June 16, 1925. 1,542,468

W. A. MUELLER

DOOR BOLT

Filed Aug. 22, 1924

Fig. 1.

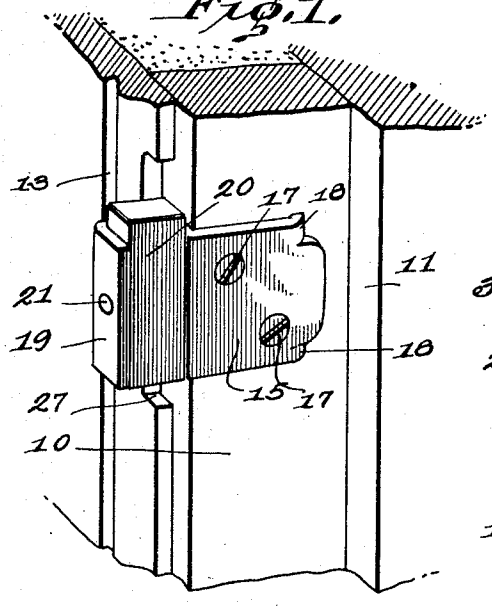


Fig. 2.

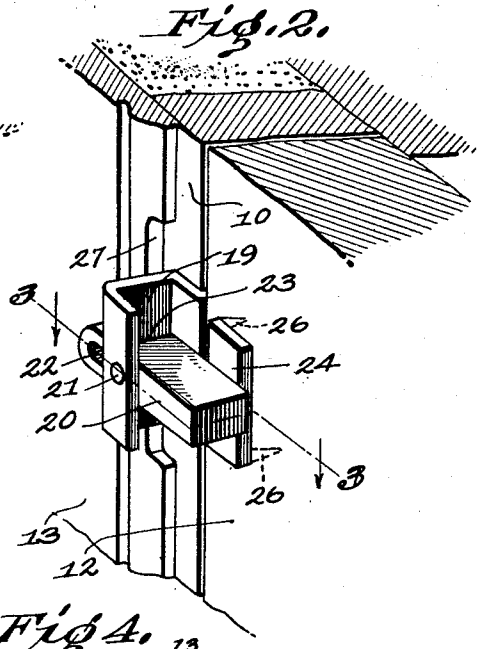


Fig. 3.

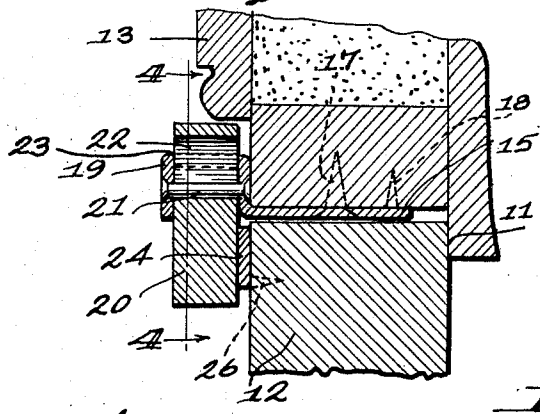


Fig. 4.

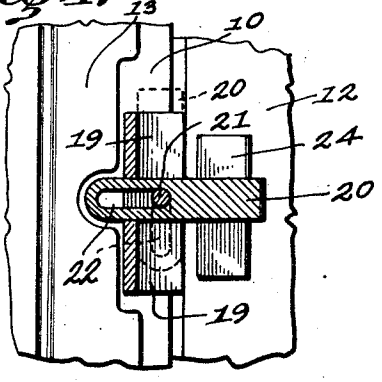


Fig. 5.

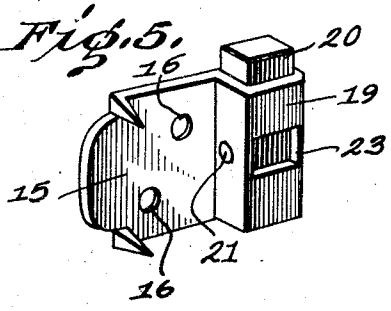
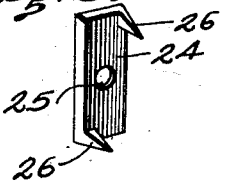


Fig. 6.



Inventor

William A. Mueller

Patented June 16, 1925. 1,542,468

UNITED STATES PATENT OFFICE.

WILLIAM A. MUELLER, OF WASHINGTON, DISTRICT OF COLUMBIA.

DOOR BOLT.

Application filed August 22, 1924. Serial No. 733,606.

To all whom it may concern:

Be it known that I, WILLIAM A. MUELLER, a citizen of the United States, residing at Washington, in the District of Columbia, have invented certain new and useful Improvements in Door Bolts, of which the following is a specification.

The present invention relates to locking devices, more especially designed for locking swinging doors and the like, and aims to provide a novel and improved device of that kind, having a movable bolt thereon which can be moved in the path of the door when in a closed position for locking same.

Another object is the provision of a novel locking device adapted to be secured to a door frame, with the bolt thereof normally lying in a vertical position and out of engagement with the door, and the device being so constructed that the bolt may be moved and held in a horizontal position when it is desired to lock the door.

It is also an object of the invention to provide a locking device of the kind indicated, which is simple and substantial in construction, which can be manufactured economically, and which will be thoroughly efficient and practical in use.

With the foregoing and other objects in view, which will be apparent as the description proceeds, the invention resides in the construction and arrangement of parts, as hereinafter described and claimed, it being understood that changes can be made within the scope of what is claimed, without departing from the spirit of the invention.

The invention is illustrated in the accompanying drawings, wherein:

Figure 1 is a fragmentary perspective view of a door frame, showing my improved device applied,

Figure 2 is a similar view showing the device in a locked position and in engagement with a door,

Figure 3 is a horizontal section taken on line 3—3 of Figure 2,

Figure 4 is a vertical section taken on line 4—4 of Figure 3,

Figure 5 is a rear perspective view showing my improved device removed from the door frame, and

Figure 6 is a rear perspective view of the door plate.

Referring to the drawings, 10 indicates the usual door frame, having the abutment 11 thereon for stopping the door 12 when in a closed position, said frame having on the sides thereof the usual facing strips 13, all of the above mentioned construction being the same which is now commonly in use.

Attached to the inner face of the door frame 10, as clearly shown in Figure 1, I provide the plate 15 of my improved locking device, said plate having countersunk openings 16 therein to permit screws 17 or the like, to be inserted therethrough. At one edge of the plate 15 additional means are provided to aid in securing the plate 15 to the frame, which consists of a pair of V-shaped prongs 18 bent at right angles from the plate, and being so arranged that the same may be forced into the frame 10.

At the edge of the plate 15 opposite to that where the prongs 18 are arranged is provided a U-shaped portion 19, which receives the locking bolt 20. The two parallel sides of said U-shaped portion have openings therein, in which the opposite ends of the pin 21 are secured, said pin extending through a slot 22 provided in the bolt 20 adjacent one end thereof. Directly in rear of the pin 21 in the bight portion of the U-shaped body is provided an opening 23 of sufficient size to permit one end of the bolt 20 to project therethrough.

Arranged on the side of the door 12 where the bolt engages, is positioned a plate 24, said plate being secured to the door by a screw passing through the opening 25 therein, and the prongs 26 thereon being forced into the door.

As illustrated in the drawings, the facing strip 13 is notched slightly, as at 27, so as to prevent the strip from interfering with my device, but this is not necessary in all cases, as some facing strips do not extend as near to the door opening.

It has been found in most instances that a sufficient space exists between the door frame and the edge of the door to permit the plate 15 to be positioned on the frame without cutting the same, but should there be no space the frame may be notched to allow the plate to lie flush with the outer surface thereof.

It is to be noted that when the lock is not in use the bolt 20 is snugly received in the U-shaped portion 19, filling the same, thus giving a neat appearance, and preventing anyone's clothes from being caught on same, and also that the bolt 20 extends slightly

above the U-shaped member so that the same may be conveniently engaged when it is desired to lock the door.

In operation, the bolt 20 normally lies in a vertical position, as indicated in Figure 1, and when it is desired to lock the door in a closed position, the bolt is moved slightly upwardly until the pin 21 is in the outer end of the slot 22, then the bolt can be swung to a horizontal position and slid into the opening 23 in the U-shaped portion, which will prevent further swinging movement of said bolt. When in this position the bolt engages the plate 24 on the door, extending into the path thereof, thus preventing the opening of said door. Should it be attempted to force the lock, the same could not be detached from the frame, as the plate 15 would engage the edge of the door and prevent the plate from being completely forced from said frame.

The device is applicable to doors swinging from either side of the door frame, as the bolt can extend in either direction in the U-shaped portion, to which the same is attached, thus eliminating the necessity of constructing two different types of locking devices.

Having thus described the invention, what is claimed as new is:

1. A locking device in combination with a door frame and door, comprising a U-shaped portion, a plate attached to the outer end of one leg of said U-shaped portion and extending at right angles therefrom, said plate secured to the inner face of said door frame, a bolt received in said U-shaped portion, and means for supporting said bolt either in or out of the path of said door.

2. In combination with a door frame and door, of a locking device, comprising an attaching plate adapted to be secured to the inner face of said door frame, a U-shaped portion formed on one end of said plate, a pin extending across said U-shaped portion and having its outer ends secured to the parallel sides of said U-shaped portion, a locking bolt received in said U-shaped portion and having a slot therein for receiving said pin, said U-shaped portion having an opening in the bight portion thereof for receiving one end of said locking bolt when the same is in a horizontal position and in the path of said door.

3. In combination with a door frame and door, of a locking device, comprising an attaching plate adapted to be secured to the inner face of said door frame, a U-shaped portion formed on one end of said plate, a pin extending across said U-shaped portion and having its outer ends secured to the parallel sides of said U-shaped portion, a locking bolt received in said U-shaped portion and having a slot therein for receiving said pin, said U-shaped portion having an opening in the bight portion thereof for receiving one end of said locking bolt when the same is in a horizontal position and in the path of said door, and a plate attached to said door for engaging said bolt when the same is in a locked position.

4. A door locking device comprising a plate having a U-shaped portion provided at its inner wall and at a point between its ends with an opening, a pin supported by the side walls of the U-shaped portion and disposed transversely across the said opening at a point midway between the upper and lower edges thereof, and a bolt having a slot which receives the pin, said bolt being adapted to be snugly received in said opening.

5. A locking device comprising a plate having a U-shaped portion provided at its inner wall with an opening, a pin supported in the side walls of the U-shaped portion and disposed transversely across said opening at a point midway between the upper and lower edges thereof, and a bolt adapted to fit snugly in the U-shaped portion and having a slot which receives the pin, the said bolt having an end portion adapted to be snugly received in the opening of the U-shaped portion.

In testimony whereof, I have affixed my signature in the presence of two witnesses.

WILLIAM A. MUELLER.

Witnesses:

K. WILDENSTEINER,

M. BROWN.