

E. HOYAUX.
BOLT OPERATOR.

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1,016,502.

Patented Feb. 6, 1912.

Fig. 1

Fig. 2

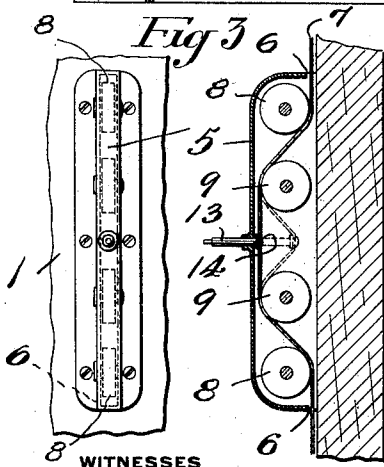
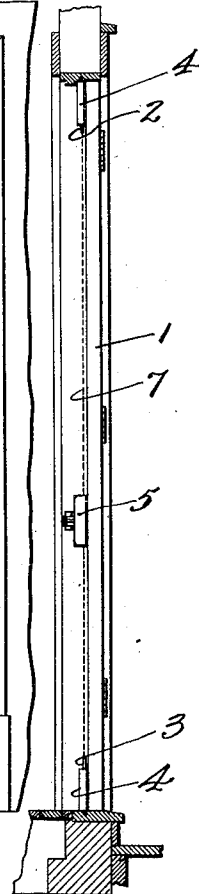
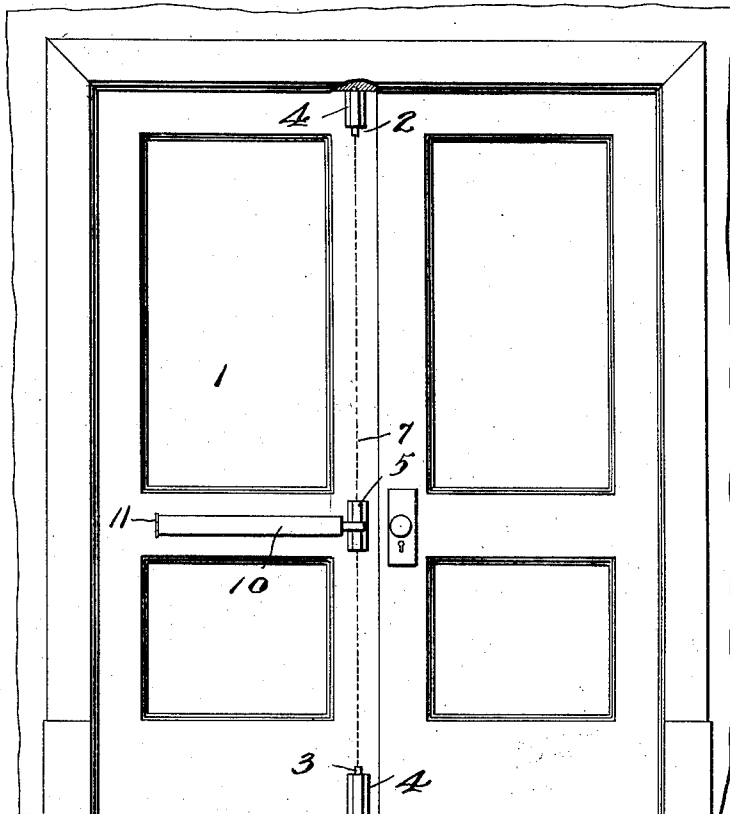
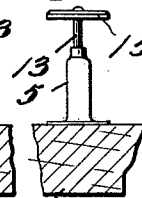
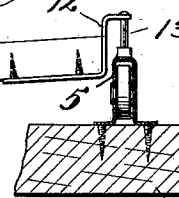
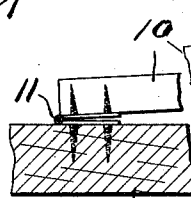


Fig. 4

Fig. 5

Fig. 6



WITNESSES
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BOLT-OPERATOR.

1,016,502.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, EMILE HOYAUX, a citizen of the United States, residing at McDonald, in the county of Washington and State of Pennsylvania, have invented certain new and useful Improvements in Bolt-Operators, of which the following is a specification.

The present invention relates to improvements in bolt openers for doors.

The invention is specially designed to provide door releasing mechanism by which a door may be opened quickly and freely, to insure a safe and certain exit, in cases of emergency, from public buildings, schools, auditoriums, etc.

The invention consists essentially in a locking device combined with a yieldable member attached, at one end at least, to the locking member, and means for depressing a supported portion of the yieldable member to impart a pull to the locking device to release it from its complementary keeper.

In the accompanying drawings I have illustrated one example, and a modified form thereof, of the physical embodiment of my invention, constructed according to the best modes I have so far devised for the practical application of the principles.

Figure 1 illustrates a double door, so called, one of which doors has my invention applied thereto. Fig. 2 is a vertical sectional view of Fig. 1. Fig. 3 is an enlarged front view of a casing or housing in which operating parts of the device are inclosed. Fig. 4 is a vertical section of Fig. 3, showing two positions of the yieldable member, forming part of the operating mechanism. Fig. 5, is an enlarged view, (partly broken away) showing a panel or actuating bar, and its connection with the releasing mechanism. Fig. 6 is a modified form of the actuating mechanism.

In the preferred embodiment of my invention as illustrated in the drawings, (Fig. 1) the invention is shown as applied to a double door, or pair of doors, opening to the outside, of which the door 1 is equipped, on the inside, with the bolt or lock releasing mechanism. For the locking mechanism I have illustrated two bolts of the customary spring actuated type, as the upper one 2 and the lower one 3, held in the usual housings 4.

In adapting the invention and applying it to the door 1, the customary knob, usually located on the inside, is dispensed with

and replaced by a housing or box 5, which is provided with end slots 6, 6, and is attached to the door as shown.

The spring bolts 2 and 3 have attached thereto, and are connected by a flexible and yieldable cord or chain 7, and this cord or chain is passed through the end slots 66 of the housing, and through the housing itself.

Journaled within the housing or box 5 are a series of pulleys, in this instance four being shown, of which the two end pulleys 8, 8, are guides, and the two intermediate pulleys 9, 9 are supports for the continuous chain or cord 7. By reference to Fig. 4 it will be seen that the chain passes through the slots 6, 6, under the guide pulleys 8, 8, and over the supporting pulleys 9, 9.

The above described mechanism constitutes essentially the bolt releasing or withdrawing device, and to actuate this mechanism, I have illustrated a panel or bar 10, which is of suitable length and hinged as at 11 to the door 1. The free end of the panel or bar is provided with a metallic plate 12 to which a plunger 13 is rigidly secured. This plunger is passed through an opening in the housing 5 and its head 14 is attached to the chain 7 at a point approximately midway between the supporting pulleys 9, 9.

Under some circumstances I may dispense with the panel 10, and in lieu thereof a push button 15 is employed. This button is secured on the outer end of the plunger 13, the inner end of the plunger being secured to the chain or cord, as in the first instance.

In operation, assuming the bolts 2 and 3 to be held in locked position, pressure on panel 10 will push the plunger 13 into the housing. This action of the panel, through the plunger, depresses the chain between the supporting pulleys 9, 9, as in dotted lines Fig. 4, and pulls upwardly and downwardly upon the ends of the chain. As the chain recedes in the housing, the bolts 2 and 3 are withdrawn from their keepers. When pressure on the panel is released, the chain is again drawn taut by the action of the springs which return the locking bolts to place.

It should be understood that I may dispense with one of the bolts if desired, and use, for instance, only the bolt 2, anchoring the loose end of the chain at a suitable point, and while I have referred to the chain or cord herein, I contemplate the use of any flexible, yieldably supported member.

These and similar changes I consider within the scope of the appended claims.

Having thus fully described my invention, what I claim as new and desire to secure by Letters Patent is:—

1. The combination with a locking bolt and a pair of spaced pulleys, of a continuous chain attached to said bolt and passing over and supported between said pulleys, and means for depressing the chain between the pulleys to open the bolt.

2. The combination with a pair of locking bolts and a continuous chain attached there-

to, of a pair of spaced pulleys forming rotatable supports and means for depressing said chain between the pulleys.

3. The combination with a pair of locking bolts, guide pulleys and spaced pulleys forming rotatable supports, of a continuous yieldable chain attached to said bolts, and a pivoted panel for depressing said chain between the spaced pulleys to open the bolts.

EMILE HOYAUX.

Witnesses:

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."