(No Model.)

M. W. BESSEY.

ELECTRIC DOOR ALARM.

No. 481,711. Patented Aug. 30, 1892.

Fig. 1.

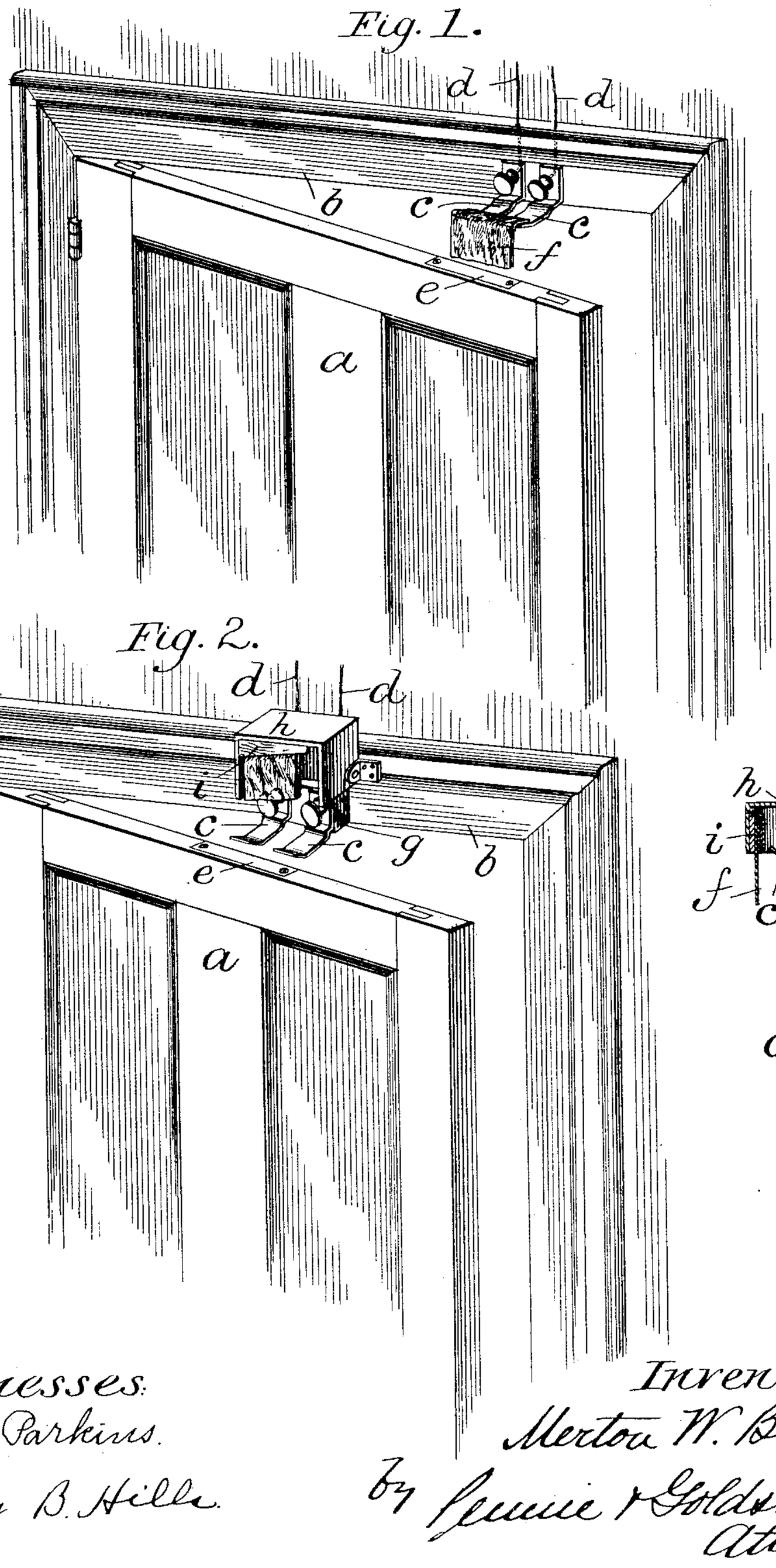
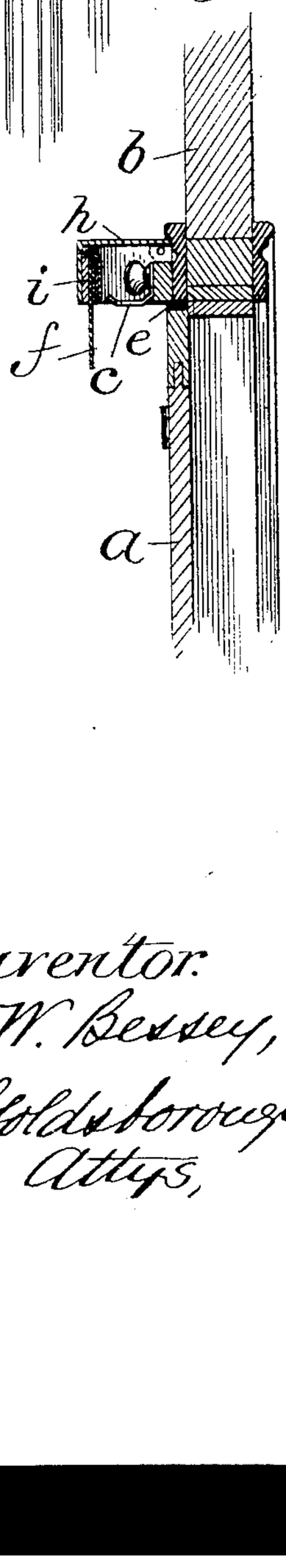


Fig. 2.

Fig. 3.



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UNITED STATES PATENT OFFICE.

MERTON W. BESSEY, OF WATERVILLE, MAINE.

ELECTRIC DOOR-ALARM.

SPECIFICATION forming part of Letters Patent No. 481,711, dated August 30, 1892.

Application filed November 14, 1891. Serial No. 411,911. (No model.)

To all whom it may concern:

Be it known that I, MERTON W. BESSEY, a citizen of the United States, residing at Waterville, in the county of Kennebec and State of Maine, have invented certain new and useful Improvements in Electric Door-Alarms; and I do hereby 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.

My invention relates to electric alarms for use on the doors and windows of store-houses, dwellings, and the like; and it has for its object to provide an improved apparatus of this character which will sound the alarm upon the opening or closing of the door or window but will not be sounded when the same is moved in the opposite direction, whereby the drain on the battery is reduced to a minimum and the annoyance incident to the unnecessary repetition of the alarm is avoided.

In the accompanying drawings, I have illustrated the application of my invention to an ordinary hinged door and as adapted to sound the alarm upon the opening of the door. I would have it understood, however, that I do not intend to be restricted to its use in this connection, as I contemplate applying it to windows, gates, &c., as well as to the drawers of safes, desks, and the like.

Referring to the drawings, Figure 1 is a perspective view of a fragment of a door with my invention applied thereto in its simplest form. Fig. 2 is a similar view illustrating a modification of the invention. Fig. 3 is a vertical section of the construction shown in Fig. 2.

The same letters of reference denote corresponding parts in the several views.

The letter *a* indicates the door and *b* the door frame or jamb. Two strips or plates of metal *c* are secured at any suitable point on the door-frame, and wires *d* extend from these metallic plates to the opposite poles of a battery or other source of electric energy, a bell or other alarm being included in the electric circuit from the battery to the plates, said alarm being located at any point of the room or building where it is desired to give notice of the opening or closing of the door.

The metallic plates *c* are preferably formed of spring metal and shaped as shown in the drawings, having a horizontal portion extending normally down slightly below the edge of the door-frame, so as to be struck by the upper edge of the door as it is opened and closed. The outer ends of the horizontal portions of these plates are advisedly upturned to prevent them from being caught by the door in closing and permitting them to ride freely over the edge of the door. If desired, the inner ends of the horizontal portions may be similarly formed, though this is of less importance.

The letter *e* denotes a metallic strip let into or secured upon the upper edge of the door in such position that it will contact with the plates *c* as the door opens and closes.

A strip of insulating material *f*, preferably flexible, and composed of cloth, felt, leather, or the like, is secured to the outer ends of the plates *c* and hangs down normally below the upper edge of the door-opening, so that in closing the door it will be struck by the upper edge thereof and folded up against the under side of the plates *c*, thereby preventing contact between the plates and the metallic strip *e* on the door.

In Figs. 2 and 3 I have illustrated a construction in which provision is made for the renewal of the insulating-strips as they are worn away by the abrading action of the door. In these figures I also show the plates *c* located somewhat nearer the hinge of the door than in Fig. 1 and arranged in a position inclined toward the hinge of the door, whereby contact between the plates and the strip *e* is maintained and the sounding of the alarm is continued for a longer period than when the plates are set straight and located near the outer edge of the door. In these figures, *g* indicates a wedge-shaped block, secured to the door-frame with its narrowest part toward the hinge. The plates *c* are secured to this block, instead of being fastened directly to the frame, as in Fig. 1, whereby the plates are given the inclined position above referred to. In this form of the invention I prefer to attach the insulating-strip to a hinged cover-piece or housing *h*, overhanging the plates *c*, instead of to the plates themselves. A convenient way of securing these strips, so that they shall hang down in front of the plates parallel with the face of the block to which the plates are secured, permitting them to fold up as the

door closes in line with the plates, so as to cover them completely, is to secure them to a wedge-shaped block *i*, set reversely to the position of the block *g*, so that its widest part shall be toward the door-hinge, as shown in the drawings. To the upper inner edge of this block *i*, I attach by their upper edges several insulating-strips *f*, so that they may be let down one by one as they become worn out by the abrading action of the edge of the door.

The construction and arrangement of parts being as hereinbefore described, the operation will be readily understood. The strips *c*, being insulated from each other, the electric circuit is not complete until the plate *e* on the door comes in contact therewith as the latter swings open and makes a metallic connection between them, which closes or completes the circuit and sounds the alarm. Upon closing the door, the insulating-strip is struck by the upper edge of the door and folded up under the metallic plates *c*, so as to prevent the contact therewith of the connecting-plate *e* on the door. It will be seen from this that the alarm is sounded by the closing of the circuit when the door is opened, but that the circuit is not closed when the door is shut, and the alarm is consequently not rung.

While I have shown the circuit-closer as applied to a hinged or swinging door, it is apparent that it may be applied to sliding doors, drawers, and the like. It will also be apparent that it may be located in any other suitable position than that shown; also, that, instead of closing the circuit by the opening of the door, window, &c., I may arrange the insulating flap or piece so that contact between the strip *e* and the plate *c* will be prevented when the door is opened and be permitted when it is closed.

I do not intend to limit myself to the details of the construction or arrangement of the parts herein shown and described, as the specific features of form and arrangement may be variously modified without departing from the spirit or scope of the invention.

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

1. In an electric alarm for doors, windows, and the like, the combination of a pair of metallic plates on the frame or casing, a metallic connecting-strip on the door, and a piece of insulating material adapted to be interposed between the plates and the strip as the door moves in one direction only, substantially as described.

2. The combination of the metallic plates *c*, secured to the frame, the connecting metal strip *e*, attached to the moving part, and the insulating-strip *f*, arranged to be struck by the moving part and interposed between the plates and the strip, as and for the purpose set forth.

3. The combination of the wires *d*, the metallic plates *c*, the metallic connecting-strip *e*, and the piece of insulating material *f*, attached at its upper end to the outer ends of the plates *c*, substantially as described.

4. The combination of the metallic plates *c* on the frame or casing, a hinged cover or housing protecting and concealing the same, the connecting metal strip *e* on the door, and a strip of insulating material depending below the housing and the frame and arranged so as to be struck by the door in moving in one direction and interposed between the plates *c* and the connecting-strip, substantially as described.

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

MERTON W. BESSEY.

Witnesses:
GEO. W. DORR,
HARRY H. DUNBAR.