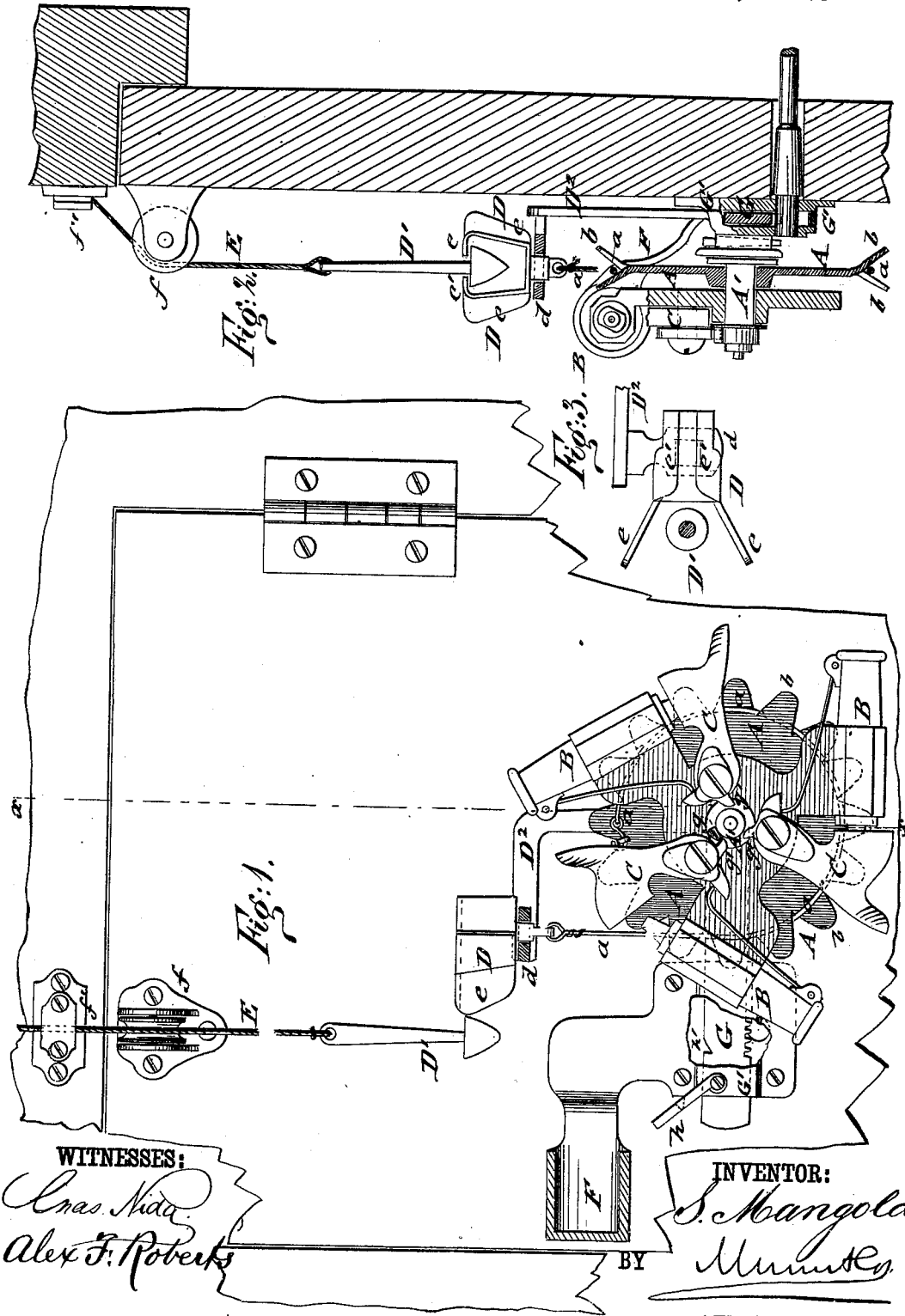


S. MANGOLD.
Burglar Alarms.

No. 197,042.

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IMPROVEMENT IN BURGLAR-ALARMS.

Specification forming part of Letters Patent No. **197,042**, dated November 13, 1877; application filed August 18, 1877.

To all whom it may concern:

Be it known that I, SAMUEL MANGOLD, of the city, county, and State of New York, have invented a new and Improved Burglar-Alarm, of which the following is a specification:

In the accompanying drawings, Figure 1 represents a front elevation of my improved burglar-alarm; Fig. 2, a vertical transverse section of the same on line *xx*, Fig. 1; and Fig. 3, a detail top view of the coupling device for connecting the actuating door-cord with the alarm.

Similar letters of reference indicate corresponding parts.

This invention relates to an improved burglar-alarm for private houses, stores, and other purposes, that may be used with equal efficacy for occupied or unoccupied places, being readily set from the inside or outside, and serving, when the door or windows are attempted to be opened, by the successive discharge of the barrels, as an alarm to the inhabitants or to the police, and as a scare to burglars.

The invention consists of a centrally-pivoted plate with a number of barrels and spring-hammers, that are successively raised and dropped by the revolving of the plate on the opening of the door or window, and by the contact of lugs of the hammers with a pin of a fixed center post. An actuating-cord is attached to the door-casing and passed over a pulley of the door down to the alarm, being connected thereto by a pendent coupling-link, that is engaged by a flanged and tapering casing connected to the main plate by a wire cord running in a circumferential groove or guide-wings of the same. The barrels are discharged into a fixed guard-casing to prevent injury. The alarm is detachable, and slides, by a bar, in a supporting guide-band, being set from the outside by a suitable key, so that the pendent link couples with the casing. A pivot-catch engages the slide-bar from the inside, and prevents any change of position of the alarm from the outside.

By reference to the drawing, A represents the main plate, to which a number of fixed barrels, B, and spring-acted hammers, C, are attached. The main plate A turns on a fixed center post, A', and is operated by a wire cord,

a, that runs in a circumferential groove, or between alternately-flaring guide-wings *b* of the main plate, and is attached at one end thereto, and at the other end to a flanged and flaring casing, D, which couples with a pendent link, D', of the actuating-cord E.

The casing D is seated, when the alarm is set, on a perforated bracket, *d*, of a fixed arm, D², that branches out from the base-plate of the center post A'. The casing D has flaring side wings *e* and rectangular top flanges *e'*, which take hold of the head of the coupling-link, while the shank of the same passes in between the flanges. The coupling-link D' is suspended from the cord E, which runs over a pulley, *f*, near the upper edge of the door, and is firmly attached, by a clamping device, *f'*, to the door frame or casing, so that the length of the cord may be conveniently adjusted to the position of the casing D whenever, by repeated use, the cord has been stretched, or when a new one has to be put in.

The center-post A' engages, by a fixed pin, *g*, projecting lugs *g'* at the ends of the hammers, so that when the main plate A is revolved by the opening of the door, the hammers are successively raised by the contact of their lugs with the pin of the center post, and quickly dropped, by the action of their springs, when the lugs have passed the pin.

The fixed pin *g* is preferably placed in such a position on the center post that the barrels are discharged when arriving at a horizontal position in line with a fixed guard casing or socket, F, that takes up the wad and undischarged powder particles, so as to prevent any injury by the discharging of the barrels, either to persons or the door or furniture.

The main plate may be made fixed or detachable—fixed when the alarm is intended for private houses and occupied rooms, and detachable when used for stores, warehouses, &c., which are not occupied at night.

The barrels are readily loaded with powder, and the caps put on by raising the hammers with the thumb, the coupling-casing and circumferential wire being readily placed in position on the bracket and main plate by passing the lugs of the hammers in raised position over the fixed pin of the center post.

When the alarm is used for the doors and windows of private houses, the same is screwed by a base-plate to the door or other place, several windows being readily connected to one alarm, if desired.

When the alarm is used for stores and other places that are unoccupied at night, the center post is provided with a toothed slide-bar, G, that is guided in a base-plate, G', attached to the door, and then set into the required position to couple the link by means of a suitable lock and key from the outside. The key engages the toothed slide-bar, and moves the same forward or back, according as the party desires to close or open the door. The key-hole is covered from the outside by a suitable escutcheon-plate.

The weight of the pendent coupling-link D and the flaring wings of the casing D' secures the connection of link and alarm in reliable manner when set into position from the outside. The alarm may also be readily detached from the door by withdrawing the slide-bar from the guide-plate, for loading or otherwise.

For admitting the rigid locking of the slide-bar from the inside, so as to prevent tampering with the alarm from the outside, a pivot-catch, h, is thrown into a notch, h', of the slide-bar.

Any suitable locking arrangement, preferably a combination-lock, may be used in connection with the slide-bar, so that with each alarm a different lock and key may be furnished.

When the burglar attempts to open the door the barrels are discharged, and thereby the occupants alarmed, while in stores, warehouses, &c., the shots will attract the notice of the police or watchman, and frighten off the burglars.

In its simpler form for private residences,

and in its more complicated form for places of business, the alarm forms effective and reliable protection against burglars.

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

1. A burglar-alarm consisting of a revolving main plate having fixed barrels and spring-hammers, a hammer-operating device of the center post, and of an actuating cord attached to door-casing, and coupled to main plate to work alarm by the opening of the door, substantially as and for the purpose set forth.

2. The combination of the revolving main plate A, having circumferential groove or wings, with an operating wire cord, a, casing D, and coupling-link D' of actuating-cord, substantially as described.

3. The combination of pendent coupling-link, suspended from end of actuating-cord, with winged and flanged casing resting on bracket of a supporting-arm, and with a wire cord operating main plate, substantially as specified.

4. The combination of the fixed center post A', having rigid pin g', with revolving main plate A, having barrels B and spring-hammers C, with end lugs g', to raise and drop the hammers for successive discharge of barrels, substantially as set forth.

5. The combination of a revolving burglar-alarm, operated by opening of door, and having toothed and notched slide-bar, with a fixed guide-plate of door, having a pivoted catch to lock slide-bar in position from the inside, substantially as specified.

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Witnesses:

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