

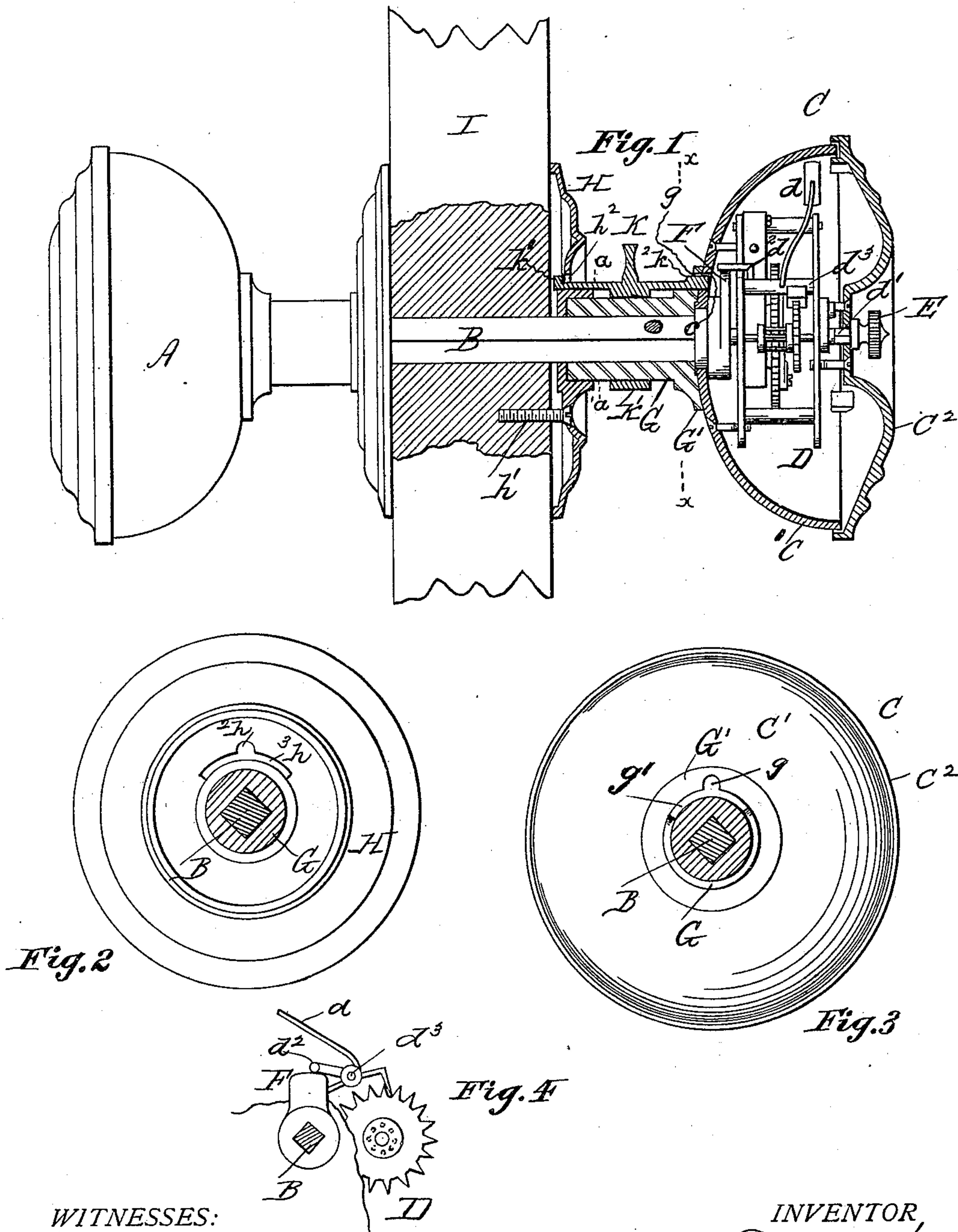
(Model.)

2 Sheets—Sheet 1.

W. F. COOK.
DOOR KNOB ALARM.

No. 253,008.

Patented Jan. 31, 1882.



WITNESSES:
E. J. VanStavoren
J. B. Connolly

INVENTOR,
William F. Cook,
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(Model.)

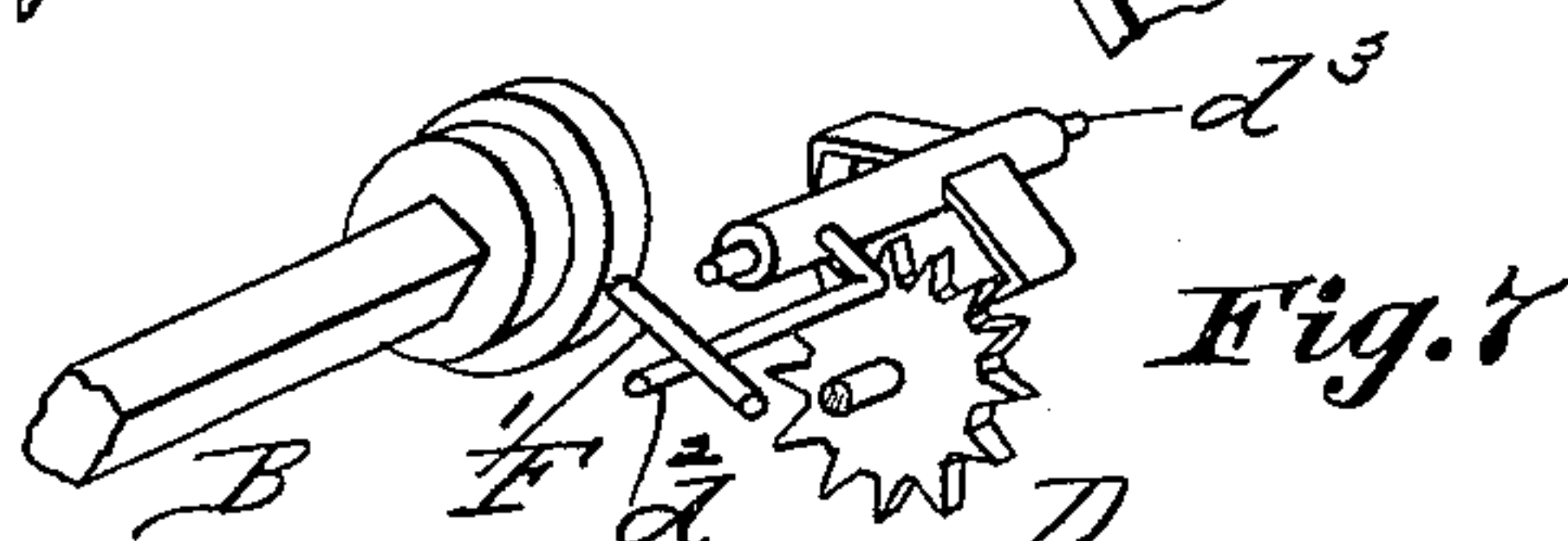
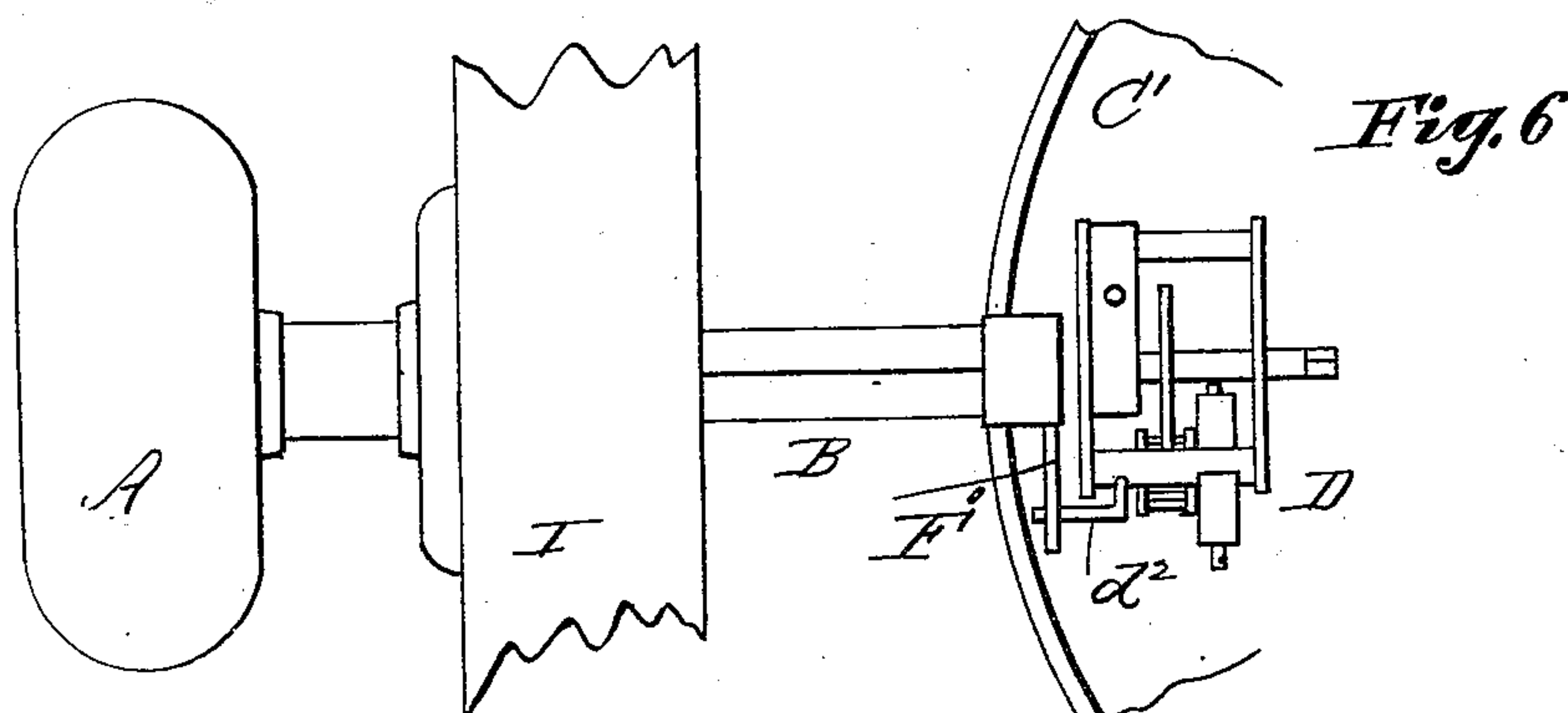
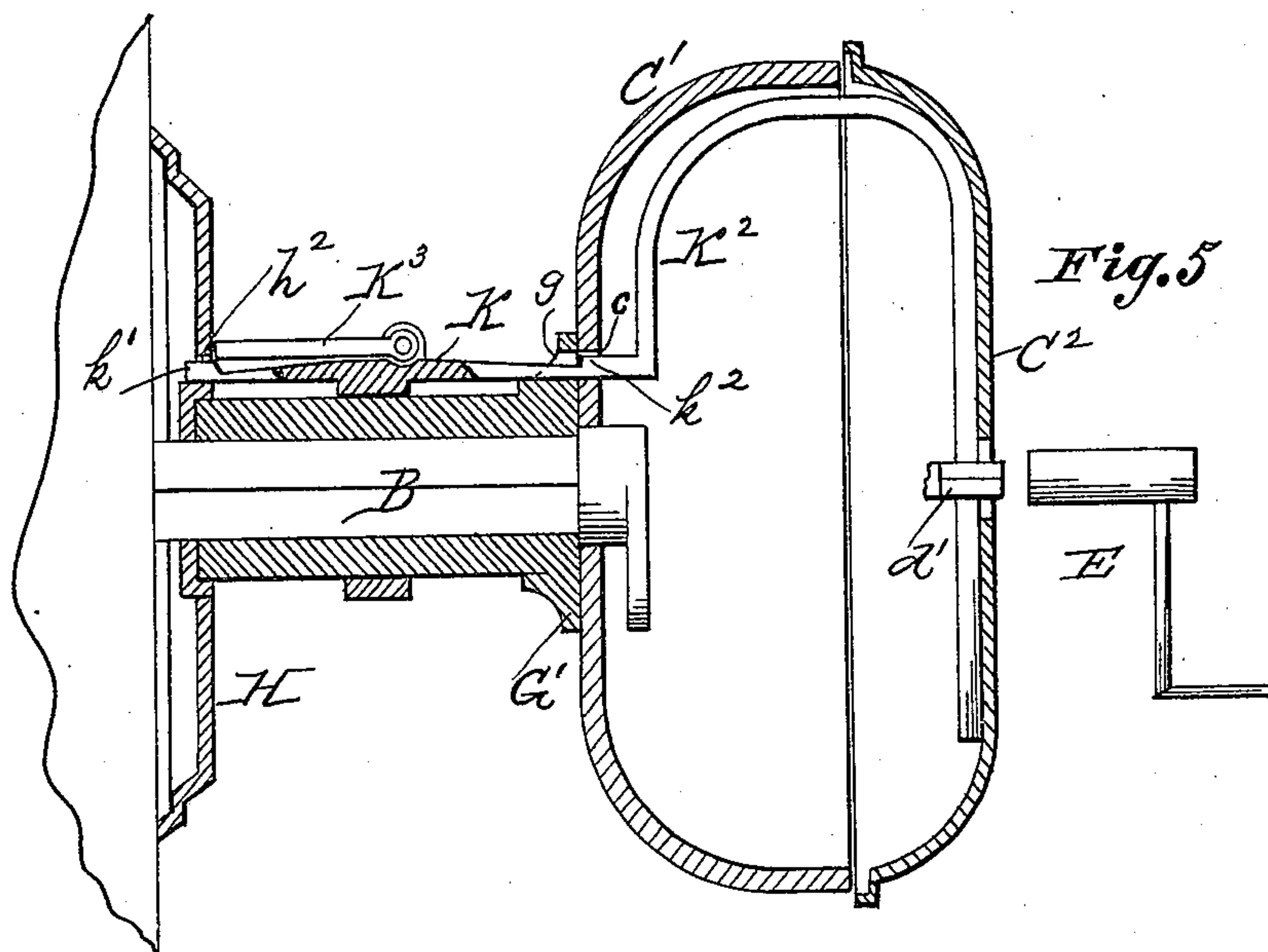
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UNITED STATES PATENT OFFICE.

WILLIAM F. COOK, OF IVY MILLS, PENNSYLVANIA.

DOOR-KNOB ALARM.

SPECIFICATION forming part of Letters Patent No. 253,008, dated January 31, 1882.

Application filed October 26, 1881. (Model.)

To all whom it may concern:

Be it known that I, WILLIAM F. COOK, a citizen of the United States, residing at Ivy Mills, in the county of Delaware and State of Pennsylvania, have invented certain new and useful Improvements in Door-Knob Alarms; and I do hereby declare the following to be a full, clear, and exact description of the invention, reference being had to the accompanying drawings, which form part of this specification, in which—

Figure 1 is a longitudinal vertical section of my invention. Fig. 2 is a transverse section on line *a a*, Fig. 1. Fig. 3 is a like view on line *x x*, Fig. 1. Fig. 4 is a detail elevation. Fig. 5 is a broken longitudinal section of door-knob alarm with gearing or clock-work removed therefrom. Fig. 6 is a plan of a modification of my invention, and Fig. 7 is a detail perspective of the same.

My invention has for its object to provide a door-knob with internal mechanism, which, when the knob-spindle is turned, will ring an alarm, said mechanism being so arranged that it may be locked to remain inactive on turning such spindle.

My invention consists in the combination, with a door-knob, of a clock-work or equivalent alarm mechanism located within such knob and adapted and arranged to be started when the door-knob or knob-spindle is turned.

It consists, further, in the combination, with a door-knob and a clock-work or equivalent alarm mechanism located within the same, of means for setting the alarm, so that it will be started when the knob-spindle is turned, such means serving also to lock the alarm, so that said spindle may be turned without starting the alarm.

It consists, still further, in certain details of construction and combination, hereinafter fully set forth and specifically claimed.

Referring to the accompanying drawings, A is the outer door-knob, which may be of any usual or ordinary construction, B its spindle, and C the inner door-knob. Said knob C is made in two sections, C' and C², one of which (by preference the inner) is a gong, or is made of resonant material, so as to produce an alarm when struck. The other section may be made

of any suitable material. Within this knob is a train of clock-work or similar gearing, D, having a hammer, *d*, which, when the clock-work is released, is caused to strike on the gong C'. Said clock-work may be wound up by a key, E, which enters through an opening in the front of the knob C or engages with the barrel *d'* projecting through the same.

F represents a detent which engages with a lug or stop, *d*², on the hammer-shaft *d*³. When such detent is moved, as it may be under certain conditions by turning the outer door-knob, A, the stop *d*² is released from engagement with the detent. The gearing will then run and the hammer be caused to strike and sound an alarm. To control the movement of this detent I provide the following arrangement:

G represents a sleeve on the spindle B, located between the knob C and an escutcheon or plate, H, which latter is fastened to the door I by screws *h'*. The sleeve G has an angular bore or passage, in which the spindle B passes, so that said sleeve and spindle turn together.

K is a slide, which is fastened on the sleeve G by a loose collar or ring, K'. The ends of the slide are enlarged to form heads *k'* *k*², respectively. The head *k'* is adapted to fit snugly in and be moved out of a notch, *h*², leading out of an annular slot, *h*³, in the plate H, and the head *k*² in like manner fits in a notch, *g*, leading out of an annular slot, *g'*, in the flange G' of the sleeve G and an opening, *c*, in the knob-section C'. When the slide K is pushed toward the plate H, as shown in Fig. 1, the head *k'* clears the opening *h*² in said plate, while the head *k*² occupies position in the openings *g* and *c* in the sleeve G and knob C. In this position of the slide said knob C and sleeve G will move together when the knob spindle is turned by the rotation of either knob. The detent will not be moved away from the stop *d*², nor will any alarm be rung; but if the slide K be moved outwardly, so as to bring the head *k'* into the opening *h*², this will cause the head *k*² to clear the opening *g* in sleeve-flange G', said head *k*² still remaining in the opening *c* in the knob C. In this position of the slide the knob C is locked with the escutcheon or plate H; but it is not locked to the sleeve G. Now, on turning the knob-spindle B, by rotation

ing the outer door-knob the detent F, which is carried on the end of said spindle, will be moved; but as the knob C is locked to the escutcheon or plate H, it remains stationary with its gearing, so that the detent F releases the stop d^2 , allowing the alarm to start. It follows that to set the device to produce an alarm when the knob-spindle is turned the slide should be moved outwardly or away from the escutcheon. To set it so that an alarm will not be sounded on turning either door-knob, the slide is moved in the contrary direction—i. e., toward the escutcheon—occupying the position shown in Fig. 1.

The chief object of my invention is to cause a continuous alarm, such as usually takes place in an alarm-clock, the sounding of the bell continuing until the alarm is run down; but it can be so arranged that by the turning of the outer knob the alarm may be set off and by the return of the knob or spindle to its natural position it may be again locked, thus producing only a few rings as often as the knob is turned and allowed to return again to its original position, the principle of its action nevertheless remaining the same in both cases, whether it be one continuous alarm or short alarms, until it is run down.

For a long alarm the detent may be combined with a stop, as shown in Fig. 4, so that when the detent is moved from under the stop it will so stay, unless restored to its normal position by turning the knob-spindle back to its original position, which it will require some external force to effect. Unless the detent be so returned, the alarm will continue to be sounded until the gearing has run down.

To ring a short alarm, (or one which will continue only while the knob is held in its partly-turned position,) the detent and stop may be constructed and arranged as shown in Fig. 7, where F' represents the detent and d^2 the hammer-stop. With this arrangement, when the spindle is in its normal position the detent presses against the side of the stop and keeps the alarm locked. By turning the spindle it moves the detent away from the stop and allows the alarm to start. On letting go of the knob it and the spindle return automatically to their normal position by the action of the usual spring in the lock, which effects such return. This causes the detent to again press on the stop and to discontinue the alarm.

To allow an alarm to be well sounded the section C^2 should be moved slightly away from the section C' , so as to avoid contact of their edges and leave an opening for the escape of sound-vibrations. Said sections may be rigidly fixed with their edges some distance apart, as shown in Fig. 1; or the slide K may have an extension, K^2 , as shown in Fig. 5, reaching to and supporting the section C^2 , so that when setting the devices in the required position for starting the alarm, the section C^2 will be moved a short distance away from the section C' . When said slide is moved in the

other direction it will draw section C^2 in toward section C' .

The segmental slots $h^3 g'$ in the escutcheon and sleeve-flange respectively are to give clearance for the slide K—that is, when said slide is in the position shown in Fig. 1 it will have space to move in slot h^2 . When it is in the contrary position, as shown in Fig. 5, the sleeve G may move without impediment from said slide.

To keep the slide K in any position in which it may be set, it may have a hinged handle, K^3 , (shown in Fig. 5,) which may be turned to either side to come in contact with spindle-flange G' or plate H. When turned to rest against the latter the device is set to ring the alarm on turning the knob-spindle, but vice versa when turned to rest against the flange G' .

By "clock-work mechanism" I mean any suitable form of gearing or appliance adapted to produce an alarm of some considerable duration—such as is effected by an alarm-clock, for example—and do not wish to be understood as claiming a striker which is operated directly from the knob-spindle, and which for every stroke requires a corresponding rotation or part rotation of said spindle. The mechanism that I employ and refer to is one which is let off or started by the rotation of the knob-spindle, and which therefore will continue sounding for some considerable time after said spindle has been turned and come to a state of rest, or which will make a number of strokes in quick succession before the spindle is restored to its normal position.

What I claim as my invention is as follows:

1. The combination, with a door-knob, of a clock-work mechanism for producing an alarm, such mechanism being located within the knob and adapted and designed to be started when the knob-spindle is turned and to continue ringing after such spindle has come to a state of rest, substantially as shown and described.

2. The combination, with a door-knob and clock-work located within the same and designed and adapted to produce an alarm, of means, substantially as described, whereby the actuating devices can be set and be started when the knob-spindle is turned and locked to be inactive when such spindle is turned, the alarm mechanism comprising spring-gearing, which will continue in operation after said knob-spindle has been turned and come to a state of rest, substantially as shown and described.

3. The combination, with the escutcheon H, knob C, internal clock-work gearing, D, and spindle B, of sleeve G, slide K, step d^2 , and detent F, said parts being constructed and arranged for operation substantially as shown and described, whereby in one position of said slide the parts will be set to start an alarm when the knob-spindle is turned and in the other position such spindle may be turned and the alarm remain inactive.

4. In combination with knob C, made in two

sections, C' C², the slide K, extended through said knob and forming a support for the movable section C², substantially as shown and described.

- 5 5. In combination with slide K, the pivoted locking-lever K³, substantially as shown and described.

In testimony that I claim the foregoing I have hereunto set my hand this 25th day of October, 1881.

WILLIAM F. COOK.

Witnesses:

JOHN W. STEWARD,
S. J. VAN STAVOREN.