L. L. SAVOY.

CARRIER BOX LOCK.

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915,799. Patented Mar. 23, 1909.

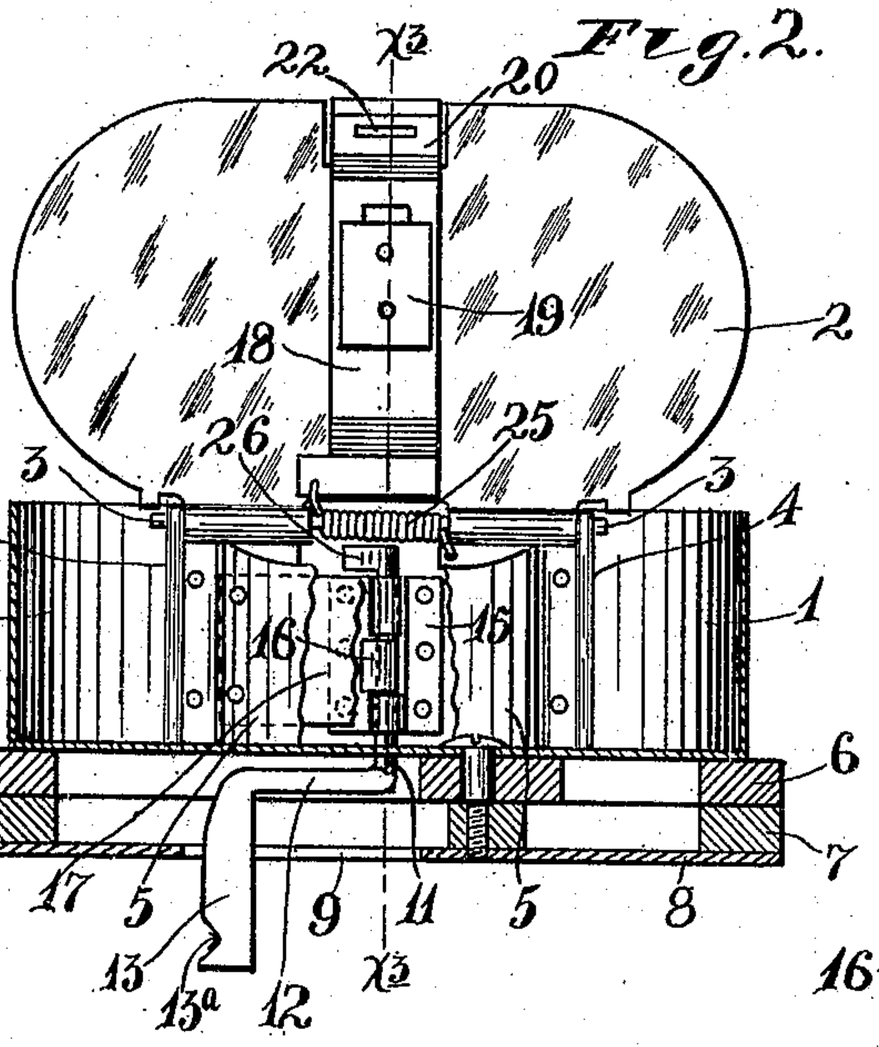

Fig. 2.

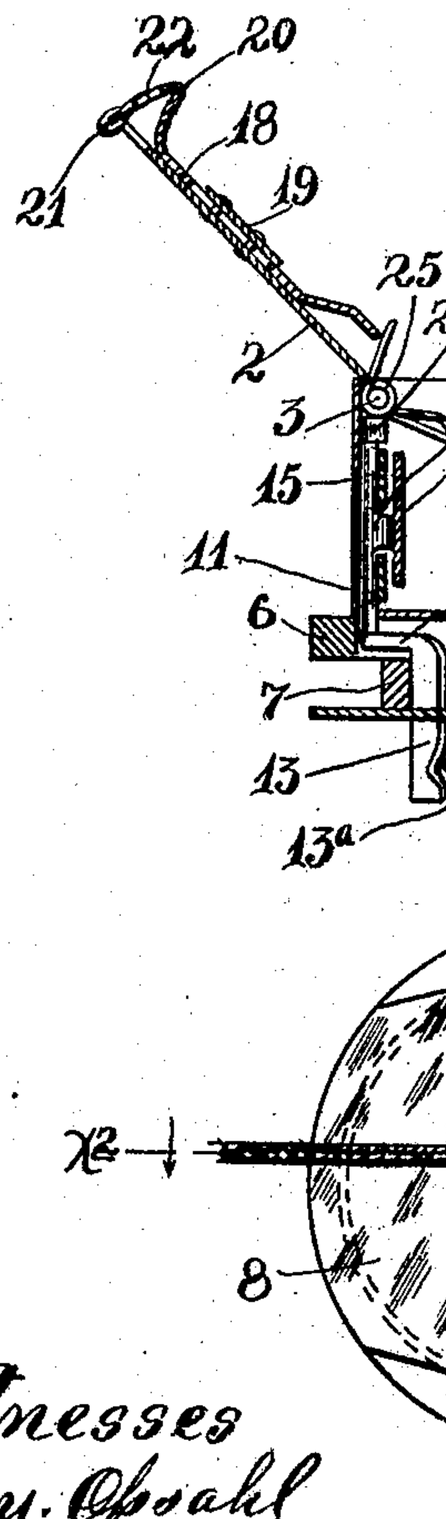

Fig. 3.

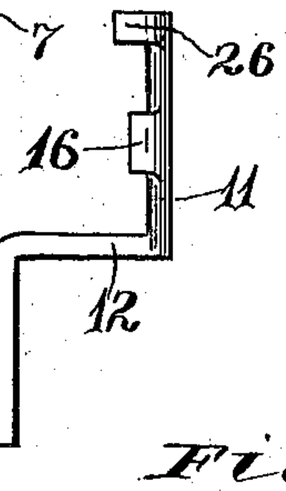

Fig. 5.

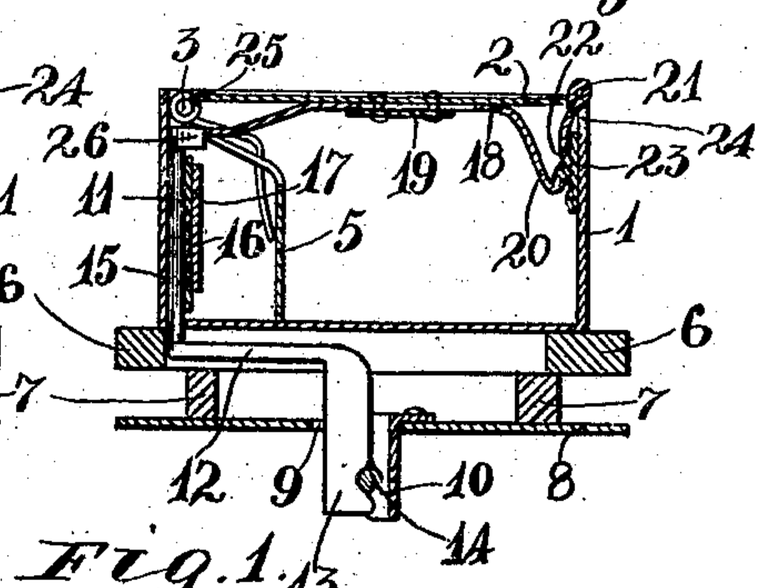

Fig. 4.

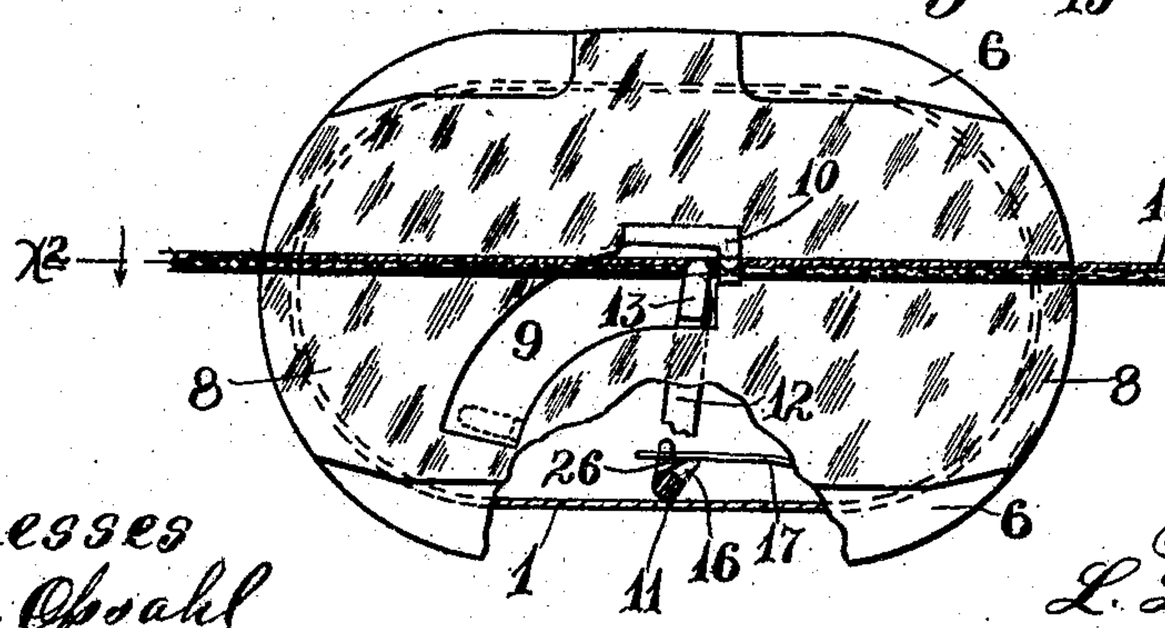

Fig. 1.

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UNITED STATES PATENT OFFICE.

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CARRIER-BOX LOCK.

No. 915,799. Specification of Letters Patent. Patented March 23, 1909.

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To all whom it may concern:

Be it known that I, LOUIE L. SAVOY, a citizen of the United States, residing at Minneapolis, in the county of Hennepin and State of Minnesota, have invented certain new and useful Improvements in Carrier-Box Locks; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to cash carrier systems of the type wherein a carrier box is conveyed along a track or guideway by an endless traveling belt; and the invention has for its object to provide an improved lid locking mechanism for such carrier boxes.

To the above end the invention consists of the novel devices and combinations of devices hereinafter described and defined in the claims.

In carrier systems of the character above indicated, carrier boxes are customarily provided with lid locking devices or latches and with cable grapples, the action of which devices are independent of each other. It has frequently happened, therefore, that box lids would come unlocked and open up while the box was secured to the cable by the grapple and was being carried thereby, and this, of course, would result in the scattering of the money and other contents of the box.

The salient feature of my invention consists in the provision of a lid lock and a cable grapple, (both of these expressions being used in a broad sense) with the said parts so arranged that the lid lock cannot be released when the cable grapple is engaged with the cable. Otherwise stated, the cable grapple, or a part subject thereto, serves as a lock to the lid lock or latch.

The invention also involves other but important features of construction, all of which will be hereinafter described and defined in the claims.

One form of the invention is illustrated in the accompanying drawings, wherein like characters indicate like parts throughout the several views.

Referring to the drawings, Figure 1 is a bottom plan view, illustrating my invention as applied to a carrier box of standard construction. Fig. 2 is a vertical section taken on the line x^2 x^2 of Fig. 1, showing the box right side up and with the lid opened, some parts being broken away. Fig. 3 is a transverse vertical section taken approximately on the line x^3 x^3 of Fig. 2. Fig. 4 is a section through the box on the same line as Fig. 3, but showing the lid of the box closed and the cable grapple engaged with the cable; and Fig. 5 is a detail in side elevation of the movable member of the cable grapple.

The numeral 1 indicates the oblong metal body portion of the carrier box, the same having a lid 2 connected thereto by a hinged rod 3, the ends of which are seated in vertical flanges 4 on the interior of the box. Secured within and to one side of the box is an inwardly bulged wall 5 that constitutes a housing for spring devices, presently to be described. To the bottom of the box is secured the usual rail-engaging members 6, 7 and 8, said parts 6 and 7 being usually of wood fiber and the said member 8 being in the form of a metal plate. Said parts 6 and 7 are cut away at their central portions and the said plate 8 is provided with a segmental slot 9 and with a depending angular lug 10, which latter constitutes one member of the cable grapple. The other member of the cable grapple is in the form of a crank made up of a shaft or trunnion portion 11, an arm portion 12 and a clamping head 13. The clamping head 13 is notched at its lower end, at 13^a, for coöperation with a notch 10^a in the fixed grapple member 10, to engage the conveyer cable 14. The said shaft porton 11 extends vertically upward through the housing 15 formed back of the wall 5, and is journaled in a suitable bearing plate secured to the wall of the carrier body or shell 1. The grapple head 13 works freely in the segmental slot 9 of the plate 8.

On the intermediate portion of the shaft or trunnion 11 is a radially projecting lug 16 that is engaged and tightly pressed by a leaf spring 17, one end of which is rigidly secured to the side of the wall 5, as best shown in Fig. 1. This lug 16 is so located that when the arm 12 is in its inoperative position, indicated by dotted lines in Fig. 1 and by full lines in Figs. 2 and 3, the said arm will be held in such position; but when the said arm is moved approximately half way from its extreme inoperative position to its operative position, shown by full lines in Figs. 1 and 4, the said lug 16 will pass to the other side of a dead center in respect to the said spring, and the said spring will then complete the movement of said arm or movable grapple member to its operative position and will

cause the said grapple member to engage and tightly clamp the cable against the fixed grapple member 10.

The construction so far described is standard or ordinary construction, the operation of which is well understood by those familiar with cash carrier systems.

In the illustrated application of my invention, a lock or latch bar 18 is connected, by a keeper 19, to the inner surface of the box lid 2, with freedom for endwise sliding movements transversely of said lid. At its outer end the lock bar 18 is provided with an approximately V-shaped inward bend, constituting a beveled lock nose 20, and is extended outward to form a finger-piece 21. The outer portion of the beveled lock nose 20 is shown as provided with a perforation 22 that is adapted to be engaged by a beveled lock lug 23, secured to the inner surface of that side of the box 1 that is opposite to the hinge rod 3. Just above this lock lug 23 the edge of the box is shown as cut away, at 24, so as to permit the finger-piece 21 to be readily engaged by a finger or thumb.

As one feature of my invention I employ a single or common spring which exerts a force tending to throw the lid into an open position and the lid latch into an operative position. This spring, as shown, is in the form of a coiled torsion spring 25 located around the central portion of the hinge rod 3, with one end reacting against the wall 5 and its other end reacting against the inner end of the lock bar 18. As is evident, when the lid is closed as shown in Fig. 4, this spring securely holds the beveled nose of the lock bar 18 interlocked with the lock lug 23; and when the said lock bar is pressed inward so as to disengage its nose from said lock lug, the said spring quickly and easily throws the lid into its open position.

As an extremely simple and efficient means for causing the movable member of the cable gapple to lock the lid lock or latch in an operative position, I provide the shaft 11 of the said movable grapple member with a second lug 26, shown as applied to the extreme upper end thereof. This lug 26 is so related to the extreme inner end of the lock bar 18 that when the said movable grapple is in its closed or cable engaging position, shown by full lines in Figs. 1 and 4, said lug will engage the inner end of said bar 18 approximately on a dead center in respect thereto and will thus positively lock the said bar against sliding movement and, hence, positively hold the nose 20 thereof engaged with the lock lug 23. When, however, the said movable grapple member is moved into its opened or inoperative position, the said lug 26 will be moved such a distance from the inner end of the lock bar 18 that said bar may be slid endwise and its nose 20 disengaged from the lock lug 23, as is, of course, required in order to unlock and open the lid. This lock lug 26 therefore serves as a positive lock to the lid lock or latch and, of course, prevents accidental opening of the lid while the box is being carried by the cable.

From one point of view, the sliding lock bar constitutes what might be designated as a primary lid lock, and the lock lug 26 likewise constitutes what might be designated as a secondary lid lock, the latter noted lock serving as a safety device to prevent release of the former lock while the cable grapple is engaged with the cable or in condition to grip the cable.

The invention above described may be applied to carrier boxes at very small cost and is efficient for the purposes had in view. Furthermore, it affords a carrier box which may be very easily manipulated.

The invention, while especially designed for application to small cash carrier boxes may, nevertheless, be incorporated in larger systems of a similar character.

What I claim is:

1. The combination with a carrier box having a hinged lid, of a primary lock mounted on said lid cover, a cable grapple, at least one member of which is pivotally connected to said box, and a secondary lock subject to movement of the movable member of said grapple, and movable thereby, into a position to directly engage said primary lock and thereby hold the latter in its operative position, when said grapple is in position to engage the cable.

2. The combination with a carrier box having a hinged lid, of a primary lock slidably mounted on said lid, a cable grapple, one member of which, is fixed on said carrier box and the other of which is pivotally connected thereto, and a secondary lock in the form of a lug or projection carried by the movable grapple member and movable thereby into position to directly engage said sliding lock and thereby positively hold the latter in operative position, when said grapple is in position to engage the cable.

In testimony whereof I affix my signature in presence of two witnesses.

LOUIE L. SAVOY.

Witnesses:
H. D. KILGORE,
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