its free swinging end.

Slotted apertures 23 and 24 are formed respectively through the ears 12 and 13 of the latch-plate 9, being downwardly inclined toward the outer ends of the ears in a direction approximately parallel to the respective terminal beveled edges of said ears. A flat latch releasing bar 25 is provided near each of its ends with laterally projecting and headed studs 26 and 27 inserted through the slots 23 and 24 respectively and slidable freely therein; so that the bar 25 may be reciprocated endwise with a rocking motion, its stroke being limited by the length of said slots. Obviously the slots may be made in the bar 25, and the pins fixed to the ears 12 and 13 of the latch-plate if preferred. Ratch-shaped teeth 28 and 29 are formed at each end of the bar 25 on its upper edge, the abrupt shoulders of said teeth facing toward the middle of the bar, and the inclined end portions thereof being substantially parallel with and set slightly below the respective terminal beveled edges of the ears 12 and 13, as best shown in Fig. 4.

It will now be seen that, when the catch 8 is released and the inside door 6 opened though but slightly, the aperture 22 of the latch 19 engaging the hook-tooth 29 pulls the bar 25 inward until the said tooth releases itself by sinking below the latch. Thus, unless the operator, to keep the outside door locked, manipulates the bar 25 to slide it out to its original position shown in Figs. 1 and 4, the opening of the inside door automatically releases and sets the lock

of the outside door; for as the bar 25 is pulled inward its outer hook-tooth 28 rises against the bottom of the latch 17, and disengages the latter from the hook-tooth 14 on the fixed latch-plate 9, as best shown in Fig. 2. Now the outside door 3 can be opened from the exterior of the wall by pulling its knob 5, but a suitable and preferably interior catch should be provided to keep it closed against the weather, such, for example, as a flat spring 30, Fig. 3, fixed to the inside of the door, and adapted to trip over and frictionally engage a projection 31 on the inside of the box 1.

As the outside door 3 is opened to place articles in the receptacle, the aperture 22 of the latch 17 permits the latter to drop and engage the hook-tooth 28, whereby the bar 25 is pulled outward to its original position shown in Figs. 1 and 4; and when the outside door 3 is closed its latch 17 trips over the tooth 14 and locks the door fast, so that it cannot be opened again until the inside door 6 is opened.

I further point out and distinctly claim as my invention—

1. In a receptacle having inside and outside doors, an automatically engaging lock for the outside door; and inflexible means adapted to be slidably displaced by an opening movement of the inside door to release the lock of the outside door, and by the opening movement of the outside door to disengage said means from said lock.

2. In a receptacle, an inside door and an outside door, a fixed latch-plate within the receptacle, a latch on the outside door adapted to engage automatically with said latch-plate, releasing means adapted to be actuated by an opening movement of the inside door to disengage and set said latch from the latch-plate, and means whereby upon the opening of the outside door its latch engages and resets said releasing means to permit the outside door to lock automatically when closed.

3. The combination in a receptacle of inside and outside doors therefor each provided with an inside latch; a fixed latch-plate within the receptacle adapted to trip and lock the latch of the outside door; and releasing means engageable with the latch of the inside door to unlock and so set the latch of the outside door, and engageable with the latch of the outside door to be reset to permit said outside door to lock automatically when closed.

4. In a receptacle, an inside door and an outside door each bearing on its inner face a gravity latch, a fixed latch-plate within the receptacle adapted to trip and lock the latch of the outside door, a releasing member having at each end a raised and inwardly pointed hook-tooth, one of said teeth being adapted to raise the latch of the

outside door to clear said latch-plate, and means for controlling said releasing member whereby its terminal teeth are alternately exposed to and shielded from engagement with said latches respectively.

5 5. In a receptacle, an inside door and an outside door each bearing on its inner face a gravity latch, a fixed latch-plate within the receptacle adapted to trip and lock the
10 latch of the outside door, a releasing member having at each end a raised and inwardly pointed hook-tooth, one of said teeth being adapted to raise the latch of the outside door to clear said latch-plate, means
15 for mounting said releasing member to rock beside and alternately expose above the latch-plate its terminal hook-teeth, and end portions of said latches arranged to ride the latch-plate and to trip over and to engage
20 said hook-teeth respectively in accordance with the closing and opening movements of their doors.

6. In a receptacle, an inside door and an outside door each bearing on its inner face
25 a gravity latch, a fixed latch-plate within the receptacle adapted to trip and lock the latch of the outside door and having a diagonal slot near each end, said slots being downwardly inclined toward their outer
30 ends, a releasing bar having at each end a raised and inwardly pointed hook-tooth, and studs fixed to said bar and slidable in said slots respectively whereby said teeth may be guided and set to co-act with said latches.

35 7. In a receptacle, an inside door and an outside door each bearing on its inner face

a gravity latch, a fixed latch-plate vertically disposed within the receptacle and having near each end an outwardly sloping slot, an angular lug on the latch-plate adapted
40 to trip and lock the outside door latch, a releasing bar having lateral studs bearing in said slots respectively so that the bar may have a rocking endwise movement beside
45 said latch-plate, and inwardly pointed angle-teeth on the ends of said bar adapted to rise alternately above said latch-plate to trip and engage said latches respectively, the outer one of said teeth being positioned
50 to raise the outside door latch to clear its locking lug until an opening movement of the outside door has begun.

8. In a receptacle, an inside door and an outside door, a fixed latch-plate vertically
55 disposed within the receptacle and having near its outer end a raised and inwardly pointed locking lug, a releasing member having at each end a raised hook-tooth pointed inward, means for mounting said
60 releasing member to rock beside and alternately expose above the latch-plate its terminal hook-teeth, gravity latches pivoted to and stopped against the inner faces of said
65 doors respectively so as to project normally at right angles thereto, and flat bottom plates of said latches each provided with an aperture near its inner end, whereby said latches are adapted to trip over and engage said hook-teeth respectively, and the outer latch to trip and engage said locking lug.

ALFRED W. CHAPMAN.