G. W. McGOVERN.
Door-Knob Alarm.

No. 201,117. Patented March 12, 1878.

Fig. 1.

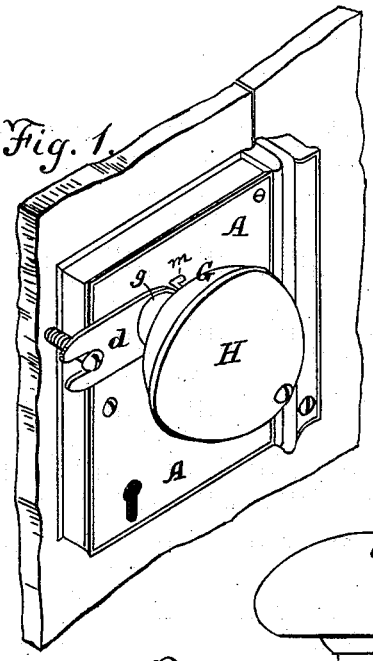


Fig. 3.

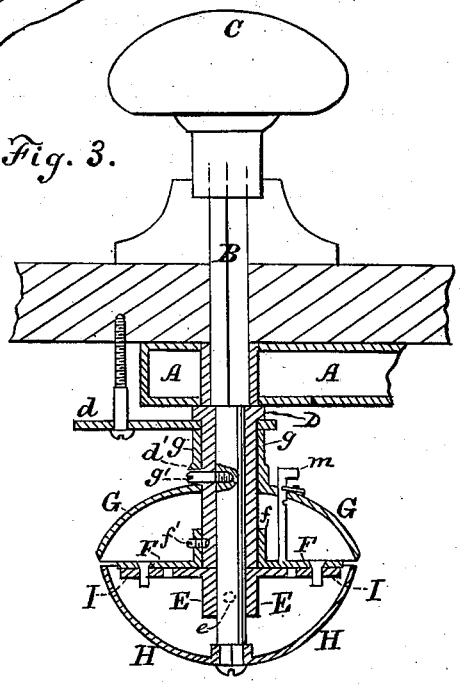
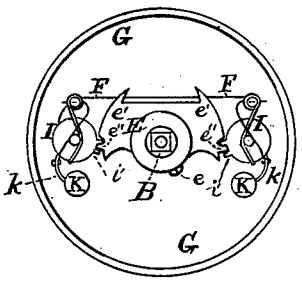


Fig. 2.



Witnesses:
John O'Donoghue.
Theo. Munger

Inventor:
Geo. W. McGovern
By H. J. Ennis Atty.

UNITED STATES PATENT OFFICE.

GEORGE W. McGOVERN, OF RICHMOND, VIRGINIA.

IMPROVEMENT IN DOOR-KNOB ALARMS.

Specification forming part of Letters Patent No. **201,117**, dated March 12, 1878; application filed March 1, 1878.

To all whom it may concern:

Be it known that I, GEORGE W. McGOVERN, of Richmond, in the county of Henrico and State of Virginia, have invented certain new and useful Improvements in Alarm-Knobs; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

Figure 1 is a perspective view of a door-lock having attached thereto my improved alarm. Fig. 2 is an elevation of the mechanism for sounding the alarm, the bell being removed; and Fig. 3 is a horizontal section.

Similar letters of reference indicate like parts of the invention.

The design of my invention is to furnish a compact, convenient, and easily-applied mechanism whereby the opening of a door or efforts made to open the same will cause an alarm to sound.

In the annexed drawing, A represents a door-lock of the usual construction, which is provided with a spring bolt or latch, that is withdrawn from engagement with a keeper that is secured to or upon the door-jamb by means of a spindle, B, which passes through said lock and door, and upon the outer side of the latter has a knob, C, of ordinary form. The projecting portion of the inner end of said spindle B, upon the inner side of the door, is round, and upon the same is journaled a sleeve, D, which extends about two-thirds the distance from the lock A to the outer end of said spindle, and is held in longitudinal position thereon by means of a collar, E, that is secured to or upon said spindle by a set-screw, *e*. Upon the inner end of the collar E is provided a radial flange, *e'*, which has the form, in front elevation, seen in Fig. 2, while immediately in rear of said flange is a plate, F, that is provided with a rearward-extending hub, *f*, and is secured to or upon the sleeve D by means of a set-screw, *f'*, which passes radially inward through the hub. At or near its rear end the sleeve D is provided with a radial arm, *d*, and between the same and the hub *f* of the plate F is journaled the hub *g* of a bell-shaped plate, G, which forms part of the casing of my mechanism, and extends in a curve outward and forward to or near said plate F. The hub *g* is connected to or with the spindle B by means of a screw, *g'*, which passes radially inward through said hub, and has its inner end contained within a correspondingly-threaded opening that is provided in said spindle.

In order that the sleeve D may have freedom of motion, the opening *d'*, through which passes the set-screw *g'*, is elongated circumferentially a distance equal to the motion desired.

Upon the outer end of the spindle B is secured a bell, H, which is placed with its concave side inward, and has substantially the same dimensions and shape as the casing G, the result being the formation of a knob that is substantially the same in size and shape as those ordinarily used.

Pivoted to or upon each end of the plate F is a disk, I, which is circular, except at one point, where are provided two gear-teeth, *i* and *i*, that, when said disk occupies its normal position, extend inward and downward. From the lower edge of each disk I extends downward and inward in a curve a rod, *k*, to or upon the end of which is secured a hammer, K, that, by a partial rotation of said disk upon its pivotal bearing, may be caused to impinge upon the inner side of the bell H, near its edge, and sound an alarm. Said disk and hammer are held in their normal positions by means of springs, which, while arranged to yield so as to permit said hammer to move in either direction from such normal position, will promptly return to the latter when the moving cause has ceased to operate.

Attached to the plate F is rod *m*, extending through the casing G, which allows said plate to be withdrawn a sufficient distance to throw it out of line with the disks I, thereby allowing the knob C to be operated without causing the alarm to be sounded.

The ends of the flanged plate *e'* are formed upon the line of a circle, of which the spindle B is the center, and within each of said ends, at or near its lower corner, are cut two notches, between which is left a tooth, *e''*, that corresponds to, and is capable of engagement with, the teeth *i* of the bell-hammer disk I.

As the parts are arranged, it will be seen

that the casing-plate G, bell H, and flange-plate e' are all connected with, and must move simultaneous with, the spindle B, while the plate F may, by securing the outer end of the arm d of the sleeve D to or upon the door, be prevented from moving with said parts. If, now, the spindle B is turned in either direction, the tooth e'' at the end of the flange e', which moves upward, will engage with and partially turn the contiguous disk I, so as to withdraw the hammer K from the bell H; and when said flange has passed through about one-half its motion, said disk will be released, and, by the operation of its spring, said hammer will be caused to strike against the bell. When the spindle B is released, the spring-latch of the lock returns it to its normal position, and causes each of the bell-hammer disks to be engaged with the flange e' preparatory to a new movement.

It is intended to leave the bell H uncovered, so as to cause the sound thereon of the hammer to be deadened by the hand of the person who opens the door from the inside; but, if desired, said bell may be contained within a casing, which will enable it to ring with the same freedom whether the lock is operated from within or without.

I do not claim, broadly, in combination with an alarm which is contained within the knob of a door, a bell that forms part of such knob, and has its sound muffled when said knob is grasped by the hand, as such a claim is now the subject of an application filed by me, and now pending before the Office; but

What I do claim as new and useful, and desire to secure by Letters Patent, is—

1. The combination of the spindle B, the sleeve D, the collar E, having the radial flange e' and teeth e'', the plate F, the pivoted disks I, provided with peripheral teeth i, and having attached thereto the bell-hammers K and springs for returning said hammers to their normal positions, substantially as and for the purpose shown.

2. The hereinbefore-described alarm, in which the sleeve D d, the collar E e' e'', the flanged plate F, the casing-plate G, the bell H, the pivoted disks I i, bell-hammers K, and springs to return said hammers to their normal positions are constructed, as shown, and combined with each other and with the spindle B, in the manner and for the purpose substantially as set forth.

In testimony that I claim the foregoing as my own I hereby affix my signature in presence of two witnesses.

GEO. W. McGOVERN.

Witnesses:
THEO. MUNGEN,
D. O'DONNOGHUE.