

(No Model.)

G. SCHMIDT.
BURGLAR ALARM.

No. 344,871.

Patented July 6, 1886.

Fig 1

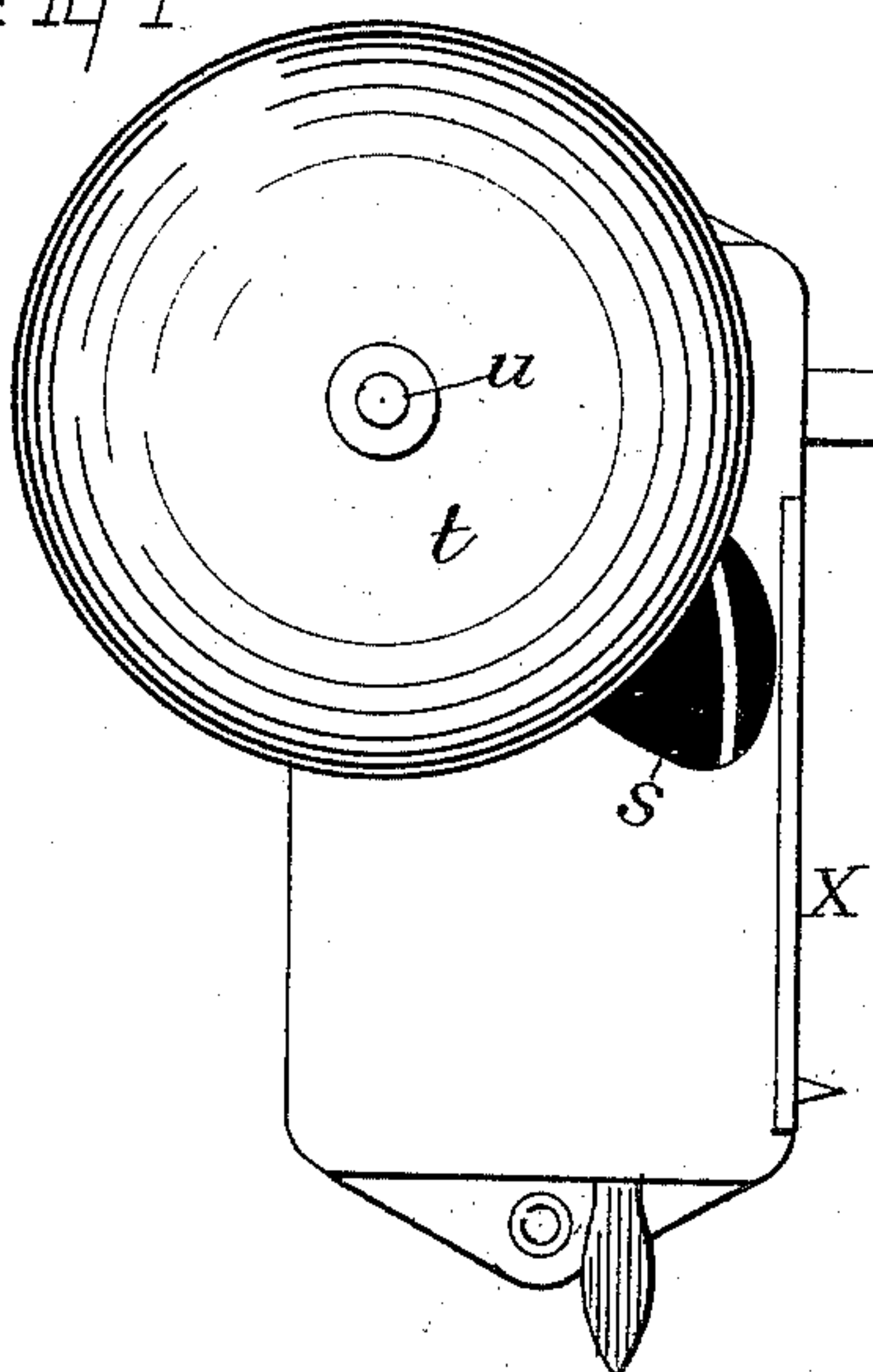


Fig 2

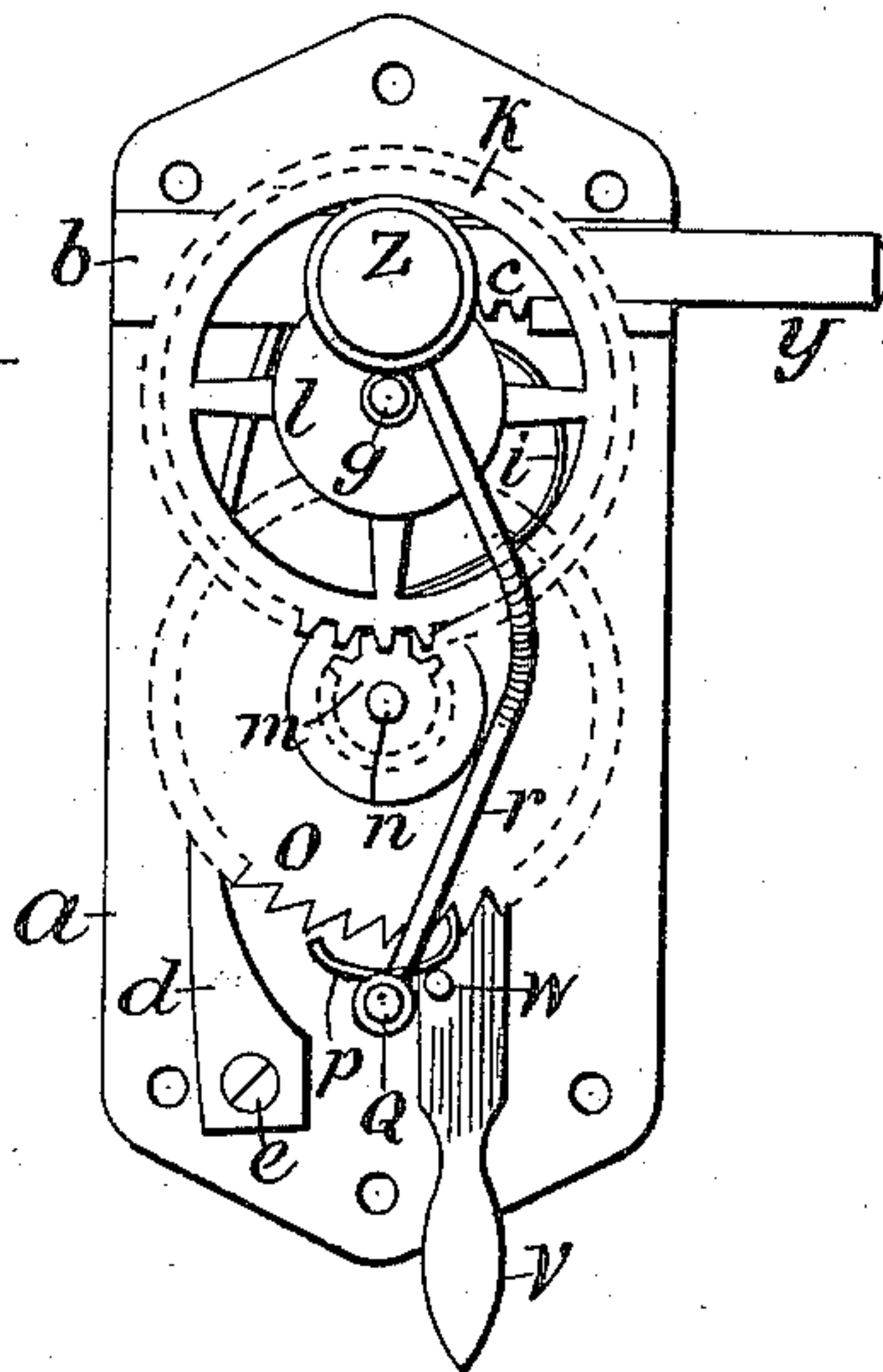


Fig 3

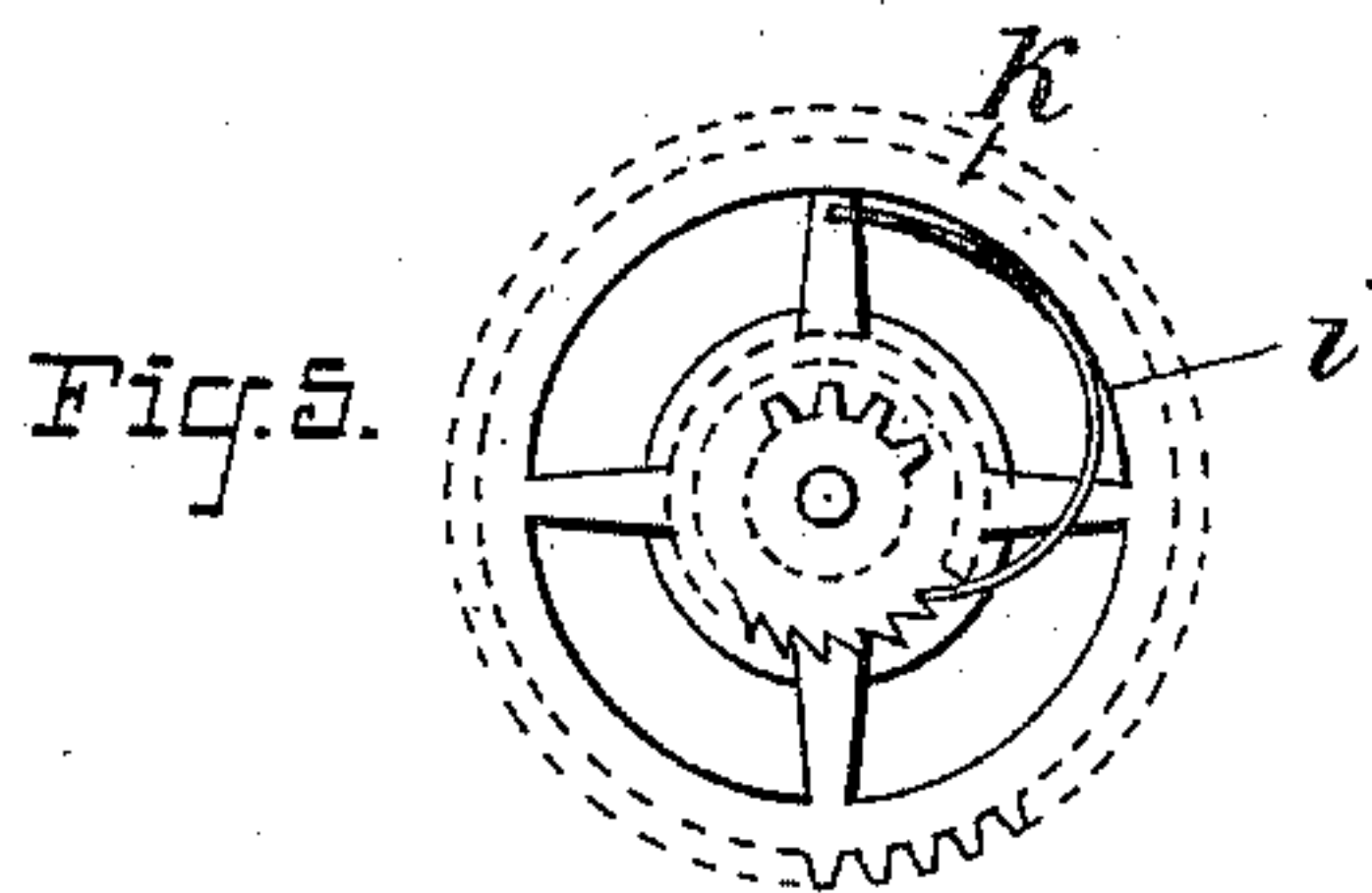
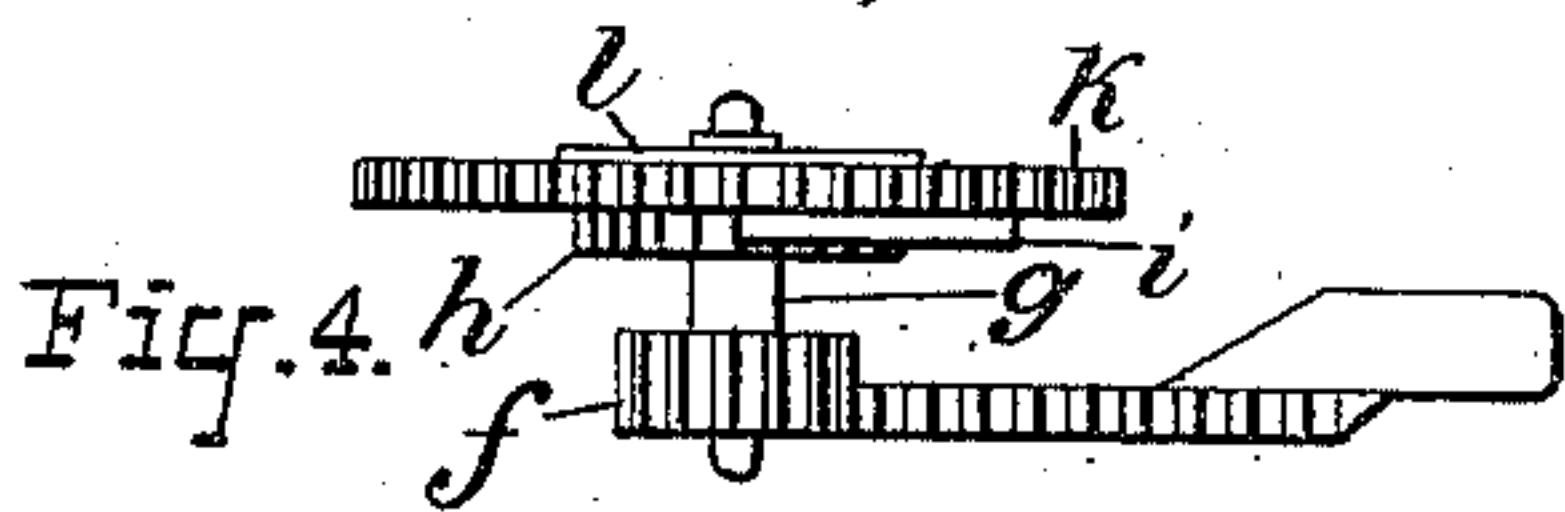
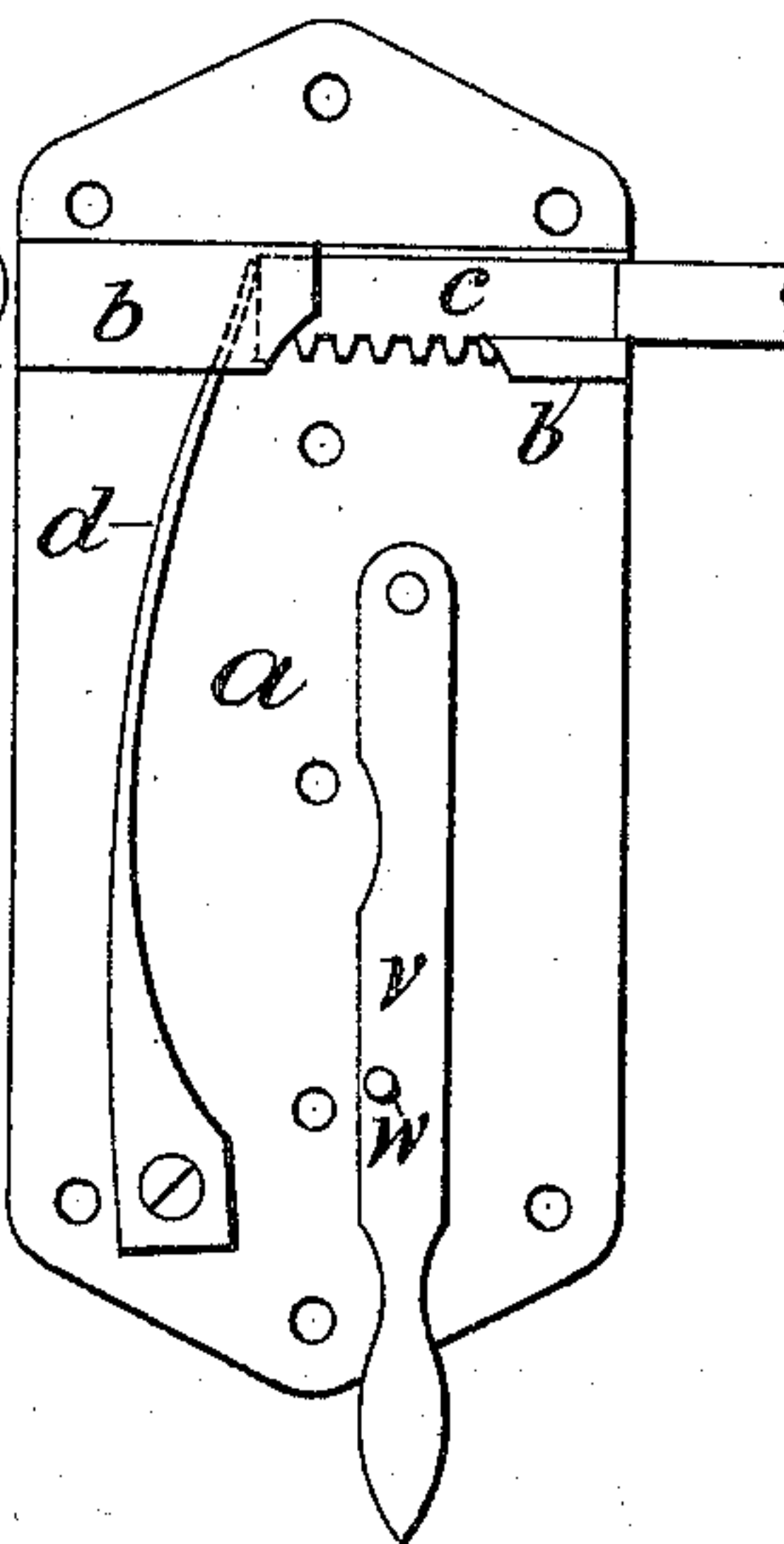
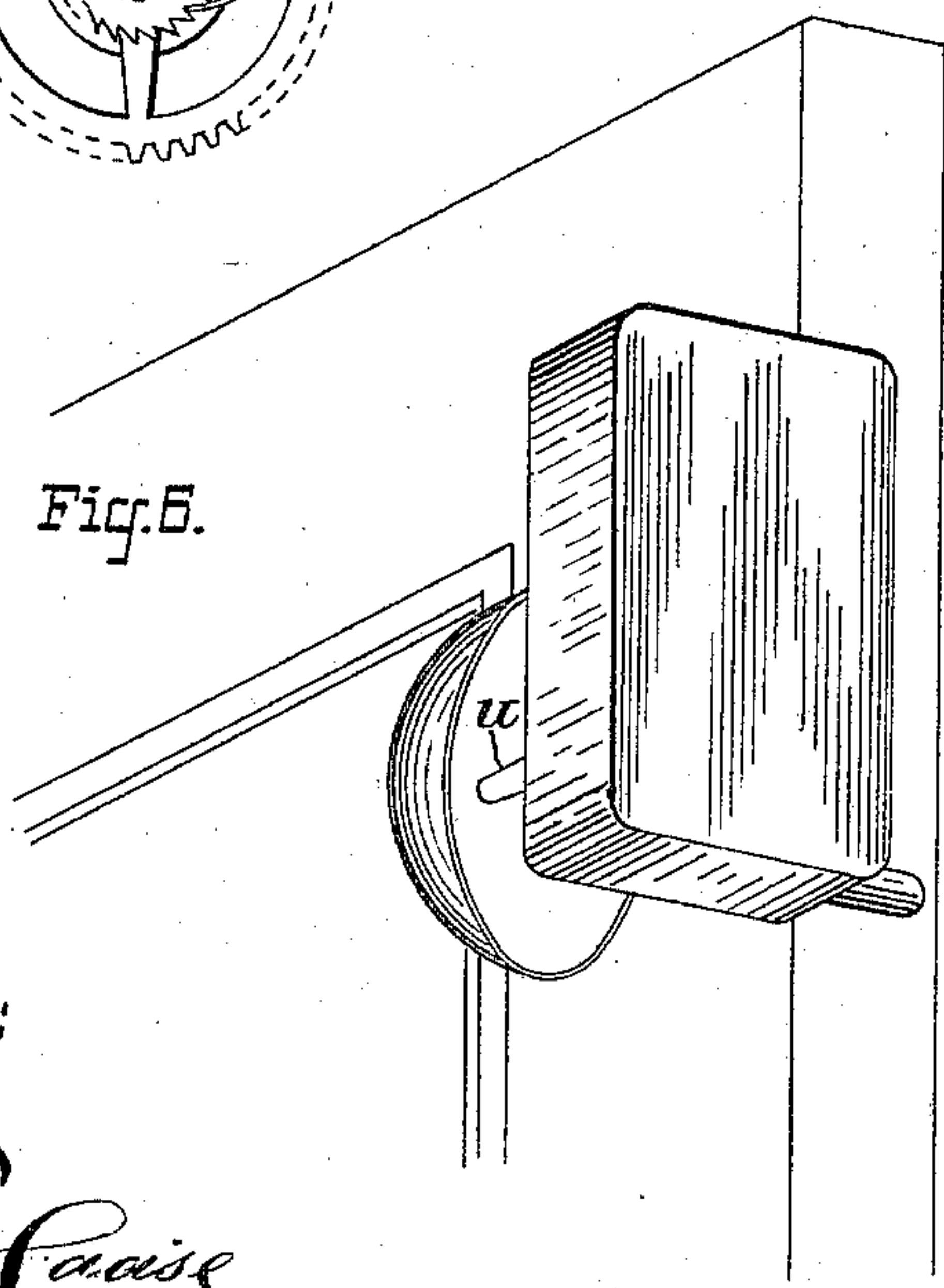


Fig 6.



ATTEST:

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GIACOMO SCHMIDT, OF NEW YORK, N. Y., ASSIGNOR OF ONE-HALF TO
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BURGLAR-ALARM.

SPECIFICATION forming part of Letters Patent No. 344,871, dated July 6, 1886.

Application filed April 7, 1886. Serial No. 198,167. (No model.)

To all whom it may concern:

Be it known that I, GIACOMO SCHMIDT, of the city, county, and State of New York, have invented a certain new and useful Improved Automatic Alarm-Bell, of which the following is a specification.

The first part of my invention consists of a sliding-rack bar arranged within suitable guides secured to the bottom plate of the case containing the operating mechanism of the device. There is also a spring properly secured to the said bottom plate and having one end thereof engaging with one end of the sliding rack-bar. The teeth of said rack-bar mesh with those of a pinion rigidly secured to an arbor, which also carries above this pinion a small ratchet-wheel, which is also fixed to said arbor. The teeth of said small ratchet-wheel engage with one end of a flat spring, the other end of which is rigidly fixed to a gear-wheel mounted loosely on the said arbor, above the small ratchet-wheel previously mentioned, and is held in position by a circular disk. The teeth of the gear-wheel just mentioned mesh with those of a pinion rigidly fixed to a second arbor and a second ratchet-wheel, the teeth of which engage with an escapement secured to a third arbor, which also carries an arm with a clapper on the end thereof adapted to strike the gong arranged on the outside of the upper plate. The upper ends of these arbors have their bearings in the upper plate, while the lower ends have them in the bottom plate.

The second part of my invention consists of a locking device constructed as follows: A lever, which I term the "locking-lever," having one end thereof loosely secured against the bottom plate, the other end, extending out and beyond the casing, serving as a handle. This locking-lever is provided with an upright stud, adapted to lock the escapement when resting against it, and to unlock it when withdrawn therefrom, all of which will be more fully described hereinafter.

In the drawings, Figure 1 represents a face view of the device. Fig. 2 represents a face view with the top plate and sides removed, showing the operating mechanism. Fig. 3 represents a face view of the bottom plate, with all the gear and ratchet wheels removed,

exhibiting the guides, rack-bar, ribbon-spring, and the locking-lever. Fig. 4 represents an edge view of rack-bar, the pinion engaging therewith, the ratchet-wheel, spring, gear-wheel, circular disk, and the arbor carrying them. Fig. 5 is an elevation of the same with the rack-bar omitted. Fig. 6 is a perspective view of the device secured to the edge of a door. The case, of course, is slightly changed from that shown in the three first figures.

Similar letters refer to similar parts throughout the drawings, in which *a* represents the bottom plate, having the guide *b* secured thereto and adapted to receive the sliding rack-bar *c*, one end of which engages with the spring *d*, secured to the bottom plate, *a*, at *e*. The teeth of the sliding rack-bar *c* mesh with those of the pinion *f*, rigidly fixed to the arbor *g*, which also carries, rigidly fixed thereto, the ratchet-wheel *h*, the teeth of which engage with one end of the spring *i*. The other end thereof is rigidly fixed to the gear-wheel *k*, which is mounted loosely on the said arbor *g*, and is held in position by the circular disk *l*. The teeth of the gear-wheel *k* engage with those of the second pinion, *m*, which is rigidly fixed to a second arbor, *n*, and ratchet-wheel *o*, the teeth of which engage with the escapement *p*, secured to a third arbor, *q*, the latter, which carries the arm *r*, extending a short distance therefrom beneath the upper plate, then passing through the aperture *s* of the upper plate to and beneath the gong *t*, which is supported by a projecting stud, *u*. To the bottom is loosely secured the locking-lever *v*, adapted to be swung to and fro. To this is secured a projecting stud, *w*, adapted to rest against the escapement when locking the device, and to unlock the same when withdrawn therefrom.

The device may be secured to the door in various ways, but I have shown it in Fig. 6 secured to the front edge of the door by means of the lip *x*, (shown in Fig. 1,) which may be perforated for the reception of screws or other devices.

Operation: When setting the alarm, the locking-lever *v* is moved to the right, and the resilience of the spring *d* forces the round end *y* of the rack-bar *c* outwardly, so that it will project beyond the casing containing the op-

erating mechanism. The door is then closed, and the rack-bar *c* is forced inwardly, carrying with it the end of the spring *d*, and causing the pinion *f*, arbor *g*, and ratchet-wheel *h* 5 to rotate, while the gear-wheel *k* remains still. When the door is opened, the spring *d* forces the rack-bar *c* outwardly, which causes the pinion *f*, arbor *g*, and ratchet-wheel *h* to rotate in an opposite direction. Thus the 10 teeth of the ratchet-wheel abut against the spring or dog *i* and cause the gear-wheel *k*, second pinion, *m*, and second ratchet-wheel, *o*, to rotate, whereby the escapement *p* is given quick inward and outward movement, thus 15 moving the third arbor, *q*, accordingly, and causing the arm *r* to move likewise, and the clapper *z* to strike against the wall of the gong *t* and sound an alarm.

Having thus described my invention, what I 20 claim as new, and desire to secure by Letters Patent, is—

1. In combination with the bottom plate, *a*, the guides fixed thereto, a sliding rack-bar adapted to operate in said guides, and a re- 25 tracting-spring secured to said bottom plate, *a*, and adapted to operate the said sliding rack-bar, the teeth of the latter adapted to engage with mechanism forming an alarm-giving device, as set forth.

30 2. In combination with the sliding rack-bar within guides and operated by a retracting-spring, an arbor carrying a pinion and ratchet-wheel rigidly fixed thereto, and a dog

or pawl secured to a gear-wheel mounted loosely on said arbor, the said dog or pawl 35 adapted to engage with the teeth of said ratchet-wheel, the whole adapted to operate mechanism carrying an escapement, as set forth.

3. In combination with a sliding rack-bar 40 within guides and operated by a retracting-spring, and a pinion engaging with the teeth of said rack-bar, and a ratchet-wheel engaging with pawl secured to a gear-wheel mounted loosely on the arbor carrying said pinion and 45 ratchet-wheel, a second pinion rigidly fixed to a second arbor and secured to a ratchet-wheel, and an escapement engaging with the said second ratchet-wheel and rigidly fixed to a 50 third arbor carrying an arm with a clapper on the end thereof, adapted to strike against the wall of a gong, as set forth.

4. In combination with an alarm-giving device operated by clock-movement, a swing- 55 ing locking-lever loosely secured to the device by one end, and a projecting stud fixed to the same adapted to rest against the escapement when locking it, as set forth.

In testimony whereof I hereunto sign my name, in the presence of two subscribing wit- 60 nesses, this 2d day of April, 1886.

GIACOMO SCHMIDT.

Witnesses:

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BENJ. T. RHOADS, Jr.