A. GREGORY.

Burglar-Alarm.

No. 168,391. Patented Oct. 5, 1875.

Fig: 1

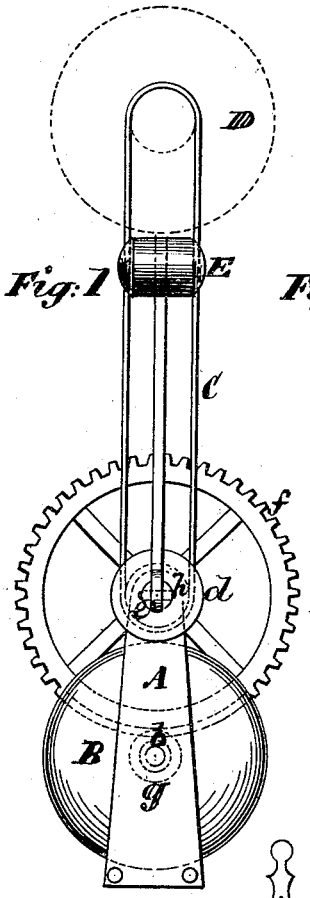


Fig: 3

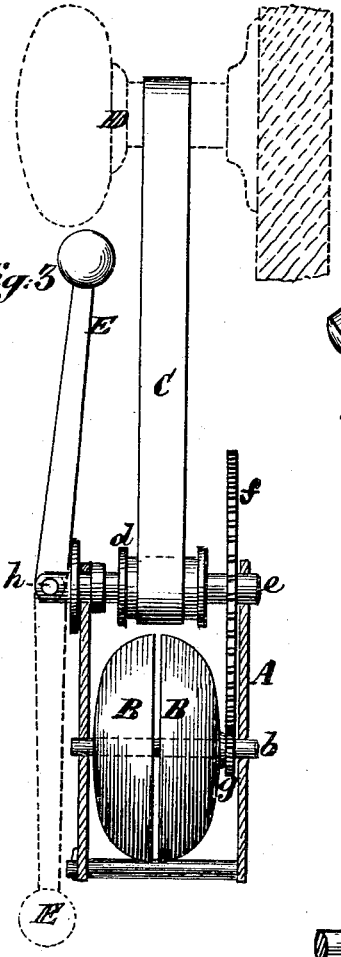


Fig: 2

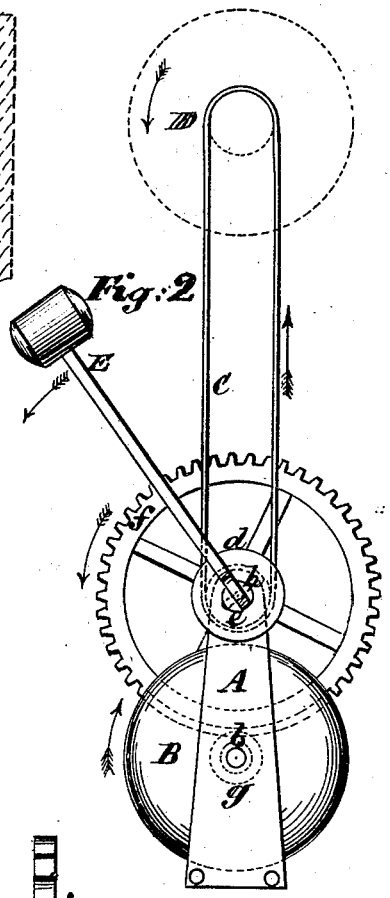
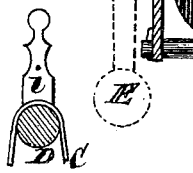


Fig: 4



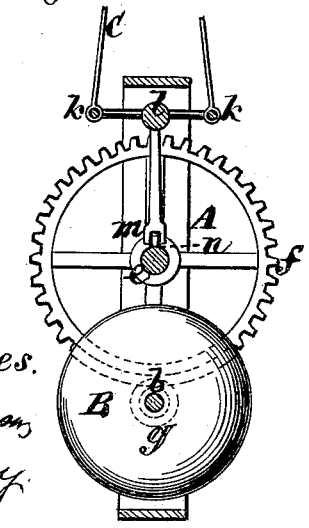
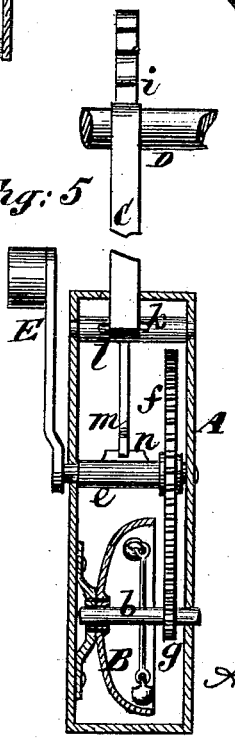


Fig: 5



Witnesses.
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UNITED STATES PATENT OFFICE.

ALFRED GREGORY, OF NEWARK, NEW JERSEY.

IMPROVEMENT IN BURGLAR-ALARMS.

Specification forming part of Letters Patent No. **168,391**, dated October 5, 1875; application filed Septemb r 21, 1875

To all whom it may concern:

Be it known that I, ALFRED GREGORY, of the city of Newark, in the county of Essex and State of New Jersey, have invented a new and useful Improvement in Door-Alarms, which invention is fully set forth in the following specification:

The object of this invention is to produce a cheap, simple, and portable door-alarm, for use either as a protection against burglars, or against servants and others entering a room without giving audible warning. To these ends I have devised and constructed a door-alarm which, unlike other alarms applied to doors or their locks, is a portable and detachable appendage to the latch-knob of a door, and has no positive connection whatever with the interior of the lock, yet it is operated by the turning of the knob-spindle. Such an instrument comprises a suspension strap or band, by which the alarm is suspended over the door-knob or shank or spindle of the knob, exterior to the lock, and a bell or its striker connected with said suspension strap or band, and started or operated by it, with or without the intervention of speeding mechanism, through friction between the suspension strap or band and the knob when the latter is being turned. I also propose to use, in connection with these devices, a drop-weight, which the suspension-strap or band, when moved by the turning of the door-knob, trips or sets in motion, and which weight then serves to start or prolong the action of the bell.

These features of my invention are clearly illustrated in the accompanying drawing, which I will now proceed to describe, but I do restrict myself to the construction there shown of the suspension strap or band, the bell or audible signal employed, the intervening speeding mechanism, or the drop-weight, as it will be evident to any mechanic engaged in constructing mechanical burglar-alarms that these may be variously modified without changing the peculiar or distinguishing character of my invention, or changing the combinations which provide for the alarm being operated by the door-knob in the manner I have particularized.

Figure 1 is a front view of one form or modification of my invention in position, ready for starting, on the knob of a door, which is shown in dotted lines. Fig. 2 is a similar view of the same when in operation, or after the alarm has been started; and Fig. 3, a partly sectional elevation, at right angles to the previous figures, of the like device. Figs. 4 and 5 are mainly sectional elevations, at right angles to each other, of a similar alarm, but with certain of its details differently constructed and arranged, the same embracing, however, like essential combinations.

In Figs. 1, 2, and 3 of the drawing, (which figures I shall first describe,) A is the frame of the instrument. This frame may be of any suitable construction, and serves to carry a well-known form of bell used in what are termed "chime-toys," and consisting of a pair of open-mouthed or gong-shaped revolving bells, B B, mounted on a shaft, *b*, and provided with internal projections arranged to operate a clapper, which is loosely carried by said shaft within the gongs. If desired, only a single revolving gong-shaped bell, with the clapper attached either to the shaft or to the main frame, may be used, instead of the two gongs B B, or the bell proper may be stationary and a striker or clapper-carrier be the moving portion of the bell. Likewise, any suitable kind of bell other than a gong may be used, if preferred. C is an endless band, by which the alarm is suspended on the shank of the door-knob D; also, which serves to start or drive and operate the bell B B when the knob-spindle is turned. Said band may, if desired, be directly connected with the shaft *b* of the bell, but to repeat or increase the number of strikes I prefer to connect it with the bell indirectly, through the intervention of speeding mechanism to any desired extent and of any suitable kind, so that a slight action of the band, even without a drop-weight, will give a prolonged action to the bell. Thus the band C is represented as passing round or under a pulley, *d*, on a countershaft, *e*, which carries a spur-wheel, *f*, that meshes with a pinion, *g*, on the shaft *b* of the bell. The pulley *d* may either be concentric, eccentric, or of any suitable regular or irregular form. Friction-wheels or bands and pulleys may be substituted for the spur-gear, also, if desired.

To still further prolong the action of the bell each time it is operated by the door-knob,

I propose to use a drop-weight, which the band, when moved by the turning of the door-knob, trips or sets in motion, and whereby the weight becomes the driver of the bell after the band has ceased to move. This drop-weight is here represented by a weighted lever, E, fast on the countershaft *e*, and which is adjusted to occupy an approximately upright position, as represented by full lines in Figs. 1 and 3—that is, when the alarm is set and at rest on the knob, and when the door is latched. When the knob-spindle, however, is turned by the knob on the opposite side of the door to open the latter, then the friction between the knob on the other or inner side of the door and the strap or band C slightly turns the shaft *e*, and causes the weighted lever E to be tripped or thrown over the center—that is, to either side of a vertical plane intersecting the shaft *e* longitudinally, so that the weight or lever E falls, as represented in Fig. 2, and keeps up the ringing of the bell until said weighted lever reaches its lowermost position, as represented by dotted lines in Fig. 3. By jointing this lever E to the shaft *e*, as shown at *h*, it may be reversed or thrown up to its normal position from the axis of said joint as a center of motion, to set the alarm again without sounding the bell. Any other suitable drop-weight, however, might be used; thus, said weight might be on the wheel *f*, in place of employing a separate weighted lever; or, when the band is connected directly with the bell, then the drop-weight might be on the latter.

Inasmuch as the turning or driving motion of the band is very limited, it is not necessary that the latter should be an endless one. Thus, it may be a divided band attached at its ends to opposite sides of a rock-shaft. This is the construction shown for the strap or band C in the modification represented in Figs. 4 and 5, in which the band, which is also provided with a tumbling-weight, *i*, is fast at its ends to a rocker, *k*, on opposite sides of a shaft, *l*, to which said rocker is attached. This shaft *l* has a fork, *m*, which clips a spline or projection, *n*, on the shaft *e*, when the weighted lever E is set upright, but which, when the band is moved by the turning of the knob, moves the shaft *e*, through its spline *n*, till the latter is clear of the fork, and the weighted lever E is thrown sufficiently over to one side to insure its falling and keeping up the action of the bell by the gears *f g*, as in Figs. 1, 2, and 3 of the drawing, only that in the last modification, Figs 4 and 5, the lever E in falling is relieved from all drag by friction of the band; but such release from the band, if necessary, may be otherwise provided for. Figs. 4 and 5 also show the gong portion B of the bell as stationary, and the shaft *b* as carrying a revolving striker.

There is no essential difference, however, in the principle of action between the two modifications shown in the drawing, and both employ like combinations of prominent parts—that is to say, a suspension strap or band, which may be of any suitable construction, and a bell, started or operated through intervening speeding mechanism by said band; also, a drop-weight, to continue or prolong the motion derived from the strap by which the instrument is suspended. In each case, too, it is immaterial in which direction the knob-spindle is turned, and it is only necessary, when applying the alarm to the door, to suspend it over the one or inner door-knob when the door is closed, and, when a drop-weight is used, to adjust said weight so that when the knob-spindle is turned by the knob on the other or outer side of the door, the suspension strap or band will be set in motion, and the weight tripped, as and for the purposes hereinbefore described.

I claim as my invention—

1. A portable door-alarm, in which the following elements are combined, namely, a suspension strap or band by which the instrument may be suspended from, and operated by, the latch-knob of a door, and a bell actuated by said band, substantially as specified.

2. The combination, in a portable door-alarm, of speeding mechanism with a suspension strap or band, by which the instrument is carried and operated, and a bell, actuated by said speeding mechanism, essentially as described.

3. The combination, in a door-alarm, of a suspension strap or band, a drop-weight, tripped by said strap or band, and a bell, substantially as and for the purposes herein set forth.

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Witnesses:
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R. GREGORY.