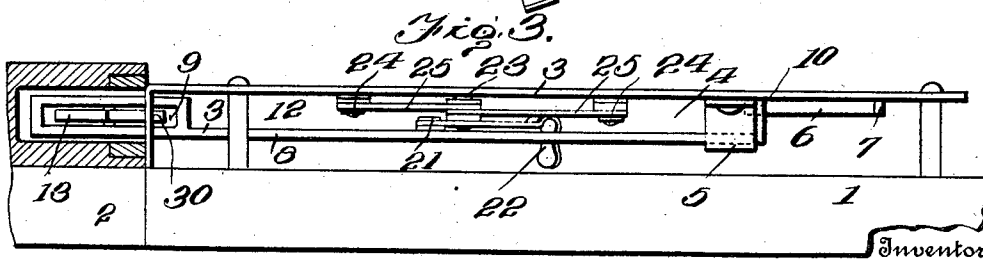
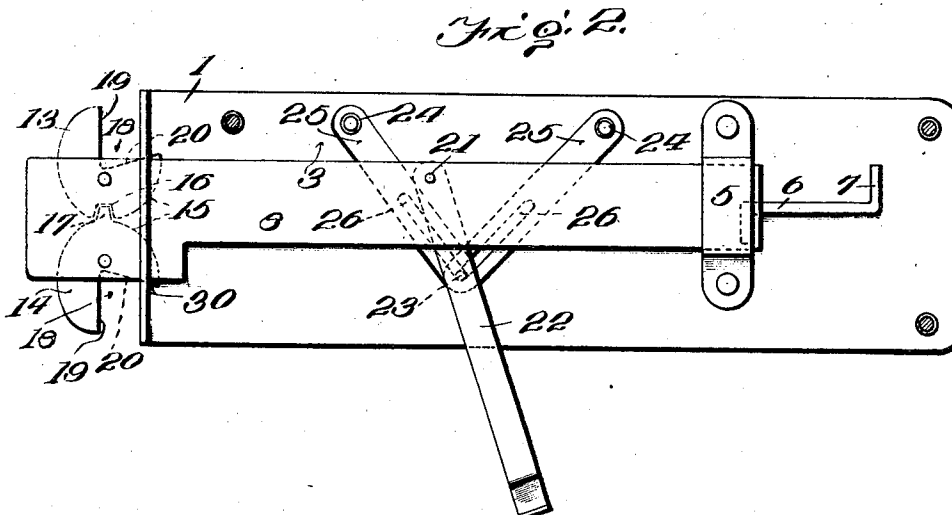
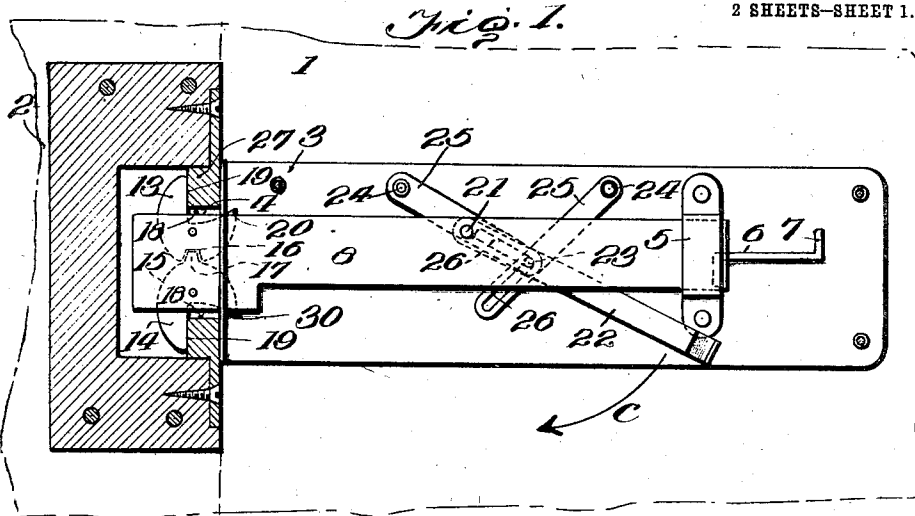


E. ZECKHAUSER.  
LOCK.  
APPLICATION FILED SEPT. 8, 1913.

1,083,173.

Patented Dec. 30, 1913.

2 SHEETS-SHEET 1.



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2 SHEETS-SHEET 2.

Fig. 4.

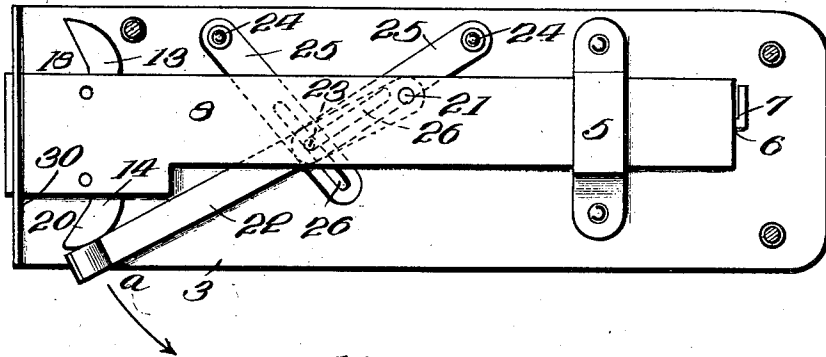


Fig. 5.

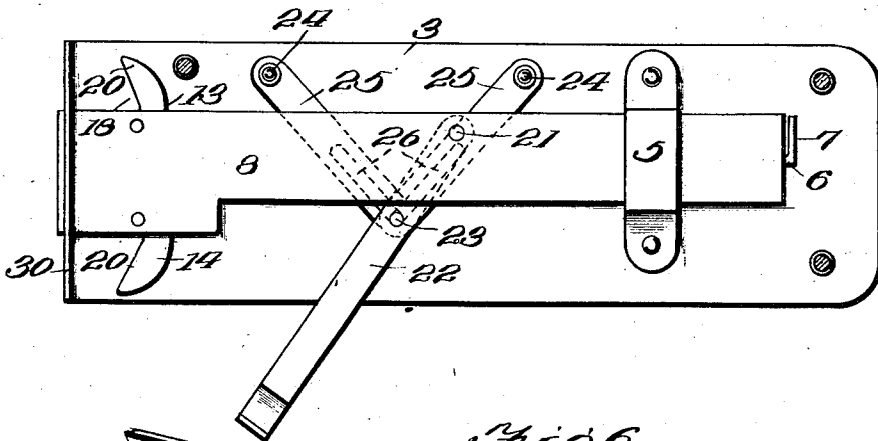
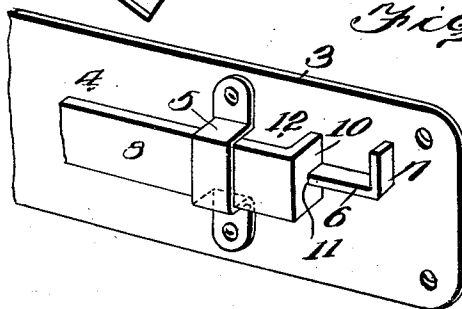


Fig. 6.



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# UNITED STATES PATENT OFFICE.

EZEKIEL ZECKHAUSER, OF MOUNT PLEASANT, PENNSYLVANIA.

## LOCK.

1,083,173.

Specification of Letters Patent.

Patented Dec. 30, 1913.

Application filed September 8, 1913. Serial No. 788,740.

*To all whom it may concern:*

Be it known that I, EZEKIEL ZECKHAUSER, citizen of the United States, residing at Mount Pleasant, in the county of Westmoreland and State of Pennsylvania, have invented certain new and useful Improvements in 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, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

My invention relates to improvements in locks designed primarily for sliding doors.

One of the principal objects of the invention is to provide dogs disposed on the locking bolt, and means for automatically spreading the dogs to engage behind a plate on the door, whereby to draw the doors together.

A further object of the invention is to provide means for operating the bolt and automatically locking the same when the parts are thrown into locking position.

The invention also comprehends improvements in the details of construction and arrangement of parts which will be hereinafter described and particularly pointed out in the claims.

In the drawings:—Figure 1 is an elevation, partly in section and showing the parts in locked position. Fig. 2 is an elevation illustrating the parts in position, just before the dogs are withdrawn. Fig. 3 is a plan view, the parts being as positioned in Fig. 2. Fig. 4 is an elevation illustrating the parts in position when the bolt is retracted. Fig. 5 is an elevation illustrating the position of the parts just prior to the time the operating lever commences to throw the bolt. Fig. 6 is a detail view of the end of the bolt and one of the guides.

My improvement is applicable for use with any character of sliding door, but for the purpose of conveniently illustrating the invention I have shown the lock applied to the outside of car doors. However, by cutting out a pocket in the door, the lock may be concealed, which is especially desirable when the invention is used in connection with folding doors in a residence.

1 and 2 indicate sliding doors. On the

door 1 is mounted a casing 3, formed at one end with an opening 4, and near its opposite end it is provided with a guide 5, and a rib 6, the latter having an abutment 7.

Slidably mounted in the opening 4, and the guide 5, is a bolt 8. The outer end of the bolt is enlarged and formed with a recess 9, and at the inner end of the bolt is a flange 10, formed with a recess 11, in which fits the rib 6. This construction of the bolt forms with the casing 3 and the side of the door a pocket 12, as clearly shown in the drawings.

Pivotally mounted in the recess 9, are two locking dogs 13 and 14. Each dog is provided with a substantially circular portion indicated at 15, and in this portion of dog 13, is a recess 16, and projecting from the corresponding portion of dog 14, is a tooth 17. The projection 17 engages in the recess 16, so as to cause simultaneous movement of the two dogs when the bolt is operated. Each dog is provided with a recess 18, to provide abutments 19 and 20.

Fitting in the pocket 12 and pivoted to the bolt at 21, is an operating lever 22, provided with a pin 23. Pivoted to the casing 1, in spaced relation at 24—24 are two diverging toggle levers 25; each formed with a slot 26, and through which the pin 23 passes.

The door 2 is provided with a block having a recess and a latch plate 27, to cooperate with the sliding bolt.

In operation, assume the parts are in the position shown in Fig. 4, and it is desired to lock the sliding doors together. The lever 22 is thrown in the direction of the arrow *a*, and when the pin 23 travels far enough it contacts with the end wall of slot 26 in lever 25, as shown in Fig. 5, and forms a fulcrum for said lever 22. By continued movement of lever 22, the bolt is thrown in the direction of arrow *b*, and projects the head 9 beyond the casing and into the recess in the block on the door 2, as shown in Fig. 1. In this movement of the bolt, the abutments 20 of the dogs 13 and 14 contact with the inner wall 30 of the casing 3 and rock said dogs on their pivots, so that by the time the bolt is projected to its fullest extent the abutments 19 are in substantially a vertical position and engage behind the plate 27 and serve to lock the two doors together. It is to be noted at this point that this movement

of the dogs has a wedging action on the inner surface of the plate 27, which serves to draw the two doors tightly together.

When the lever 22 is moved over to its extreme position, to throw the bolt, the disposition of the pivot 21 of the pin 23 and one of the toggle levers is such as to form an interlock for the bolt, hence the latter cannot be moved from unlocked position by unauthorized persons. In other words, one of the toggle levers assumes such a position as to preclude movement of the bolt, unless the operating lever 22 is moved.

A lock or seal may be provided to engage the end of the operating lever 22, if it be desired to keep the doors locked against unauthorized persons.

To withdraw the bolt, the operating lever 22 is moved in direction of arrow *c*. When the pin 23 reaches the end of slot 26 in toggle lever 25, the lever will, upon continued movement, operate to withdraw the bolt. While being retracted the abutments 19 will impinge against the plate 27 and rock the dogs on their pivots, while the abutments 20 will ride in the opening 4 and fall in behind the inner end of the casing, as shown in Figs. 4 and 5.

The depth of the recesses in the dogs permits them to freely move over the walls of the opening in the casing, as will be appreciated by reference to the drawing.

From the foregoing description, it will be seen that when the bolt is thrown in either direction, the dogs will be simultaneously rocked to effect the locking of the doors, and to withdraw the dogs from locking position, and that the operating mechanism will prevent movement of the bolt, except by operation of the lever 22.

What I claim and desire to secure by U. S. Letters Patent, is:—

1. A lock comprising a casing formed with an opening, a sliding bolt operating through the opening in the casing, dogs pivoted in the bolt, each of said dogs having a notch in one edge, whereby when the bolt is forced through the opening in the casing the walls of the notches will engage the walls of the opening and project said dogs beyond the edges of the bolt, and means including a system of levers for simultaneously throwing the bolt and locking same in either of its extreme positions.

2. A lock comprising a casing formed with an opening, a sliding bolt operating through the opening, dogs pivoted in the bolt, said dogs having portions which contact with the walls of the openings to project said dogs beyond the edges of the bolt when the latter is forced through the open-

ing and to retract the projected portion when the bolt is reversely moved through said opening, means between the dogs to cause one dog to move the other, and means for simultaneously throwing and locking the bolt.

3. A lock comprising a casing, a sliding bolt mounted in the casing, dogs pivoted to the bolt, each dog having a recess on its edge to form abutments, one of said dogs having a recess, the other said dog having a tooth which engages in the aforesaid recess in the other dog, and means for operating the bolt, whereby the dogs will be simultaneously rotated by the abutments contacting with the frames and project the abutments beyond the edges of the bolt.

4. A lock comprising a casing, a sliding bolt mounted in the casing, dogs mounted in the bolt and provided with means operating on the casing to project said dogs beyond the edges of the bolt, an operating lever pivoted to the bolt and provided with a stud, and toggle levers formed with slots and pivoted to the casing, the stud operating in the slots, to provide means for preventing movement of the bolt when thrown in either direction.

5. In a lock of the character described, the combination of a casing, a bolt slidably mounted in the casing, said bolt having a recess, dogs pivoted in the recess, each dog having a recess on its edge to straddle the casing during operation of the bolt, by which to operate the dogs and project same beyond the edges of the bolt, and means for manually sliding the bolt and locking same in its extreme positions including an operating lever pivoted to the bolt and two toggle levers with which the operating lever cooperates to prevent manual movement of the bolt when thrown in either direction to project the dogs beyond the edges of the bolt.

6. In a lock of the character described, the combination of a casing, a sliding bolt mounted in the casing, means including dogs carried by the bolt for automatically interlocking a projecting bolt in a seat when said bolt is operated, an operating lever pivoted to the bolt, two toggle levers pivoted to the casing, each toggle having a slot, and a pin extending from the pin and through the slots to form means for operating the bolt and locking same in the operation.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

EZEKIEL ZECKHAUSER.

Witnesses:

C. E. HELLER,  
SAMUEL M. ANKNEY.