Sept. 6, 1949. J. J. ROUSSEAU 2,481,154

AUTOMATIC DOOR BOLT

Filed Dec. 23, 1947

Fig. 1.

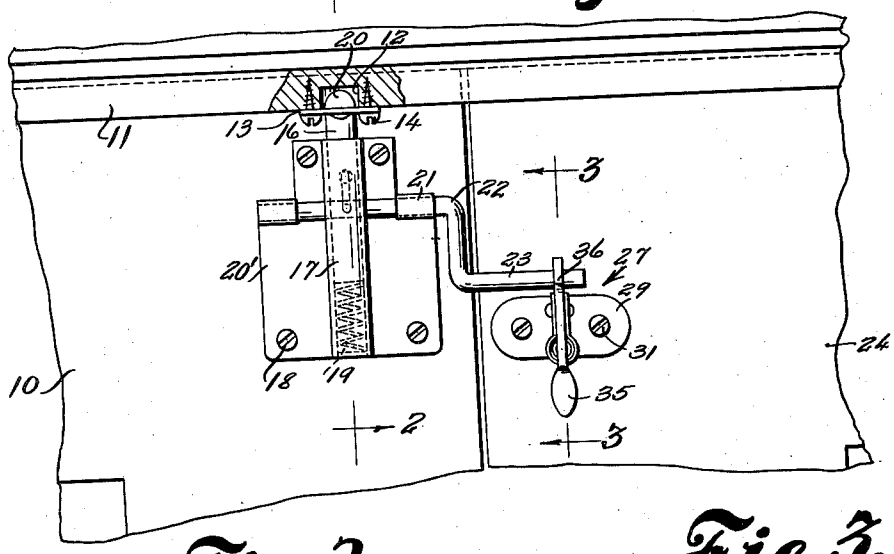


Fig. 2.

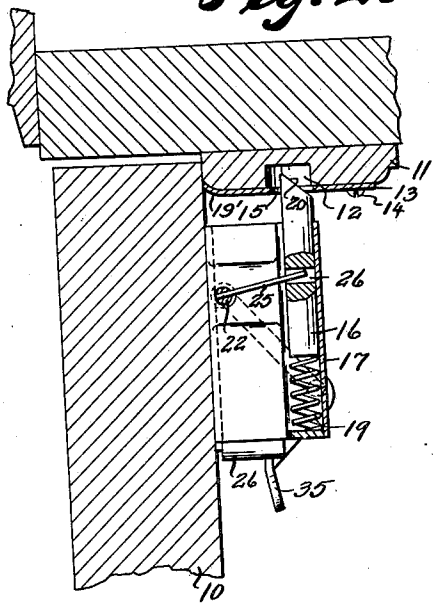
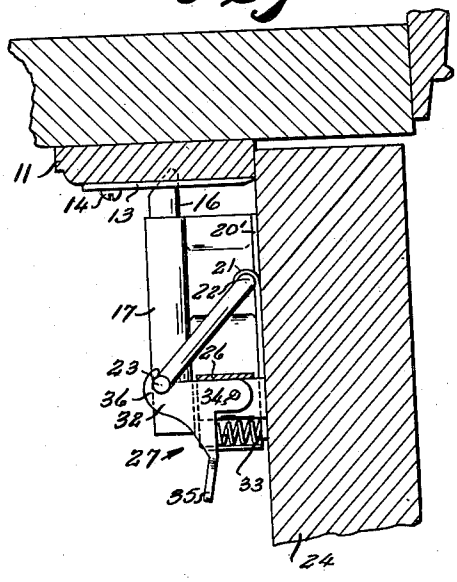


Fig. 3.



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Patented Sept. 6, 1949

2,481,154

UNITED STATES PATENT OFFICE

2,481,154

AUTOMATIC DOOR BOLT

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Application December 23, 1947, Serial No. 793,403

3 Claims. (Cl. 292—1)

1

This invention relates to an automatic door bolt arrangement.

It is an object of the present invention to provide a door bolt arrangement for double doors whereby both doors are automatically latched as they are swung closed and whereby automatically upon pulling the moving door alone to open the same the fixed door will be automatically released, the fixed door having a bolt with a transverse control crank and the moving door having a catch adapted to grip the crank to retain the door locked or to pull upon the crank when opening the door to release the bolt of the fixed door.

Other objects of the present invention are to provide an automatic door bolt arrangement on fixed and moving doors, which is of simple construction, inexpensive to manufacture, easy to install on the doors and efficient in operation.

For a better understanding of the invention, reference may be had to the following detailed description taken in connection with the accompanying drawing, in which

Fig. 1 is a fragmentary elevational view of fixed and moving doors with the automatic door bolt arrangement of the present invention secured thereto,

Fig. 2 is an enlarged sectional view taken on line 2—2 of Fig. 1 and through the bolt of the fixed door,

Fig. 3 is a sectional view, in elevation, taken through the catch on the moving door and on line 3—3 of Fig. 1.

Referring now to the figures, 10 represents a fixed door adapted to be drawn against a doorway plate or door frame 11. This plate 11 has a hole 12 over which is secured a metal plate or keeper plate 13 by means of screws 14. The plate likewise has a hole 15 through which a latch bolt 16 is extended to retain the door 10 in the closed position. The latch bolt 16 is slidable in a casing 17 fixed on the door 10 by screws 18. A spring 19 within the casing urges the bolt 16 into locking engagement with the opening 15 of the plate 13. The portion 19' of the plate 13 nearest the door 10, as clearly shown in Fig. 2, is rounded to cooperate with the inclined end face 20 of the bolt to facilitate its movement onto the plate, causing the bolt to be moved into the casing 17 against the action of the spring 19.

The casing has its attaching plate 20', through which the screws 18 are extended formed with folded up portions 21 for supporting control shaft 22 having a crank portion 23 which extends laterally over a moving door 24 adapted to be brought against the plate 11. The shaft 22 has

2

an arm 25 which is projected into a hole 26 in the bolt so that as the shaft is rotated in a clockwise direction as viewed in Figure 2, the bolt will be retracted from the opening 12 and 15 of the respective plates 11 and 13.

On the moving door 24, is a spring catch device indicated generally at 27 and having a casing 26 with a flange 29 secured by screws 31 with the door face. A hook lever 32 is pivoted to the casing 26 by a pin 34 and is normally urged to a position to retain crank 23 by a compression spring 33 acting against a handle portion 35 of the hook 32. The top of the hook lever 32 is rounded as indicated at 36 so that the crank 23 might ride over the hook lever to be caught thereby in the manner as shown in Figure 3.

If it is desired to release only the moving door from the opening, the handle portion 35 is depressed so as to free the hook lever 32 from the crank 23. On the other hand if it is desired to automatically open both doors, the moving door is pulled and the hook lever 32 will thereby pull the crank 23 to rotate shaft 22 and to release bolt 16 from its opening. Accordingly both doors will automatically be released upon pulling the moving door.

While various changes may be made in the detail construction, it shall be understood that such changes shall be within the spirit and scope of the present invention as defined by the appended claims.

I claim:

1. An automatic door bolt arrangement comprising a casing, adapted to be secured to a door, a bolt slidable in the casing and adapted to latch with a keeper plate, a transversely extending means connected to the bolt to retract the same, catch device adapted to be secured to another door and adapted to engage with the transversely extending means as the other door is closed, said catch device being operable upon the transversely extending means to retract the bolt as the other door is pulled to the open position and to be releasable from the transversely extending means whereby both doors may be opened by a single pull on the other door.

2. An automatic door bolt arrangement comprising a bolt casing adapted to be fixed to one door, a latch bolt operable within the casing to be extended to a position for locking the door to a door frame, shaft means journalled on the casing and operatively connected with the bolt to operate the same, said shaft means having a crank portion extending laterally over the side of the door to be in alignment with a catch de-

vice adapted to be secured to another door, said catch device being engageable with the crank portion to hold the other door in the closed position but operable as the other door is moved to an open position to rotate the crank portion and said shaft means to automatically release the latch bolt of the one door.

3. An automatic door bolt arrangement comprising a bolt casing adapted to be fixed to one door, a latch bolt operable within the casing to be extended to a position for locking the door to a door frame, shaft means journalled on the casing and operatively connected with the bolt to operate the same, said shaft means having a crank portion extending laterally over the side of the door to be in alignment with a catch device adapted to be secured to another door, said catch device being engageable with the crank portion to hold the other door in the closed position but operable as the other door is moved to

an open position to rotate the crank portion and said shaft means to automatically release the latch bolt of the one door, and said catch device including a hook lever adapted to hook the crank portion and having a cam portion over which the crank portion may ride as the other door with the catch is brought to its closed position besides the one door, and a handle portion on said hook lever by which the hook lever can be pivoted to free the catch of the crank portion without having to open the one door.

JOHANNES J. ROUSSEAU.

REFERENCES CITED

The following references are of record in the file of this patent:

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