P. F. L. BURSTALL.

Burglar-Alarm.

No. 206,225. Patented July 23, 1878.

Fig. 2.

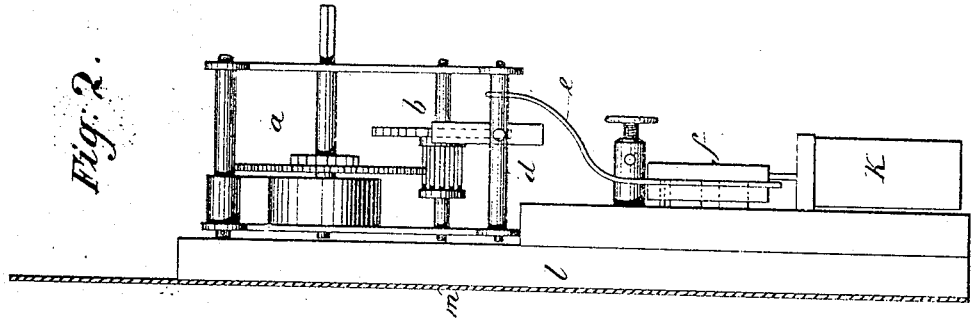
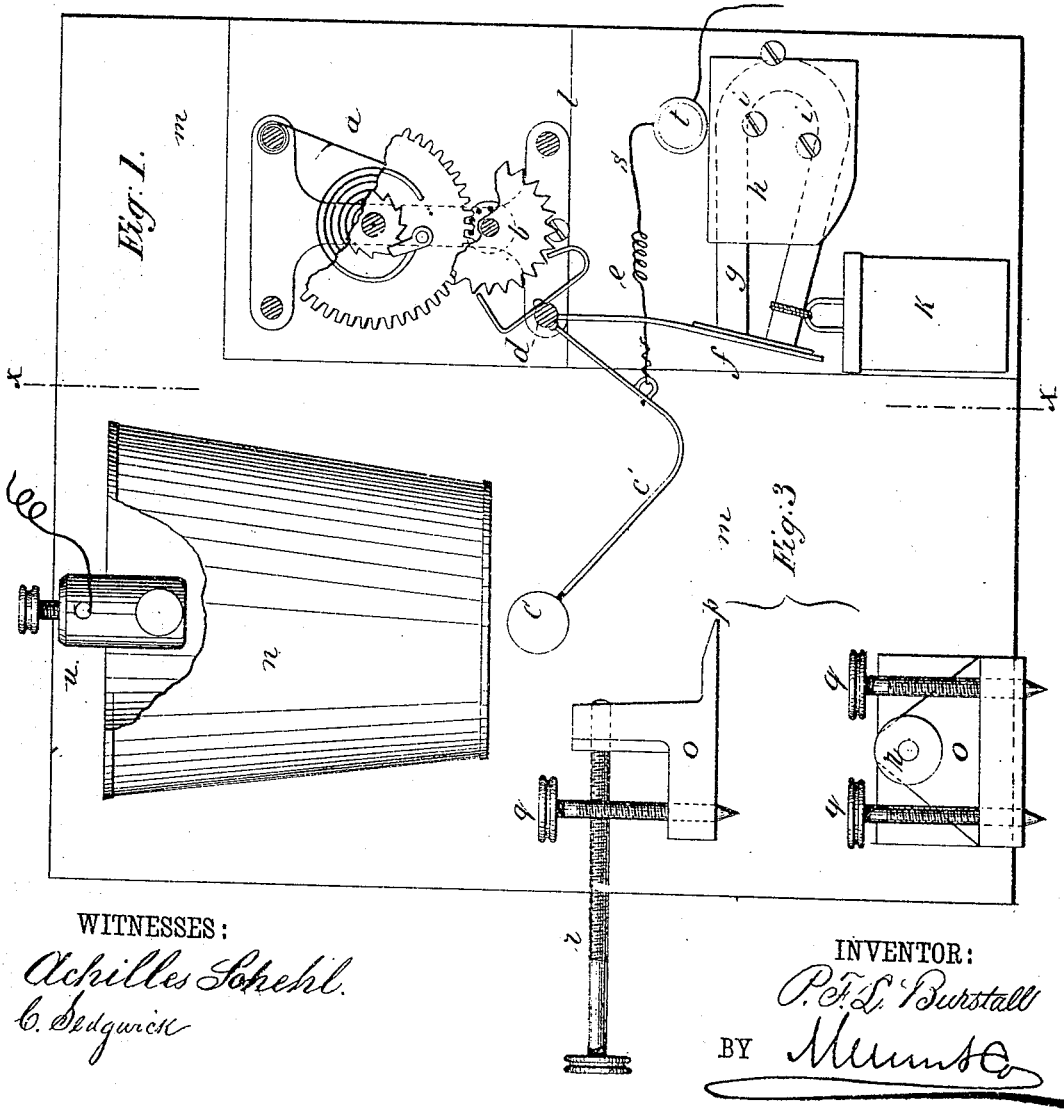


Fig. 1.



WITNESSES:

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PHILIPP F. L. BURSTALL, OF MILWAUKEE, WISCONSIN.

IMPROVEMENT IN BURGLAR-ALARMS.

Specification forming part of Letters Patent No. **206,225**, dated July 23, 1878; application filed June 15, 1878.

To all whom it may concern:

Be it known that I, PHILIPP F. L. BURSTALL, of Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented a new and Improved Burglar-Alarm, of which the following is a specification:

Burglar-alarms have heretofore been made which are brought into action to give an alarm by clock-work or electricity when the door or window to which they are attached is opened, and an electro-magnet has been used to hold the alarm out of action.

The object of my invention is to furnish a burglar-alarm, either portable or fixed, which may be attached to a door or window, and becomes operative by the jar occasioned by an attempt to open the door or window. The alarm may also be connected by wires to a distant bell or other signal, so as to give the alarm by electricity, and in that manner it is especially available for attachment to safes. I also use a peculiar device for attaching the burglar-alarm to a door or window, which device acts also as a fastening to the door.

My invention consists in clock-work and hammer, operated by an escapement, to strike a gong. The alarm is held out of action by a horseshoe or other permanent magnet swinging upon a pin. A weight is attached to the magnet, so that any jar will detach the magnet from its armature and draw it out of the way and permit the hammer to operate. The motion of the hammer or clock-work is utilized to give a signal at a distance by making and breaking an electrical circuit to act upon a telephone or other signaling device.

The alarm is mounted upon a plate or base, which is clamped to a door by a screw-fastening, which consists of a wedge-plate to pass between the door and the jamb, and provided with screws for securing the plate to the jamb and a screw to clamp the burglar-alarm to the door. By this means the door is fastened, and any attempt to open it by violence will cause the alarm to become operative.

In the drawing, Figure 1 is an elevation of my burglar-alarm as set for action. Fig. 2 is a side elevation, in section, at the line *x x;* and Fig. 3 is an elevation of the fastener for the door and means for clamping the burglar-alarm to the door.

Similar letters of reference indicate corresponding parts.

a is the clock-work or train of gearing, of any usual or desired character, having an escapement-wheel and escapement, *b*, operating the hammer *c*. The escapement and hammer are connected with the arbor *d*, which also carries the rod *e*. The rod *e* has upon its outer end the armature *f* of the permanent magnet *g*. This magnet *g* is held by a plate, *h*, and screws *i*, which allow the poles of the magnet to be raised in position for holding the armature *f*, or be drawn down clear of the armature by the weight *k* hung to the magnet.

The parts are shown as mounted upon a wooden or other non-conducting base, *l*, so that they may be insulated; and the base *l* is secured to a thin metal plate, *m*, adapted to be attached to a door or other place. *n* is a metal bell or drum, attached to the plate *m* in such a position that it may be struck by the hammer *c*.

The parts described constitute a complete burglar-alarm, which may be fixed permanently in position upon a door or window; or they may be used as a portable alarm, in which case I attach them by the fastening shown in Fig. 3. This consists of an angle-plate, *o*, having a wedge, *p*, which wedge is to be forced in between the door and its frame. The screws *q*, with pointed ends, are turned to cause the pointed ends to bind upon the jamb and prevent the door being opened except by considerable violence. The angle-plate *o* also has a screw, *r*, which, when the fastening is secured in place, is to be used to clamp the plate *m* of the burglar-alarm to the door. I have shown this clamp in the position it would occupy upon the plate *m* when the wedge *p* is inserted between the bottom of a door and the door-sill.

The door being secured and the alarm clamped thereto, any attempt to open the door will cause a jar, and the magnet *g* will detach itself from the armature *f*, and the weight *k* will draw the magnet down out of the path of the armature, and permit the hammer to strike the drum *n*. The weight *k* is to be proportioned to the strength of the magnet *g*, so that a slight jar will disconnect the magnet and armature.

The weight *k* is shown as a metal box loaded with small shot and having a movable cover, to allow of the weight being varied at pleasure to suit the magnet. In some cases the weight may be omitted, and the magnet will disconnect itself and fall by its own weight.

If it is desired to send an alarm to a distance, the wires shown may be used for that purpose.

s is a wire attached to the hammer-crank *c'* and to the binding-screw *t*, which binding-screw *t* is connected to a battery and the signaling apparatus (not shown) at the distant point. *u* is a binding-screw attached to the drum *n*, and connected by a wire, *v*, to the distant signaling apparatus. When the alarm is set in motion at the place where it is attached, the contact of the hammer *c* with the drum *n* closes the circuit of the wires named and causes the distant alarm to sound. This alarm may be a bell and hammer operated by an electro-magnet of usual construction; or any other well-known means for giving an alarm by the closing or breaking of an electrical circuit may be used. Instead of the hammer closing the circuit by contact with the drum, the motion of the train of gearing may operate a make-and-break wheel for opening and closing the circuit.

The burglar-alarm described may be attached to a door, window, or other place to be guarded, and it is applicable to a safe or vault, to give notice, at the place where it is attached and at a distant point, of any tampering with the safe. It is readily attached without requiring alterations of the door or window.

I do not limit myself to precise construction of the parts of the alarm, as shown, as they may be varied without departing from the essential features of my invention.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. A permanent magnet, in combination with clock-work and a bell or drum, the magnet serving to hold the alarm out of action when the apparatus is set, and freeing itself from its armature to permit the alarm to sound when jarred or disturbed, substantially as set forth.

2. The weight *k*, in combination with the swinging permanent magnet, substantially as and for the purposes set forth.

3. The door or window fastening consisting of the angle-plate *o*, carrying screws *q q r*, and having a wedge, *p*, whereby it serves as a means for securing a door or window and the burglar-alarm to the same, substantially as set forth.

4. The combination of the circuit-wires *s r*, binding parts *t u*, and a suitable battery and signaling device with the hammer and armature mechanism *c*, *c'*, and *f*, the magnet *g'*, and bell or drum *n*, as and for the purpose set forth.

PHILIPP F. L. BURSTALL.

Witnesses:
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