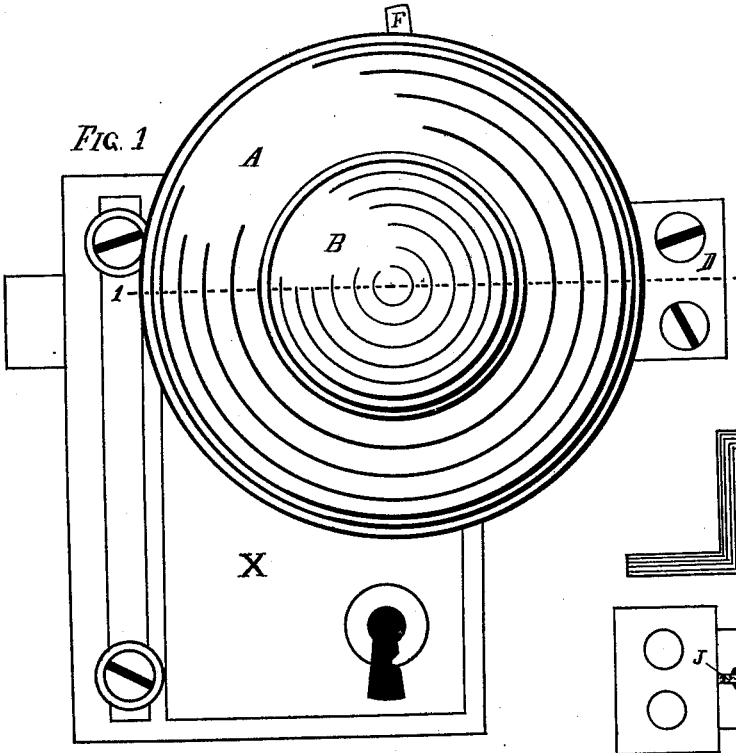
2 Sheets—Sheet 1.

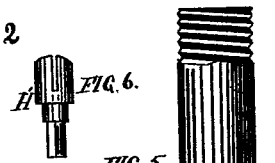
C. J. ELLIOTT.

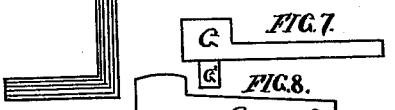
Door-Alarms.

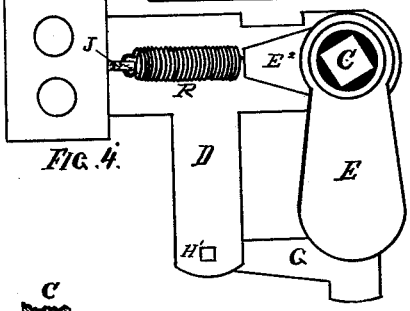
No. 208,578. Patented Oct. 1, 1878.

FIG. 1









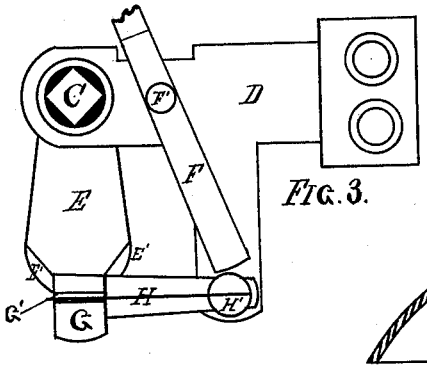


FIG. 3.

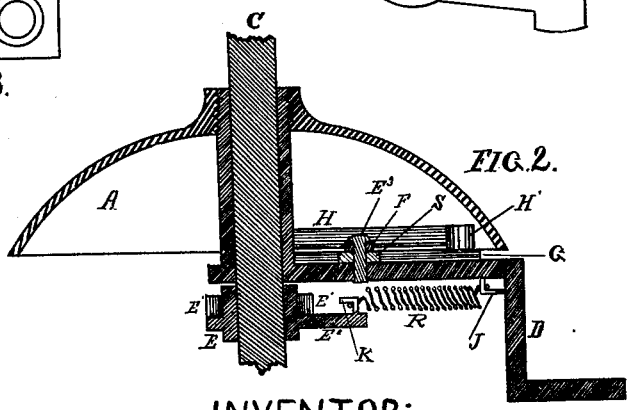


FIG. 2.

ATTEST:

Thomas Davis.
Wm. C. Fox.

INVENTOR:

Charles J. Elliott.
By Wm. C. Fox.
Attorney.

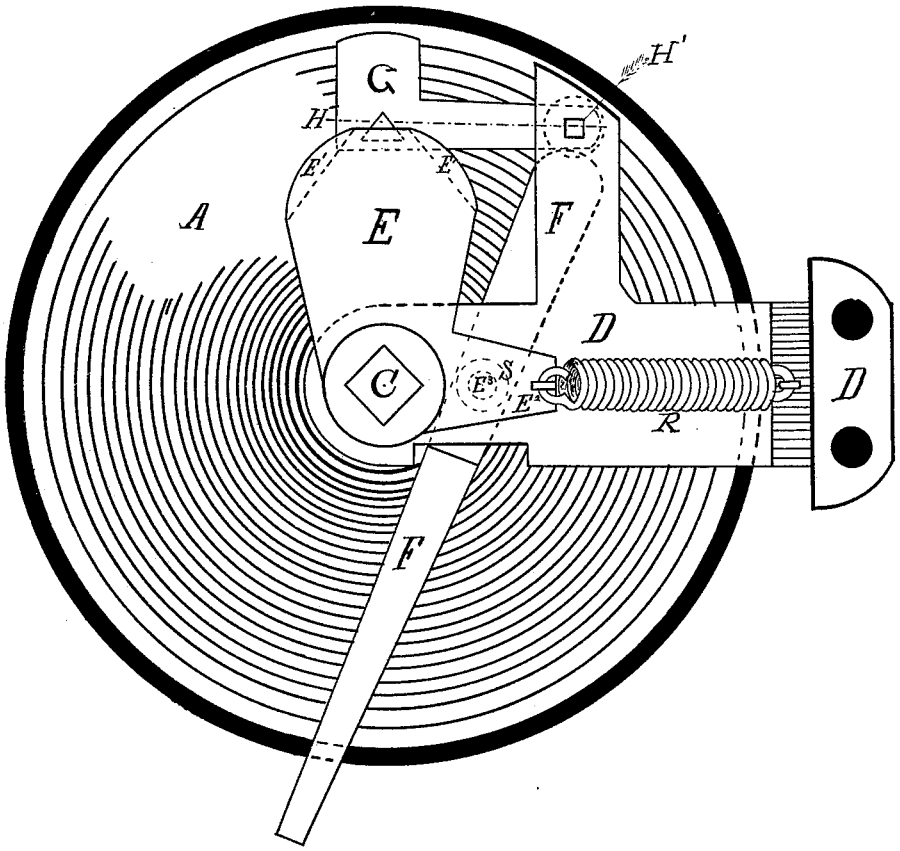
2 Sheets—Sheet 2.

C. J. ELLIOTT.

Door-Alarms.

No. 208,578. Patented Oct. 1, 1878.

Fig. 9.



Attest:

Thomas Davis.
Wm. C. Dodge.

INVENTOR:

Charles J. Elliott.
By Horace O'M. Cook
Attorney.

UNITED STATES PATENT OFFICE.

CHARLES J. ELLIOTT, OF POTTSVILLE, PENNSYLVANIA.

IMPROVEMENT IN DOOR-ALARMS.

Specification forming part of Letters Patent No. **208,578**, dated October 1, 1878; application filed September 10, 1878.

To all whom it may concern:

Be it known that I, CHARLES J. ELLIOTT, of Pottsville, county of Schuylkill, and State of Pennsylvania, have invented a new and useful Improvement in Door-Alarms, of which the following is a specification:

The invention relates to that class of alarms operated by a knob and spindle, the alarm consisting of a gong and striking apparatus.

Heretofore such alarms have been constructed with spring-catches, ratchet-teeth, or eccentrics, which as a general thing are objectionable, on account of complication of mechanism, inoperativeness, and want of durability. I produce an alarm simple, efficient under all circumstances, and durable.

The object of my invention is to provide an alarm that is easily operated, simple in construction, and that will set itself without any aid from the latch-spring in the lock to which it may be applied.

The invention consists in arranging a gong-bell on a stand and having striking mechanism consisting of an arm provided with lugs, which engage with a pin on a hammer, and which is brought back to position by a small spiral spring, a hammer operated by a flat spring, and a lever to throw the hammer in and out of play, the whole arrangement to be placed over the lock on a door, and to be operated by the same knobs and spindle that operate the lock.

In the accompanying drawing, in which similar letters of reference indicate like parts, Figure 1 is a front view of my alarm, showing lock, alarm, and door-knob. Fig. 2 is a sectional view of the alarm through the line 1 2; Fig. 3, a plan view of the striking mechanism; Fig. 4, a reverse view of the same; Fig. 5, a side view of the stand; Fig. 6, a view of the rivet or pin which holds the hammer and its spring; and Figs. 7 and 8 are side and bottom views of the hammer. Fig. 9 shows striking mechanism in connection with gong.

In detail, A is the gong; B, the door-knob; C, the knob-spindle which operates the alarm; D, the stand; E, the arm which operates the hammer; F, the lever which throws the hammer in and out of play; G, the hammer; H, the hammer-spring; J and K, small pins or hooks to hold the spiral spring R; S, a rubber or elastic washer to prevent the lever F from working too easily. E^3 is a rivet, either part of the stand or as shown in drawing, Fig. 2. E^2 is an extension or arm on the arm E, and E^1 E^1 are the lugs on the same, which operate the hammer. H′ is the pin or rivet to confine the hammer and its spring in position. It has a slot in the top for the spring, and is squared on the bottom to prevent its turning in the stand D, to which it is riveted.

G^1 is a slot in the hammer for the spring H to work in. G^2 is a pin or part of the hammer which slides on the inclined edges of the lugs in the arm E, and falls outside of them, thus giving a blow on the gong.

I construct and operate my alarm as follows: I make a stand, D, as shown in Fig. 5. The stem to which the gong is to be attached is bored out for the passage of the knob-spindle, and is threaded outside for the gong A to be screwed on. The arm E is made with a square hole in it for the passage of the knob-spindle, and has inclined or beveled-edged lugs E^1 E^1 on the lower part of its face, which are to engage with the pin on the hammer and raise it whenever the arm is moved right or left. There may be two or more lugs on the arm, as may be desired. On the side of the arm opposite to the square hole through which the spindle passes I place a shorter arm, E^2, having a pin or hook which holds one end of the spiral spring R, the other end of said spring being secured to the pin or hook on the stand D. I form the hammer G as shown in Figs. 7 and 8, and I secure it to the stand D by the rivet H′, securing the rivet so that the hammer will move easily. I then take a straight flat steel spring, H, and fasten one end of it in a slot, which I cut in the top of the rivet H′, and allow the other end of it to rest in a slot, G^1, in the hammer G. The hammer is then held straight by the spring, and will always return to its original position when released from pressure. I place an elastic washer, S, under the lever F, and secure the lever to the stand D by means of the rivet E^3.

By referring to Figs. 3 and 4 of the drawing it will be seen that when the hammer is at rest the arm E is in such a position that by moving it right or left one of the lugs E^1 E^1 will engage with the pin on the hammer. This pin

will slide up the beveled edge of the lug and fall off outside, the spring H forcing the hammer against the gong with a sharp blow, and then holding it at rest in its former position. When the pressure on the arm E is released, the spiral spring R, which is under tension whenever the arm E is moved, will contract and bring the arm E back to its former position, ready for another blow.

The lever F is used to throw the hammer G in and out of gear with the lugs on the arm E. Whenever it is desired to have the alarm inoperative for a time, the hammer is thrown out of gear by simply pressing the lever F to one side, and by pushing it back again the alarm is at once ready for action.

The mechanism of my alarm is designed to be operated by the same spindle and knobs that operate the lock to which it is attached.

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

In a door-alarm, the swinging arm E, having beveled or inclined edged lugs E^1 E^1, the hammer G, pivoted to the stand D by the rivet H′, and having the flat spring H secured at one end to the rivet H′, the other end resting in the slot G^1, the lever F, with elastic washer S, and the spiral spring R, secured to the arm E^2, and the stand D, arranged on a door-lock, in connection with the gong A, the knob B, and knob-spindle C, substantially as and for the purpose hereinbefore described and set forth.

CHARLES J. ELLIOTT.

Witnesses:

B. BRYSON MCCOOL,

THOMAS DAVIS.