(No Model.) 2 Sheets—Sheet 1.

E. HARMON.

ALARM BOLT FOR DOORS.

No. 384,760. Patented June 19, 1888.

Fig. 1.

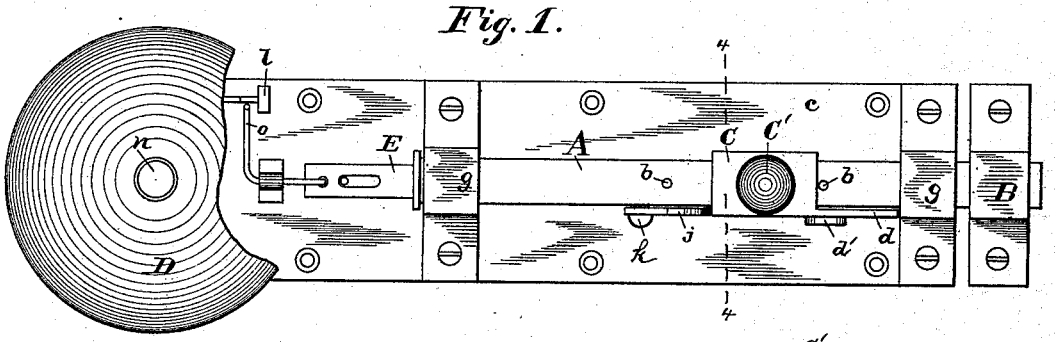


Fig. 2.

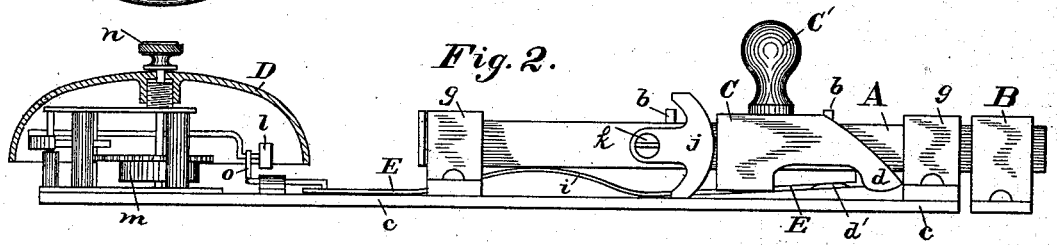


Fig. 4.

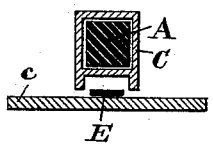


Fig. 3.

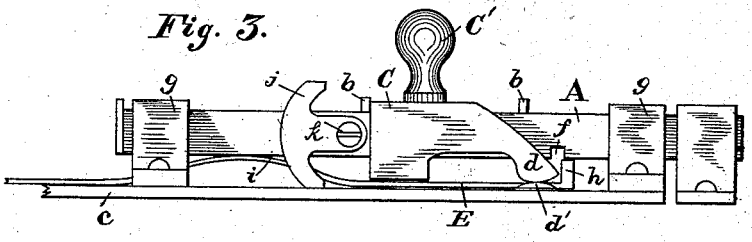


Fig. 5.

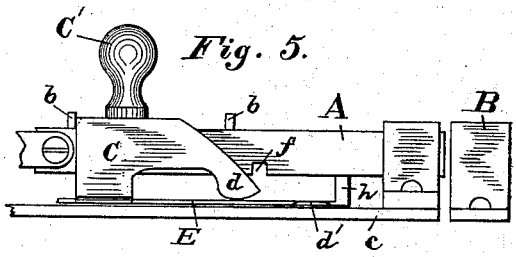
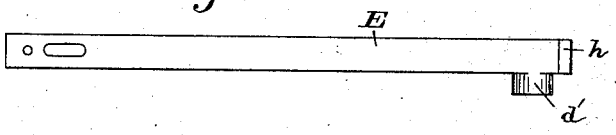


Fig. 6.



WITNESSES:

R. L. Clemmitt.

John E. Morris.

INVENTOR:

Eleazer Harmon.

BY Chas B. Mann

ATTORNEY.

(No Model.) 2 Sheets—Sheet 2.

E. HARMON.

ALARM BOLT FOR DOORS.

No. 384,760. Patented June 19, 1888.

Fig. 7.

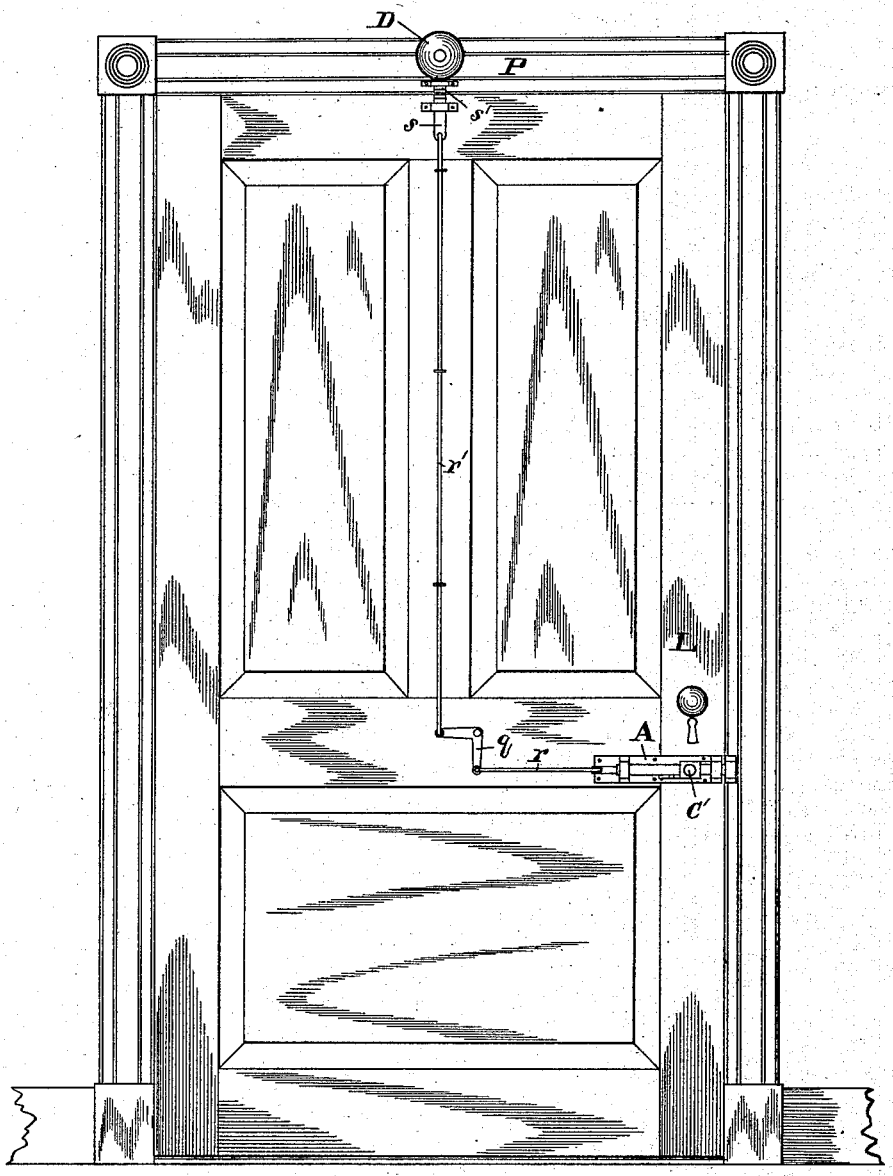
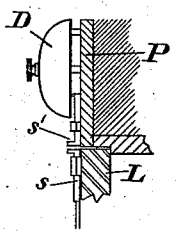


Fig. 8.



WITNESSES:

R. L. Clemmitt.

John E. Morris.

INVENTOR:

Eleazer Harmon.

BY Chas B. Mann

ATTORNEY.

UNITED STATES PATENT OFFICE.

ELEAZER HARMON, OF BALTIMORE, MARYLAND.

ALARM-BOLT FOR DOORS.

SPECIFICATION forming part of Letters Patent No. 384,760, dated June 19, 1888.

Application filed February 17, 1888. Serial No. 264,389. (No model.)

To all whom it may concern:

Be it known that I, ELEAZER HARMON, a citizen of the United States, residing at Baltimore, in the State of Maryland, have invented certain new and useful Improvements in Alarm-Bolts for Doors, of which the following is a specification.

The object of my invention is to provide a door-bolt with an alarm, and so construct and connect the parts that a person on the inside of a room may by grasping the knob shift the bolt without sounding the alarm, while if the bolt is shifted or partly moved by a person operating from the outside, where access cannot be had to the knob, the alarm will sound.

One form of device embodying the invention is illustrated in the drawings, in which—

Figure 1 is a front or top view of the bolt and alarm-gong as it would be on the door. A part of the gong is broken away to expose the connection between the bolt and gong-hammer. Fig. 2 is a side view of the bolt and gong, the bolt being shot and engaged with the catch-plate. The gong is in section to show the connection with bolt. Fig. 3 is a side view of the bolt and illustrates the action of the cam-arm attached to the movable knob, whereby connection between the bolt and gong is broken. Fig. 4 is a cross-section of the bolt on the line 4 4. Fig. 5 shows the bolt retracted from the catch-plate. Fig. 6 shows the bar connecting the bolt with gong. Fig. 7 is a view of a door having my improved bolt attached. This figure shows a modification in the arrangement of the gong and the connection between it and the bolt. Fig. 8 is a side view of the gong and a section of the top of the door and door-frame, showing the connecting parts.

The letter A designates the door-bolt, which slides, as usual, in keepers *g* on a base-plate, *c*, to be secured to the door, and B the catch-plate, which is secured to the door-jamb. The bolt has a knob, C′, movably connected with it, and D is an alarm-gong, which preferably, though not necessarily, is provided with a train of gearing and hammer, *l*, operated by a spring, *m*, to be wound up like clock-work. Such alarm-gongs are common, and the construction thereof is no part of my present invention.

The bolt A may be shifted endwise at any time by grasping the knob C′ without sounding the gong. The knob C′ is movably attached to the bolt A, for the purpose hereinafter stated. The construction to effect this movable attachment of the knob may vary from that shown.

In the present instance the knob C′ is attached to a square sleeve, C, which surrounds the bolt. The sleeve is movable on the bolt endwise, and the extent of its movement is limited by two lugs or pins, *b*. A cam-arm, *d*, is attached to the sleeve and serves to uncouple the gong-connecting bar E from the bolt. The knob C′ and cam-arm *d* are in rigid connection through the intermediary of the sleeve C. As intimated above, any other intermediate construction may be used.

The bolt has a notch, *f*, and the gong-connecting bar E has an end lug, *h*, which enters and engages with said notch. When the bar E and bolt A are thus engaged, any movement of the bolt produces a corresponding movement of the bar, whereby, as hereinafter explained, the gong will be sounded. The connecting-bar E has near the end lug, *h*, a lateral flange, *d′*, on which the cam-arm *d* presses whenever the knob C′ is moved. When the bolt A is shot forward to its full extent and engaged with the catch B, as shown in Fig. 2, the first effect produced by moving the knob C′ will be to bring the cam-arm *d* in contact with the lateral flange *d′*, whereby the latter and the lug *h* are pressed away and disconnected from the bolt, as shown in Fig. 3. A further movement of the knob will retract the bolt from the catch, as shown in Fig. 5.

An alarm device of any suitable kind may be used. In the present instance a gong, D, is employed. The mainspring *m* of the gong is wound up by a thumb-button, *n*. The hammer *l* is arranged to strike the alarm device, and a trigger, *o*, projects in the path of the said hammer, and is attached to the connecting-bar E, which passes loosely through one of the keepers *g*. While the trigger *o* is in contact with the hammer the latter cannot strike, and this is the normal condition, and remains so as long as the knob C′ is employed to move the bolt; but when the bolt A is moved without using the knob C′ in a direction to withdraw it from the catch B the trigger *o* will be-

come disconnected from the hammer *l*, and the latter will then strike and cause an alarm.

The connecting-bar E is between the bolt A and base-plate *c*, and to prevent it from slipping too freely it is curved at one part, as at *i*, and the said curve binds on the bolt. A locking-arm, *j*, is pivoted at *k* to one side of the bolt, and capable of being turned forward or back. When it is desired to have the knob C′ rendered immovable on the bolt, the locking-arm *j* will be turned forward, so as to bear against the sleeve C, as shown in Figs. 1 and 2. In this position neither the knob nor the bolt can be moved back in a direction to withdraw the bolt from the catch B without disconnecting the trigger *o* from the alarm-hammer *l* and sounding the alarm. When it is desired to have the knob C′ in a condition to permit its use without sounding the alarm, the locking-arm *j* will be turned back, as shown in Figs. 3 and 5.

If the alarm device D is attached to the base-plate *c*, as in Figs. 1 and 2, the whole device will be attached to the door, as usual. If, however, it is desired to have the alarm device D located remote from the bolt, then the bolt parts only will be attached to the door L, as shown in Fig. 7, and the alarm device attached where desired. In this instance it is shown attached above the door to the door-frame P. To enable this to be done, a bell-crank lever, *q*, is employed, and a wire, *r*, connects one arm thereof with the bolt A, while the other arm is connected by a wire, *r′*, with a push-bar, *s*, at the top of the door. Another push-bar, *s′*, on the door-frame connects with the trigger *o* of the alarm.

I have shown and described a gong as the "alarm device;" but the invention is not limited to a gong, neither is it limited to the precise construction of other parts shown.

Having described my invention, I claim and desire to secure by Letters Patent of the United States—

1. In an alarm door-bolt, the combination of a movable bolt, A, an alarm device, a hammer suitably mounted to strike said alarm device, a movable bar, E, one end of which is detachably connected with the bolt and is provided at the other end with a trigger which projects in the path of the said hammer, and a knob movable endwise on the bolt and connected with a cam-arm, *d*, which will press on the said connecting-bar and disengage it from the bolt, whereby on grasping the movable knob the bolt may be shifted without sounding the alarm, but if the bolt be moved without using the knob an alarm will be given.

2. In an alarm door-bolt, the combination of a movable bolt, A, an alarm device, a hammer suitably mounted to strike said alarm device, a movable bar, E, one end of which is detachably connected with the bolt and is provided at the other end with a trigger which projects in the path of the said hammer, and a sleeve, C, surrounding the bolt loosely and having a limited movement thereon and provided with a cam, *d*, to disengage the said connecting-bar from the bolt.

3. In an alarm door-bolt, the combination of a movable bolt, A, an alarm device, a hammer suitably mounted to strike said alarm device, a movable bar, E, one end of which is detachably connected with the bolt and is provided at the other end with a trigger which projects in the path of the said hammer, a knob movable endwise on the bolt and connected with a cam-arm, *d*, which will press the said connecting-bar and disengage it from the bolt, and a locking-arm attached to the bolt and capable of being moved to render said knob immovable with respect to the bolt.

In testimony whereof I affix my signature in the presence of two witnesses.

ELEAZER HARMON.

Witnesses:
JNO. T. MADDOX,
JOHN E. MORRIS.