(No Model.)

F. HESSEMER & C. S. SMITH.

BURGLAR ALARM.

No. 570,755. Patented Nov. 3, 1896.

Fig. 1.

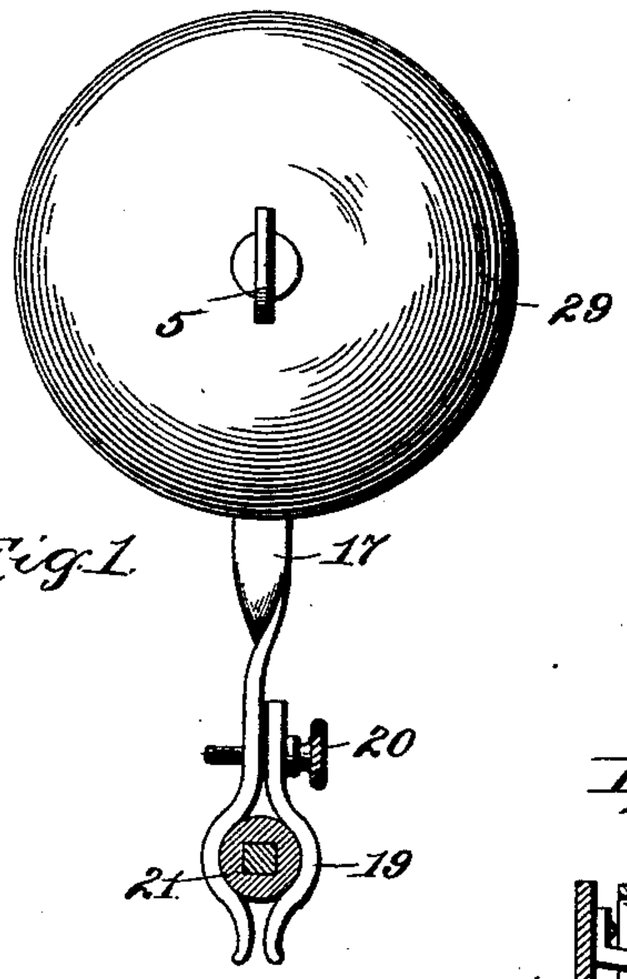

Fig. 2.

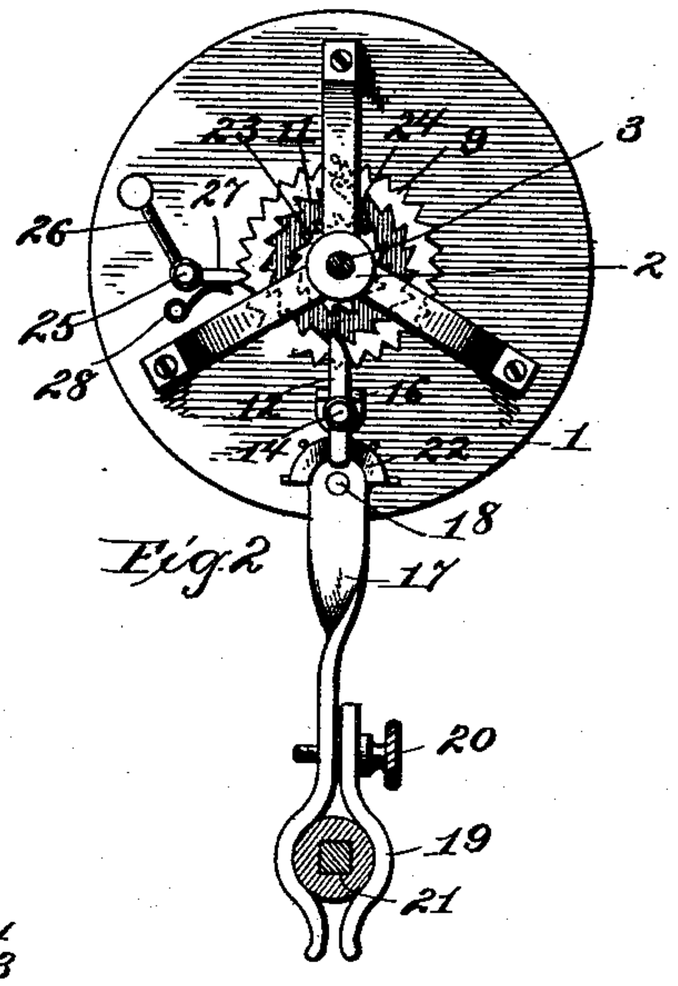

Fig. 3.

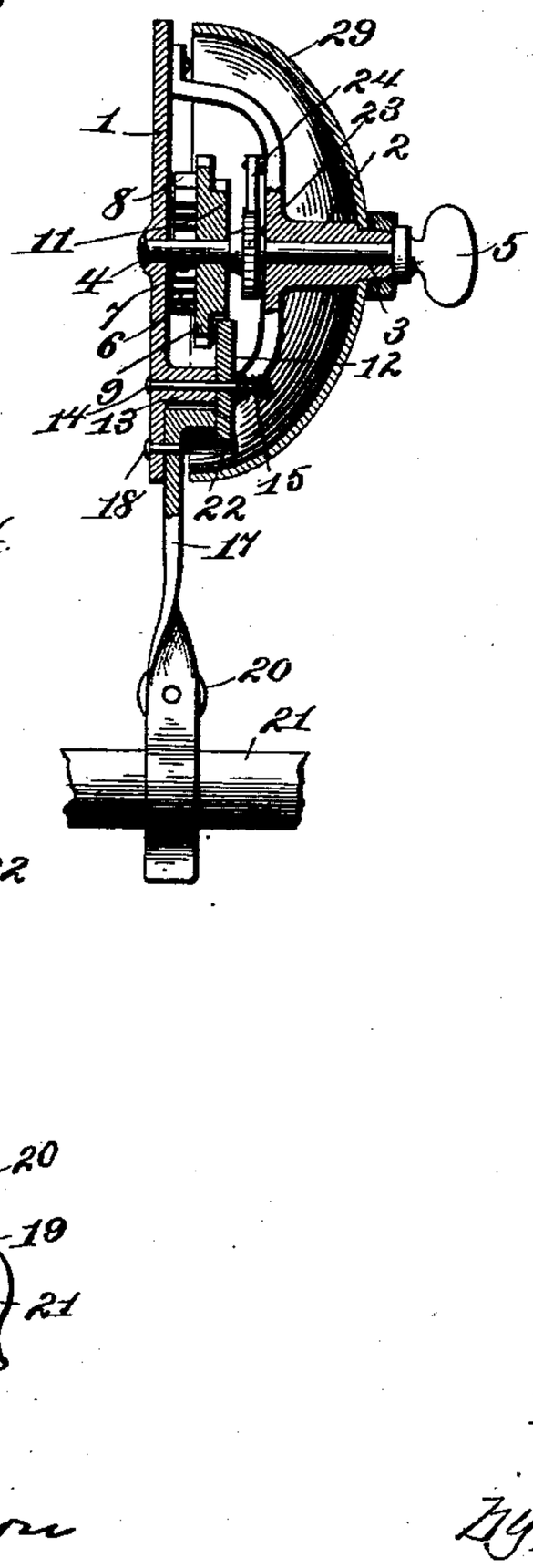

Fig. 4.

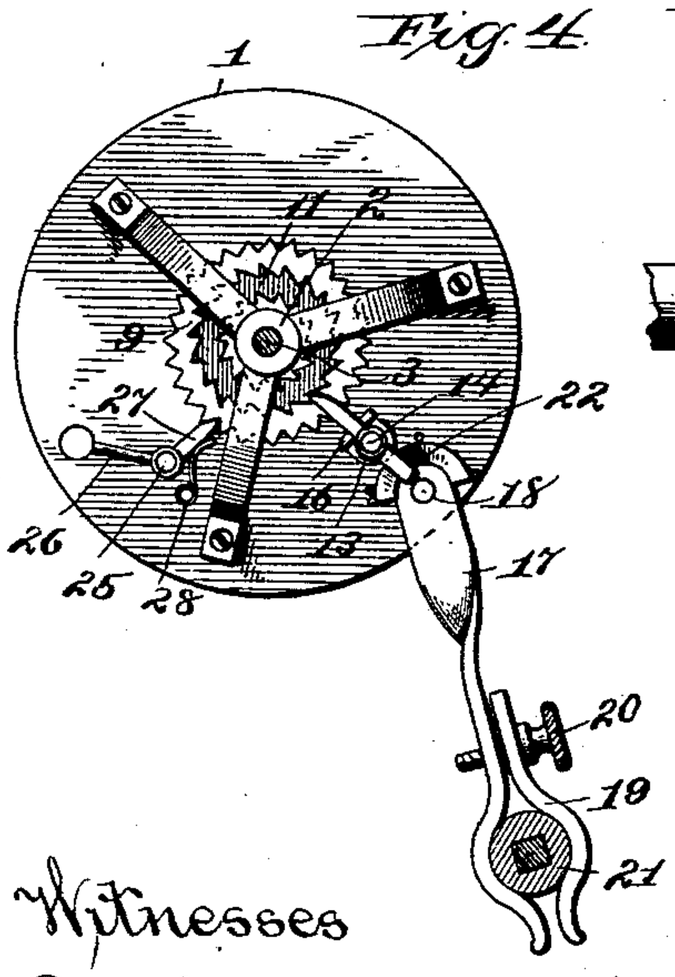

Fig. 5.

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FREDERICK HESSEMER AND COMLY S. SMITH, OF PHILADELPHIA, PENNSYLVANIA.

BURGLAR-ALARM.

SPECIFICATION forming part of Letters Patent No. 570,755, dated November 3, 1896.

Application filed March 26, 1896. Serial No. 584,934. (No model.)

To all whom it may concern:

Be it known that we, FREDERICK HESSEMER and COMLY S. SMITH, citizens of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Alarms, of which the following is a specification.

Our invention relates to a new and useful improvement in alarms, and especially for those adapted for use in connection with door-knobs, whereby the turning of the knob in either direction will cause an alarm to be sounded for the purpose of attracting attention to the fact that the knob has been turned; and the object of our invention is to provide a device of this description which, when applied to a knob, the slightest movement of said knob to either side will start the alarm, and a person upon the outside of the door cannot arrest the ringing of the bell.

With these ends in view our invention consists in the details of construction and combination of elements hereinafter set forth, and then specifically designated by the claims.

In order that those skilled in the art to which this invention appertains may understand how to make and use the same, we will describe its construction and operation in detail, referring by number to the accompanying drawings, forming a part of this specification, and in which—

Figure 1 is an elevation of the alarm, showing it clamped in position upon the shank of a door-knob; Fig. 2, a similar view, the bell being removed, so as to expose the operating mechanism; Fig. 3, a central vertical section of the alarm; Fig. 4, a view similar to Fig. 2, showing the position of the alarm when the knob has been turned to one side; and Fig. 5, a detailed top view of the cam for withdrawing the locking-detent from engagement with its ratchet-wheel.

Similar numbers denote like parts in the several views of the drawings.

1 represents a plate adapted to support the several parts of the device, and 2 is the bell-post, provided with three lugs, which are secured by screws or rivets to the plate, and through the center of this post is passed a spindle 3, the lower end of which is journaled in the plate at 4. A thumb-piece or key 5 is secured to the outer end of the spindle, by means of which the latter may be revolved, and the inner end of the spiral spring 6 is attached at 7 to the spindle, so that when the latter is revolved said spring will be wound. The outer end of this spring is attached at 8 to a star-wheel 9, which is loosely journaled upon the spindle, so as to revolve independent thereof. Formed with this star-wheel or secured thereto in any suitable manner is a ratchet-wheel 11, with the teeth of which the detent 12 is adapted to engage for the purpose of preventing the revolving of this ratchet and the star-wheel. The detent is held in place upon a stud 13 by a pin 14, which passes through a suitable hole in the detent, and a spring 15 is coiled about this pin and bears upon the detent, as clearly shown in Fig. 3.

In order that the detent may be held against sidewise movement, the lugs 16 project outward from the stud and embrace said detent upon either side, thus leaving the detent free to be moved outward against the action of the spring 15, as hereinafter set forth.

17 is an arm pivoted at 18 to the plate, preferably twisted upon its axis, so as to bring the lower portion thereof at right angles to the upper portion, and 19 is a clamp secured to its lower portion by means of the thumb-screw 20, by which arrangement the arm may be clamped to the shank 21 of a door-knob. The upper end of the arm terminates in a double cam 22, arranged immediately beneath the heel end of the detent, so that by swinging the plate upon the pivot 18 the detent will be forced outward against the action of the spring 15, thereby freeing its nose from engagement with the teeth of the ratchet 11.

23 is a small ratchet-wheel readily secured to the spindle 3, and 24 is a spring-actuated pawl pivoted to one of the lugs of the bell-post, so as to engage with the teeth of said ratchet, whereby the spindle is prevented from moving in a reverse direction to that necessary to wind the spring.

At 25 is pivoted a hammer 26, the heel end 27 of which engages with the teeth of the star-wheel, so that when the latter is revolved the hammer is caused to strike the bell 29,

which is supported in the usual manner upon the bell-post, and 28 is a spring for returning the hammer to its normal position.

By this arrangement it will be seen that when the device has been clamped to the shank of a door-knob and the plate carrying the bell mechanism placed in a vertical position, so that the center of gravity thereof will fall directly upon the pivot 18, it will be retained in this position by the pressure of the spring 15 upon the detent and the friction between the heel of this detent and the cam 22 caused by said pressure; but should the center of gravity of the plate be disturbed by the moving of the arm in either direction said plate would, by its weight, swing upon the pivot 18 to the position shown in Fig. 4, and during this movement the heel end of the detent will ride outward upon one of the surfaces of the cam 22 against the action of the spring 15, thus releasing the ratchet-wheel 11 and permitting it to revolve by the force of the spiral spring 6, during which revolution the teeth of the star-wheel will act upon the heel of the hammer-shank, causing the hammer to strike the bell in rapid succession, thus alarming the occupant of the room and calling attention to the fact that the door-knob has been turned.

It is to be noted that after the knob has once been disturbed so as to alter the center of gravity of the plate a person upon the outside of the door cannot again establish the neutral position of the plate to arrest the ringing of the bell, and this is important in that should a person with questionable intent try the door by turning the knob in either direction an alarm will be immediately sounded, and the bell will continue to ring until the spring 6 has been unwound.

To reset the alarm after it has once been tripped, it is only necessary to return the arm and plate to a vertical position, so that the heel end of the detent will rest upon the innermost surface of the cam 22 and rewind the spring 6 by the key 5.

Having thus fully described our invention, what we claim as new and useful is—

1. In an alarm, an arm adapted to be secured to a door-knob, a plate pivoted to said arm, a double cam formed on the end of the arm, a spring-pressed detent slidably connected to the plate and having its heel end bearing against the cam and bell mechanism adapted to be locked by said detent.

2. In an alarm, an arm adapted to be secured to a door-knob, a plate pivoted to said arm, a double cam formed on the end of the arm, a pin secured to the plate, a detent slidable on the pin, a spring secured to the pin, adapted to press the detent into engagement with the cam, a guide secured to the plate and adapted to confine the movements of the detent and bell mechanism adapted to be governed by said detent, as and for the purpose described.

3. In an alarm, an arm adapted to be secured to a door-knob, a plate pivoted to said arm, a cam formed with said arm, a detent attached to said plate and having its heel end in engagement with said cam, and bell mechanism adapted to be locked by said detent, substantially as shown and described.

4. An alarm consisting of an arm adapted to be attached to the knob of a door in a vertical position above said knob, a plate pivoted to said arm, bell mechanism carried by said plate, a bell supported upon said plate, a detent engaging said bell mechanism to hold it against revolution when the plate is in its normal position, a cam formed upon the upper end of the arm adapted to engage with the heel end of said detent, a spring for holding said detent into engagement with said cam, whereby the center of gravity of said plate may be held over the arm and when disturbed the plate will swing to one side or the other and disengage said detent from the bell mechanism, as shown and described.

In testimony whereof we have hereunto affixed our signatures in the presence of two subscribing witnesses.

FREDERICK HESSEMER.
COMLY S. SMITH.

Witnesses:
S. S. WILLIAMSON,
MARK BUFORD.