

(No Model.)

L. G. LARSON.
PORTABLE BURGLAR ALARM.

No. 527,998.

Patented Oct. 23, 1894.

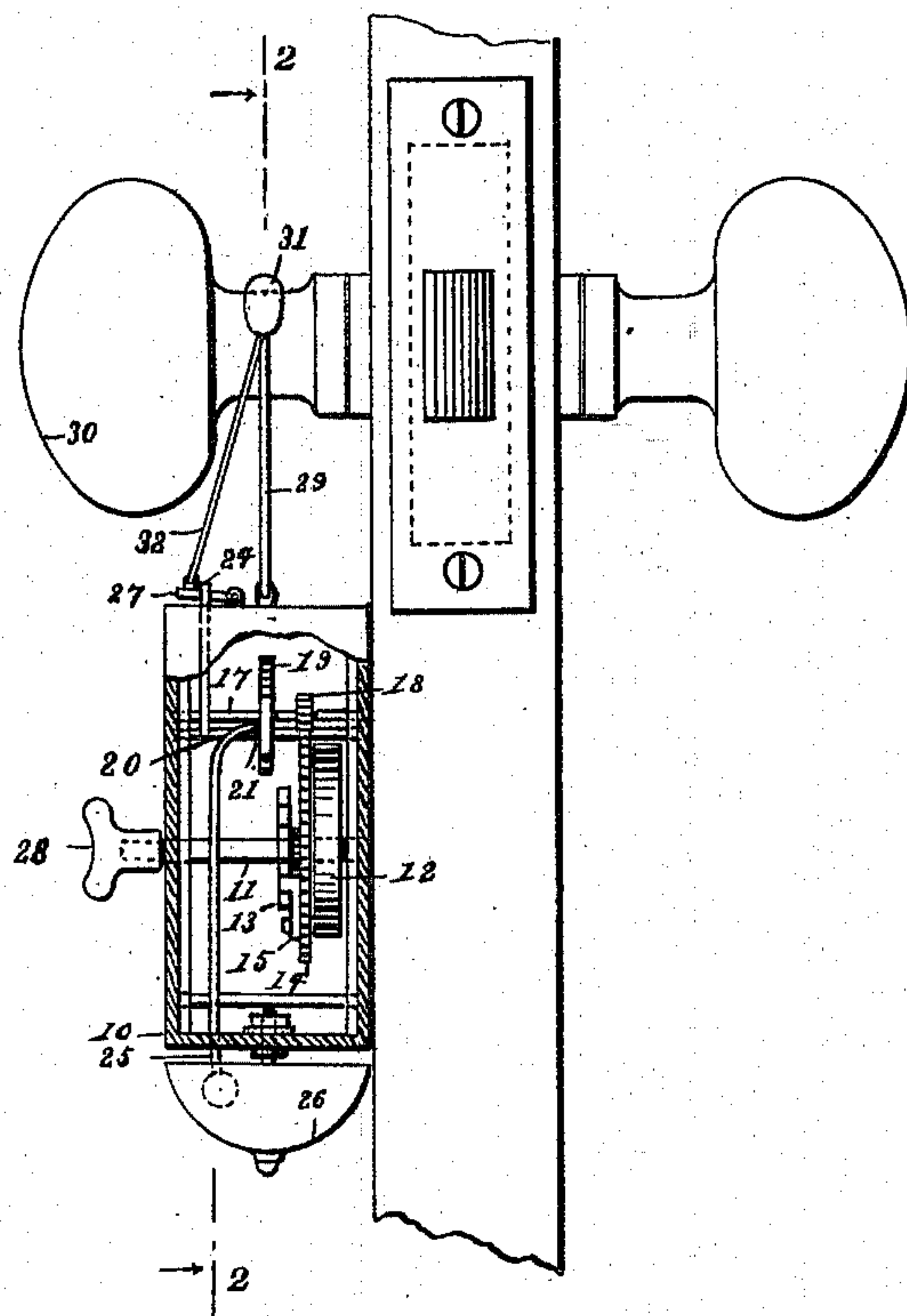
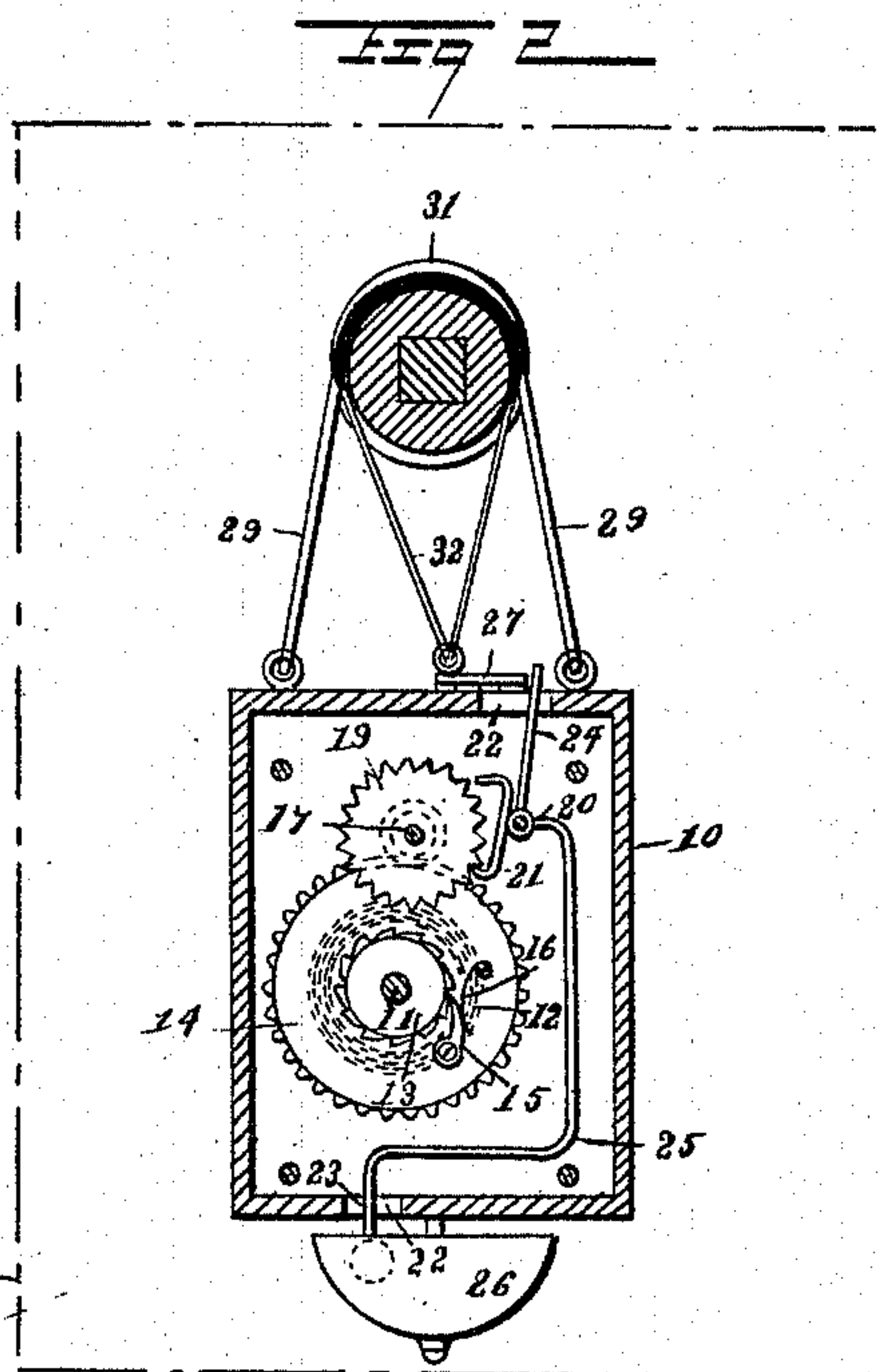


Fig. 1



WITNESSES:

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UNITED STATES PATENT OFFICE.

LARS G. LARSON, OF MOSCOW, IDAHO, ASSIGNOR TO HIMSELF AND CLAUS LUNDQUIST, OF SAME PLACE.

PORTABLE BURGLAR-ALARM.

SPECIFICATION forming part of Letters Patent No. 527,998, dated October 23, 1894.

Application filed August 3, 1894. Serial No. 519,403. (No model.)

To all whom it may concern:

Be it known that I, LARS G. LARSON, of Moscow, in the county of Latah and State of Idaho, have invented a new and useful Improved Portable Burglar-Alarm, of which the following is a full, clear, and exact description.

My invention relates to an improved portable alarm to be applied to doors, and its object is to provide a novel, simple and inexpensive device, which is quite small and is adapted for a convenient and easy connection with the knob of a door lock or latch, and when in position will instantly sound an alarm should the knob be partly rotated to release the door latch.

To this end, my invention consists in the construction and combination of parts, as is hereinafter described and claimed.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures of reference indicate corresponding parts in both of the views shown.

Figure 1 is an edge view of a door in part, a door latch having a transverse spindle and knobs on said spindle, and the improved alarm device, shown partly in section, and hung on one knob; and Fig. 2 is a transverse sectional view of the latch spindle, knob and the alarm device, taken on the line 2—2, in Fig. 1.

There is a case 10 provided, which is represented rectangular in form, but may be otherwise shaped to render it more convenient to carry, if this is desired. An arbor 11, is transversely located at a suitable point in the case 10, and is rotatably supported at its ends, having a helical spring 12 and ratchet wheel 13, secured to it intermediately of the ends. The spring 12, as usual has one end attached to the arbor, and its other or outer end secured to the side of the spur wheel 14, that is loosely mounted on the arbor. A pawl 15, is pressed by the spring 16, toward the teeth of the ratchet wheel 13, and maintains the arbor in a locked condition, the teeth of the ratchet wheel being sloped in a proper direction to permit the pawl to retain the spring 12, closely wrapped when the arbor is

revolved in a proper direction, and the spur wheel 14 is prevented from rotating.

On a counter shaft 17, that is transversely journaled in the case 10 above the arbor 11, the pinion 18 is secured, and meshes with the spur wheel 14, and on the same shaft with said pinion the escapement wheel 19, is affixed.

A rock shaft 20 is journaled by its ends in the case 10, parallel with and near to the counter shaft 17, having a common double-toed pallet 21, secured on it at a point which will adapt said toes to alternately engage with the teeth of the escapement wheel 19, and graduate the rotary movement of the latter when free to do so.

In the upper and lower walls of the case 10, corresponding slots are formed, which slots 22, 23, extend at right angles to the axis of the rock shaft 20, and the other shafts whereon the gearing is mounted. From the rock shaft a detent arm 24, is upwardly-projected, loosely passing through the slot in the top wall of the case, and from the same shaft at the center of the pallet a clapper arm 25, is downwardly-extended of a sufficient length to project through the slot 22 and locate the clapper on its free end within the bell 26, that is secured to the lower wall of the case.

There is a locking plate 27, hinged to the upper wall of the case 10, at such a point that one of its edges may engage with the detent arm 24, when the latter is located near the outer end of the slot 22, and said locking plate is folded as shown.

The arbor 12, is extended outside of the case 10, and this projected portion is shaped in any way that will adapt it to permit the key 28 to have a locked engagement with it, so that the proper rotation of the key will wind the spring 12.

A preferably flexible hanger loop 29, is secured by its ends to the top wall of the case 10, and is of such length as will permit it to pass freely over an ordinary door-latch knob 30, and rest its bight on the neck of the engaged knob.

For effective service, the looped portion 31 of the hanger 29, should be sufficiently widened so as to afford a considerable surface for

contact with the neck of the door knob, and the frictional adhesion of said parts when engaged may be increased, by rendering the lower surface of the bight 31, slightly adhesive with any available material, powdered resin or wax being adapted for such a purpose; or the portion 31, may be made of gum and have a cupped lower surface to render it adhesive by a slight vacuum produced when the device is hung on the knob and the part 31 is pressed from the top side to expel the air from its hollow lower side.

From the hanger loop 29, at each side, and near to the ends of the widened portion 31, a tripping cord 32, is secured by its ends, the middle portion of said cord being firmly attached to the hinged locking plate 27, so that draft strain applied to either end portion of the cord 32 will lift the locking plate a corresponding degree.

To employ the improved device as an alarm bell, to indicate if a door latch is being tampered with that has the improvement applied to it, the hanger loop 29, of the device is located on the door knob of a latched door lock, that is within the room which is to be protected by the alarm bell.

It will be seen, that when the door is closed, and the improved alarm bell is hung on the latch knob that is on the inner side of the door, a slight rocking movement of the knob spindle will draw the tripping cord 32, and lift the plate 27, and as the latter has but a slight contact with the detent arm 24, such a movement of the outer latch knob will release the arm 24, and permit the spring-driven escapement wheel 19, to be rapidly revolved thereby actuating the pallet 21, and causing the clapper to rapidly vibrate and sound the bell 26.

It is claimed for this device, that it will operate effectively as a burglar alarm, on any door latch having a cross spindle and knobs, without further connection therewith than the frictional contact the hanger loop has on the door knob, which renders the device very convenient as a means of warning against the improper opening of a room door; thus affording a cheap, reliable substitute for more ex-

pensive devices for the same purpose, which are not portable or that have to be attached by the use of tools to the door that is to be guarded.

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

1. In an alarm bell, the combination with a portable case, a bell thereon, and spring-actuated accelerating gearing within the case, of a rock shaft in the case, a pallet engaging an escapement wheel of the gearing, a detent arm on said shaft projecting through a slot in the case, a clapper on the rock shaft, extending through another slot in the case to engage the bell, a hinged locking plate having detachable contact with the detent arm, and a hanger loop having a connection with the locking plate to lift said plate, and adapted to frictionally engage a door-latch knob, substantially as described.

2. In an alarm bell for doors, the combination with a case and a suitable alarm bell mechanism in the case, and a vibratile detent arm controlling the action of said mechanism and projecting through a slot in the case, of a hinged locking plate loosely engaging the detent arm to prevent its vibration, a frictional hanger loop, and a tripping cord extending from the loop to the locking plate, substantially as described.

3. In a portable alarm bell for doors, the combination with a case, accelerating gearing within the case, a spring arranged to rotate the gearing, and means for winding said spring, of a rock shaft within the case, a pallet engaging an escapement wheel of the gearing, a detent arm on said shaft, loosely projecting through a slot in the top of the case, a hinged locking plate, a hanger loop, a tripping cord, a bell on the case, and a clapper arm extending from the rock shaft through a slot in the case to the bell, substantially as described.

LARS G. LARSON.

Witnesses:

JAY WOODWORTH,
J. P. HOLM.