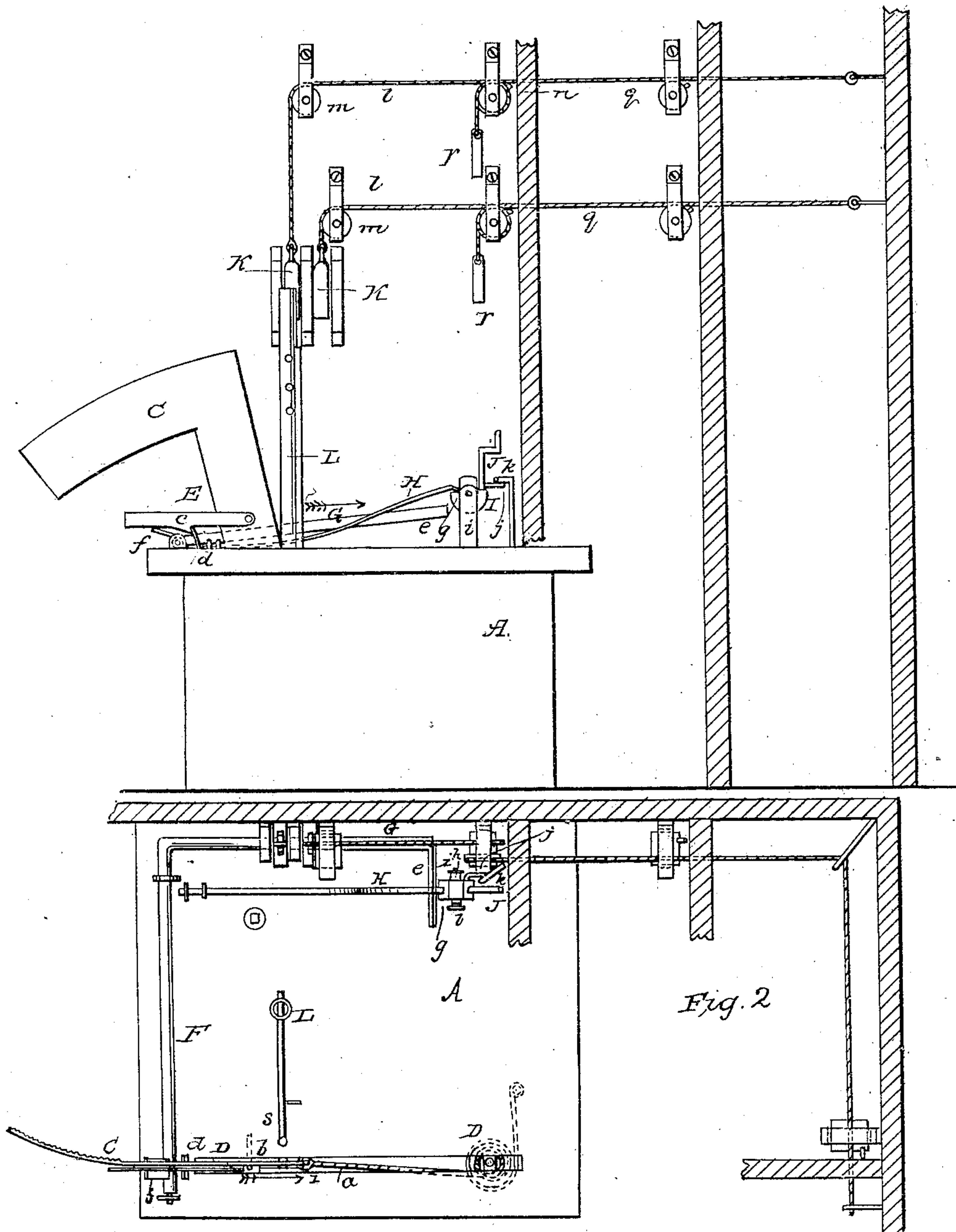


WARD & LUCE.
Fire and Burglar Alarm.

No. 50,863.

Patented Nov. 7, 1865.



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UNITED STATES PATENT OFFICE.

DAVID WARD AND RUSSEL S. LUCE, OF LAWSVILLE CENTRE, PA.

FIRE AND BURGLAR ALARM.

Specification forming part of Letters Patent No. 50,863, dated November 7, 1865.

To all whom it may concern:

Be it known that we, DAVID WARD and RUSSEL S. LUCE, of Lawsville Centre, in the county of Susquehanna and State of Pennsylvania, have invented a new and Improved Fire and Burglar Alarm; and we do hereby declare that the following is a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is an elevation of our invention; Fig. 2, a plan or top view of the same.

Similar letters of reference indicate corresponding parts.

This invention relates to a new and improved device by which an alarm will be instantly given in case of a fire occurring in any apartment of a building or in case of a burglar entering through a door or window of a building, and when a fire occurs the device, when the alarm is sounded, indicates in what locality of the building the fire is, and at the same time lights a candle or lamp, so that the occupant may proceed to the spot at once, the lighting of the lamp or candle being also performed in case the alarm is sounded by the entrance of burglars.

A represents a box in which the alarm mechanism is placed, and which may be precisely the same as that of an ordinary clock-alarm. In fact, these alarms may be used with my invention precisely as they are now made—they require no modification whatever.

B represents a bar which extends down within the box A and works on a pivot or rod passing through its lower end. This bar B has a curved plate, C, attached to its upper end, one side of said plate being toothed or corrugated to form a rough surface. The bar B is connected to a spring, D, by a cord, *a*, said spring having a tendency to draw the bar B backward in the direction indicated by arrow 1; and said bar has a pin, *b*, projecting horizontally from it, which, when the bar B is drawn back by the spring D, strikes the trigger of the alarm mechanism and causes it to operate or sound the alarm. The bar B is held in a forward position by means of an arm, E, attached to it, and provided with a notch or shoulder, *e*, which

catches over a projecting plate, *d*, on the top of the box A, as shown clearly in Fig. 1.

On the top of the box A there is placed a horizontal shaft, F, which is allowed to turn freely in its bearings, and one end of this shaft is provided with an arm, G, which projects from it at right angles, the end of arm G being bent at right angles to it and parallel with the shaft F, as shown at *e*. The shaft F has a lip or projection, *f*, extending from it, on which the arm E of the bar B rests, the pressure of said bar on the lip or projection *f* having a tendency to keep the outer end of the arm G elevated, as shown in Fig. 1.

H is a spring secured to the top of the box A at one end, and the opposite and disengaged end of this spring, when the device is set for use, bears upon a shoulder, *g*, of a small wheel or hub, I, placed on a shaft, *h*, fitted in uprights *i i* on the box A, said end of the spring being over the end *e* of the arm G. The spring H is prevented from turning the wheel or hub I in consequence of an arm, *j*, which projects from it, being in contact with a rod, *k*, on the box A. (See Fig. 1.) The wheel or hub I has a rod, J, projecting from it, the use of which will be presently shown.

In order to avoid confusion we will proceed to describe the manner in which the alarm is set free or allowed to operate.

It will be seen from the above description that if the end or part *e* of the arm G of shaft F be pressed down, the shaft F will be turned and the lip or projection *f* on said shaft throw up the arm E of bar B free from the plate *d* and the bar B be drawn back by the spring D, the pin *b* of said bar causing the alarm to operate.

The end or part *e* of the arm G may be depressed by moving or turning the wheel or hub I, so as to liberate the end of the spring H and cause the latter to act upon *e*, forcing it down by virtue of its own elasticity.

Cords or wires are attached to the doors and windows of a dwelling and connected to the rod J of the wheel or hub I in such a manner that when a door is opened or a window raised the wheel or hub will be turned, the spring H elevated, and the arm G actuated or forced down by the latter.

In case of fire the alarm is sounded by

weights K falling upon the arm G. These weights K (see Fig. 1) have cords *l* attached to them, which extend upward over pulleys *m*, one in each story of a building, and said cords have each a loop, *n*, at their outer ends, the loops being fitted on pins *o*, projecting from pulleys *p*, around which cords *q* pass and have weights *r* attached to them. These cords *q* pass through the different rooms in each story, it being understood that there is a pulley, *p*, in each story with its weight K attached.

The weights *r* are held up by the cord *q*; but in case of a fire occurring in any of the apartments of a building, and the cord *q*, which passes through said apartment, being burned, the weight *r* will turn the pulley *p* and allow the loop *n* of the cord of the weight K, which is attached to it, to slip off, and said weight will fall upon the arm G and cause the alarm to be sounded. These weights K may be all numbered corresponding to the different stories of the building in which their cords *l* are connected, so that when an alarm of fire occurs, by inspecting the fallen weight the story where the fire is burning is indicated.

A lamp is placed on the box A of the alarm, and a match, *s*, inserted in an upright, L, on said box, the end of the match having such a relative position with the plate C of the bar B that when the latter is drawn back by the spring D the rough surface of C will come in contact with the match and ignite it, and the wick of the lamp may be placed sufficiently

near the match to be lighted by it, or a fuse may be used to carry the flame from the match to the wick of the lamp.

Thus, by this simple arrangement, a very efficient fire and burglar alarm is obtained, one which may be readily applied and not be liable to get out of repair.

We do not claim the alarm mechanism, as that is an old device and in common use in alarm-clocks; but

We do claim as new and desire to secure by Letters Patent—

1. The bar B, provided with the arm E, in connection with the shaft F, having a lip or projection, *f*, and an arm, G, all applied to or used in connection with an alarm mechanism, substantially as and for the purpose set forth.

2. The spring H and the wheel or hub I, provided with the arm *j*, in connection with the rod or stop *k*, substantially as and for the purpose specified.

3. The weights K, connected by cords *l* to pulleys *p*, around which cords *q* pass, with weights *r* attached, all arranged, as shown, to operate the alarm in case of fire, as described.

4. The plate C, attached to the upper end of the bar B, in connection with a suitable match-holder, all arranged to operate as set forth.

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Witnesses:

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