L. JONES.

DOOR BOLT AND LATCH RELEASING DEVICE.

APPLICATION FILED MAY 11, 1908.

902,412. Patented Oct. 27, 1908.

2 SHEETS—SHEET 1.

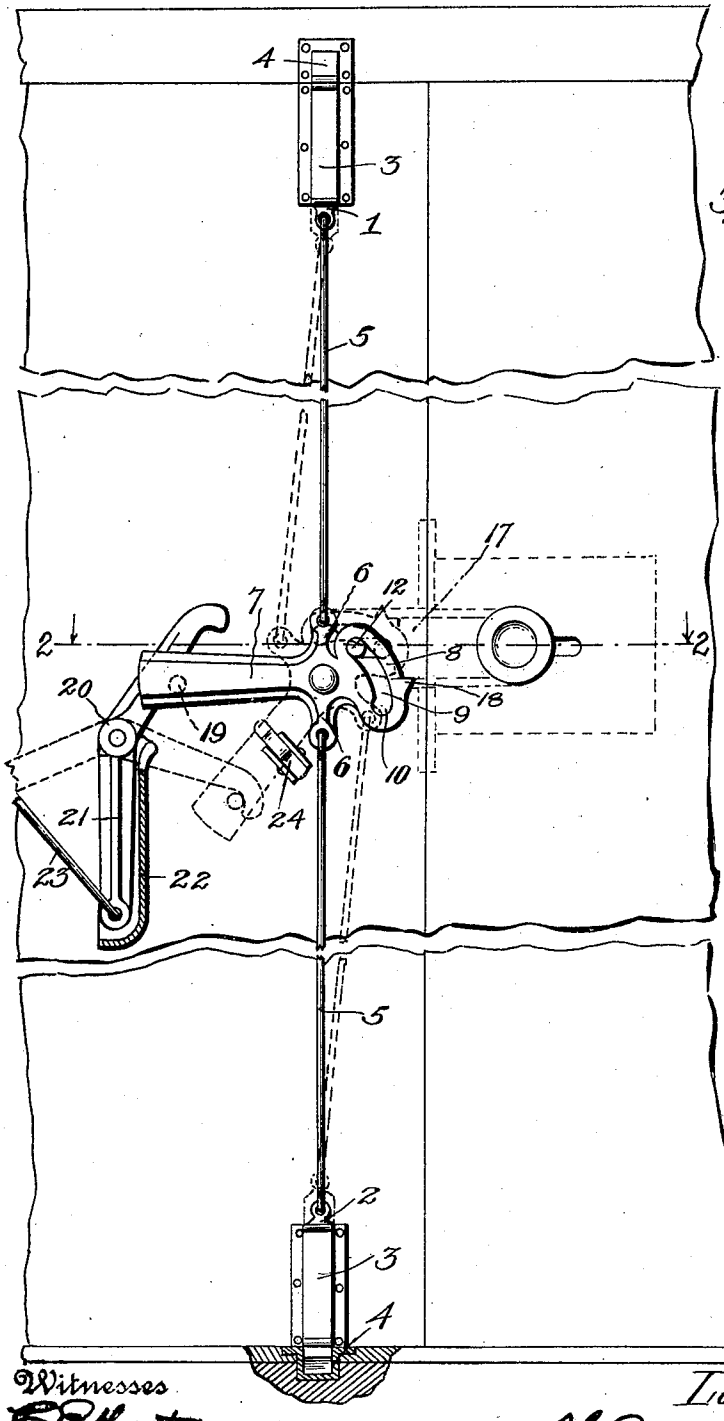


Fig. 1.

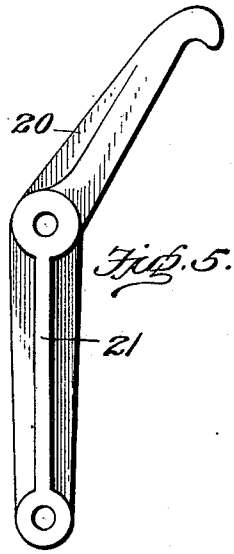


Fig. 5.

Witnesses

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2 SHEETS—SHEET 2.

Fig. 2.

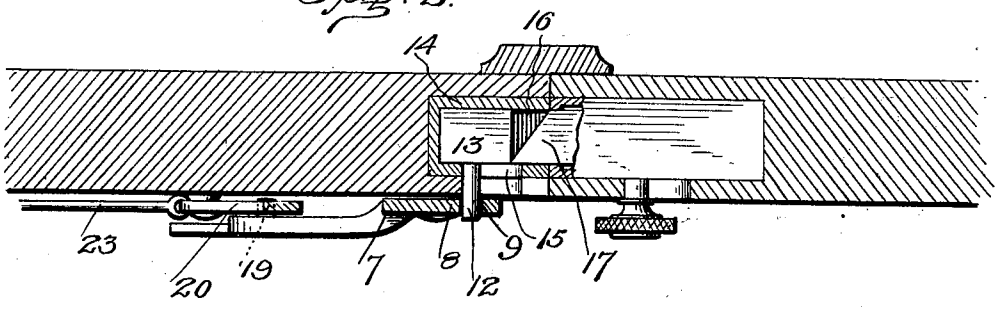


Fig. 3.

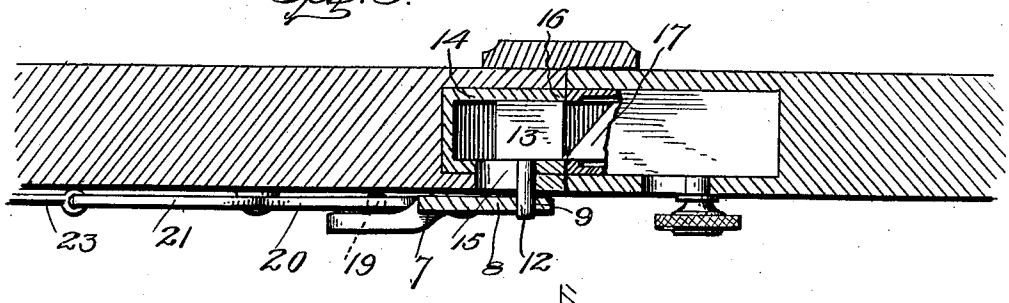
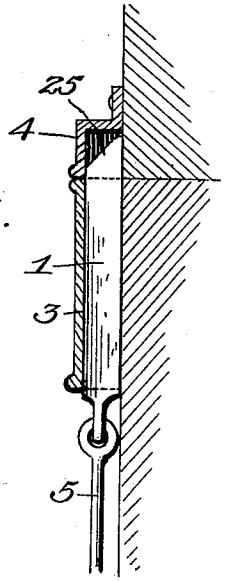


Fig. 4.



Witnesses

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UNITED STATES PATENT OFFICE

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DOOR BOLT AND LATCH RELEASING DEVICE.

No. 902,412. Specification of Letters Patent. Patented Oct. 27, 1908.

Application filed May 11, 1908. Serial No. 432,127.

To all whom it may concern:

Be it known that I, LAWRENCE JONES, a citizen of the United States, residing at Jefferson, in the county of Ashtabula and State of Ohio, have invented certain new and useful Improvements in Door Bolt and Latch Releasing Devices; and I do 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.

This invention relates to improvements in door bolt and latch-releasing devices.

The object of the invention is to provide a device of this character by means of which the bolts and latch on a door may be released at a distance, or at different points in a building.

A further object of the invention is to provide a simple and efficient device of this character which may be readily applied to either the right or left-hand door, and which may be directly operated by a person passing through the door.

With these and other objects in view, the invention consists of certain novel features of construction, combination and arrangement of parts as will be described and particularly pointed out in the appended claims.

In the accompanying drawings, Figure 1 is a side elevation of a double door showing the application of the invention thereto with the bolts shown in locked position in full lines and in released position in dotted lines, parts being broken away and in section; Fig. 2 is a horizontal sectional view on the line 2—2 of Fig. 1, showing the arrangement of the latch releasing block when in a normal position; Fig. 3 is a similar view showing the position of the block when thrown outward to release the latch; Fig. 4 is a detail vertical sectional view through one of the door bolts and its casing, showing the beveled end of the bolt; and Fig. 5 is a detail view of the bell crank operating lever for actuating the releasing lever.

Referring more particularly to the drawings, 1 denotes the upper bolt, and 2, the lower bolt of a double door, said bolts being slidably mounted in casings, 3, secured to the door and adapted to be engaged with suitable keepers, 4, arranged on the door frame and in the floor of the building. The inner ends of the bolts 1 and 2 are provided with eyes, to which are connected operating rods, 5.

The iner ends of the rods 5 are loosely connected to the oppositely disposed laterally projecting arms, 6, of a releasing lever, 7, which is pivotally mounted on the inner side of the door adjacent to the latch mechanism thereof, as shown. The lever 7 is provided on one end with a head, or extension, 8, having formed therein a cam slot, 9, the lower end of which terminates in a curved recess, 10. The slot, 9, in the head, 8, is adapted to be engaged with a laterally projecting knob, or pin, 12, of a latch retracting block, 13, which is slidably mounted in a suitable casing, 14, mortised in the outer edge of the door, as shown. The knob, 12, projects through and works in a transversely disposed slot, 15, formed in the casing and the adjacent side of the door, as shown. The casing, 14, is formed by an extension of the latch keeper, 16, into which the spring latch bolt, 17, of the locking mechanism on the opposite door is adapted to engage when the doors are in a closed position. On the outer edge of the head, 8, is formed a laterally projecting lug, 18, for the purpose of engaging and lifting a pivoted latch when the device is applied to a locking mechanism of this character.

On the inner side of the lever, 7, adjacent to its inner end is formed a pin or lug, 19, with which is adapted to be engaged the curved or hooked outer end of one arm of an angular operating lever, 20, which is pivotally mounted on the side of the door adjacent to the inner end of the lever, 7, as shown. The opposite or longer arm, 21, of the lever 20 is normally engaged with a suitable casing, 22, secured to the side of the door, and in the outer end of said arm is formed an eye with which is connected the end of an operating wire or cable, 23, which may be extended to any part of the building and by means of which the operating lever 20 is actuated to move the releasing lever to the proper position for retracting the bolts 1 and 2 and the latch bolt, 17, thus unlocking the door.

The cable 23 may be provided in its length with any number of angular operating levers (not shown) by means of which the cable may be carried in various directions and still provide means for effectively actuating the operating lever.

When the releasing lever is moved to a position for retracting the bolts, said lever is engaged by a pivoted catch 24 arranged

in suitable position on the side of the door and is held by said catch in this position until manually released and swung back to an operative position.

In operation when the releasing lever 7 is swung down by the operating lever, 20, to the position shown in Fig. 2 of the drawings, the arms 6 will be turned to draw the bolts 12 out of engagement with the keepers 4, while the cam slot 9 in the head 8 will force the knob 12 and the releasing block 13 outwardly and into engagement with the spring latch bolt, 17, thus pushing the same to a retracted position and out of engagement with the keeper. The block 13, when moved by the cam slot to its greatest extent will be flush with the outer edge of the keeper, thus entirely disengaging the end of the latch bolt from the keeper. The ends of the bolts 1 and 2 are beveled outwardly as shown at 25 so that when retracted by the lever 7 and rods, 5, the disengagement of the said ends from the keepers will be more readily effected, and should said rods and lever not retract the bolt entirely from the keeper, the engagement of the beveled ends thereof with the lower edge of the keepers when the door is opened, will force the bolts inwardly out of engagement with the keeper.

From the foregoing description, taken in connection with the accompanying drawing, the construction and operation of the invention will be readily understood without requiring a more extended explanation.

Various changes in the form, proportion and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of the invention as defined in the appended claims.

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

1. In a bolt and latch releasing device, a releasing lever, means to operatively connect said lever to the bolts, and means operatively connected with the lever and adapted to impinge against the latch bolt of the opposite door, whereby when said lever is swung, said bolts will be retracted from their keepers.

2. In a bolt and latch releasing device, a pivoted releasing lever having oppositely disposed arms, a head on one end of said lever, operating rods connected to said arms and to the bolts at the upper and lower ends of the door, a latch bolt retracting mechanism, means on said head to operate said latch retracting mechanism, a pivotally mounted operating lever engaged with said releasing lever, and means to actuate said operating lever from a distance, substantially as described.

3. In a bolt and latch releasing mechanism for doors, a pivoted releasing lever having oppositely projecting arms, a head formed on one end of said lever, said head having formed therein a cam slot, a latch retracting block slidably mounted in said door, a knob on said block adapted to engage the cam slot in said head whereby the block is operated to retract said latch, bolt-operating rods connected to said arms, and means whereby said releasing lever may be actuated from a distance, substantially as described.

4. In a latch and bolt releasing mechanism for doors, a pivoted releasing lever connected to the upper and lower door bolts to retract the same, a latch releasing mechanism, means on said lever to actuate said latch releasing mechanism, an operating lever engaged with the free end of said releasing lever, an operating cable connected to said lever whereby the latter is actuated from a distance to operate said releasing lever, and means to hold said releasing lever in a position for retracting said bolt, substantially as described.

5. In a bolt and latch releasing mechanism for doors, a pivoted releasing lever, bolt retracting rods operatively connected to said lever, a head formed on one end of the latter, said head having formed therein a cam slot and latch engaging lug, a latch releasing block slidably mounted in the door, an operating knob on said block adapted to engage the slot in said head, a lug on the opposite end of said retracting lever, an operating lever having one end engaged with said lug, an operating cable on the opposite end of said lever, a casing to receive said end, and a catch to hold said releasing lever in position to retract said bolts, substantially as described.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

LAWRENCE JONES.

Witnesses:
K. MOUNTAIN,
F. R. HOSKINS.