

T. A. NEELY,  
Electric Fire Alarm Boxes.

No. 214,944.

Patented April 29, 1879.

FIG. 1.

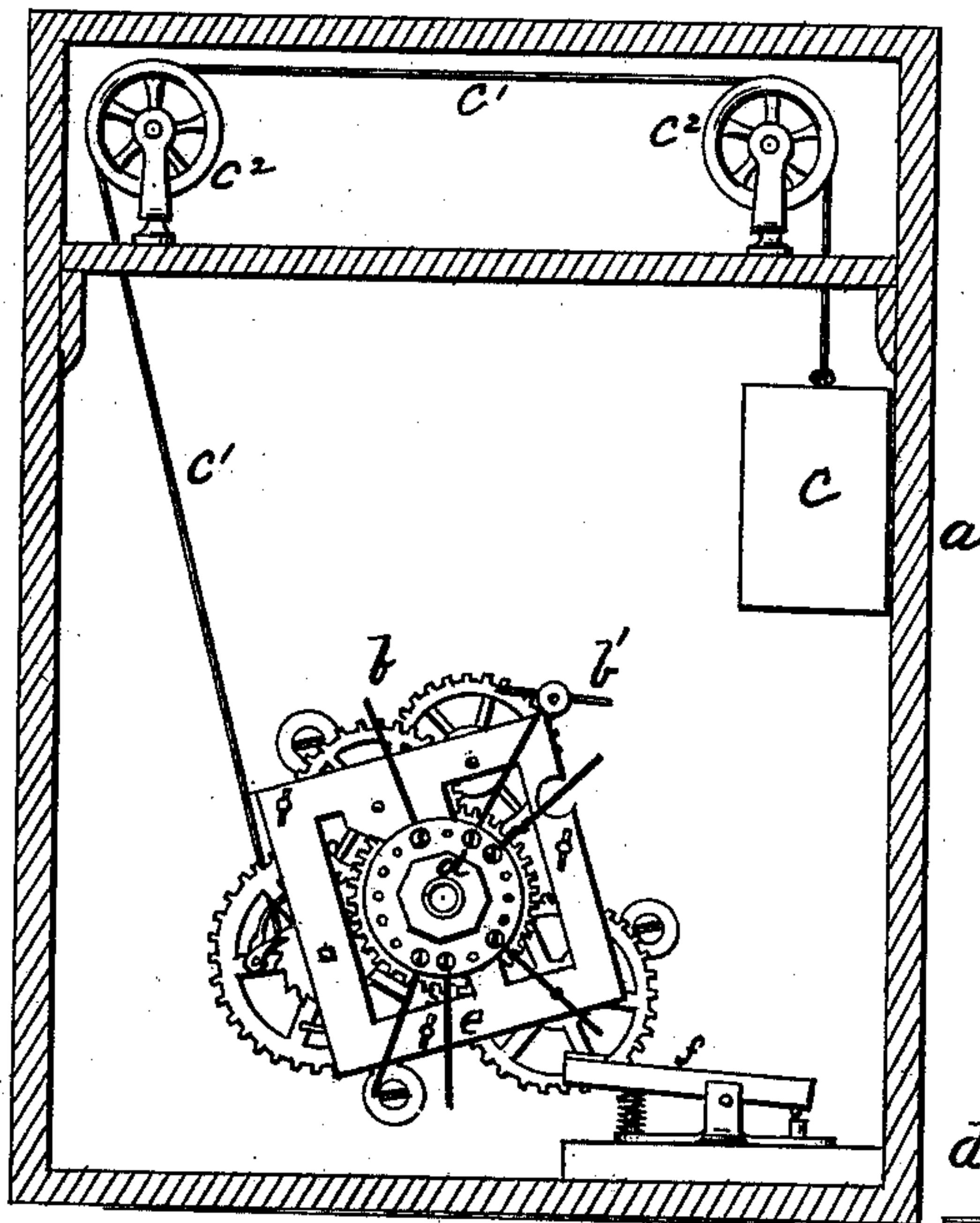


FIG. 3.

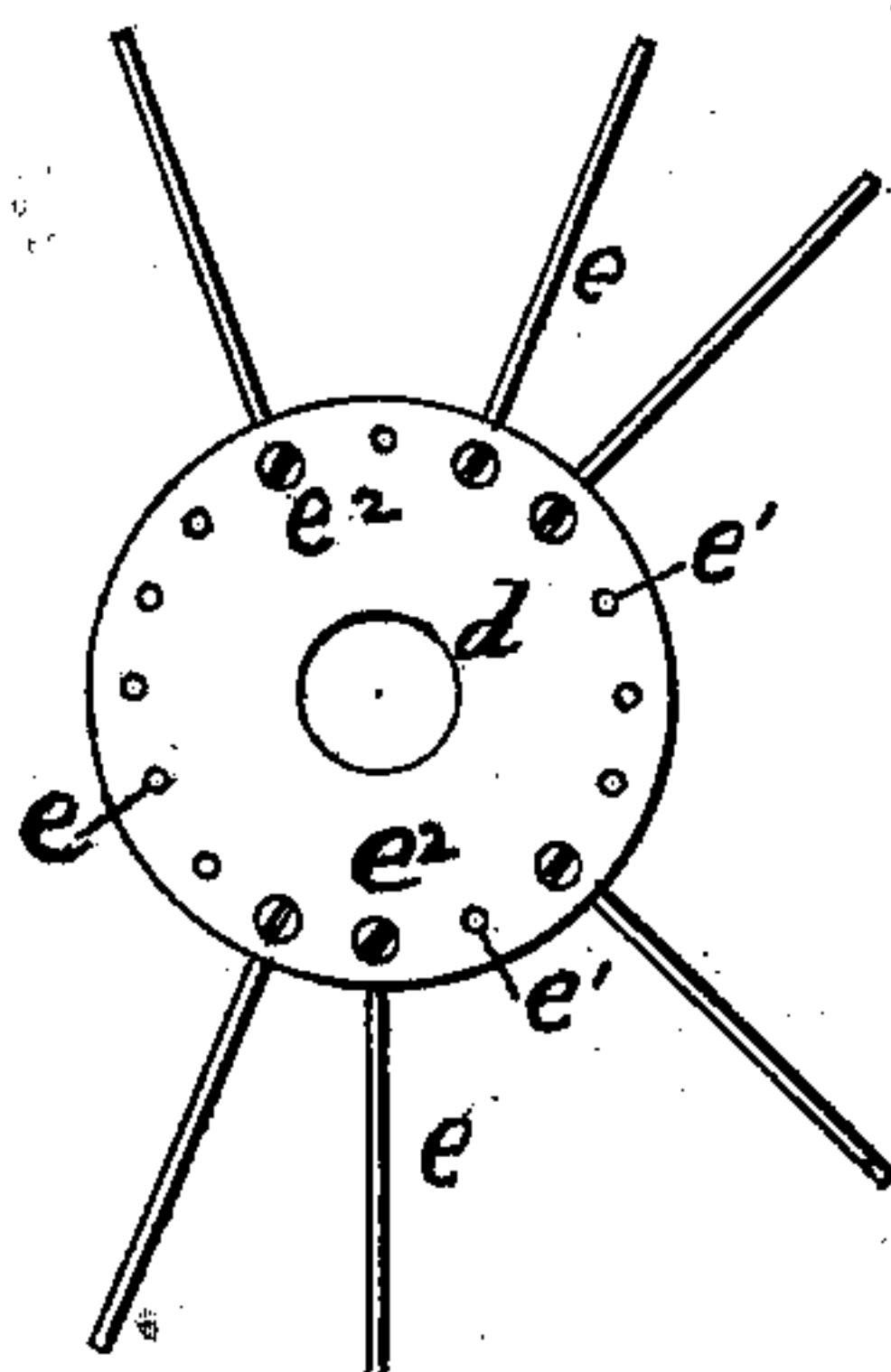


FIG. 4.

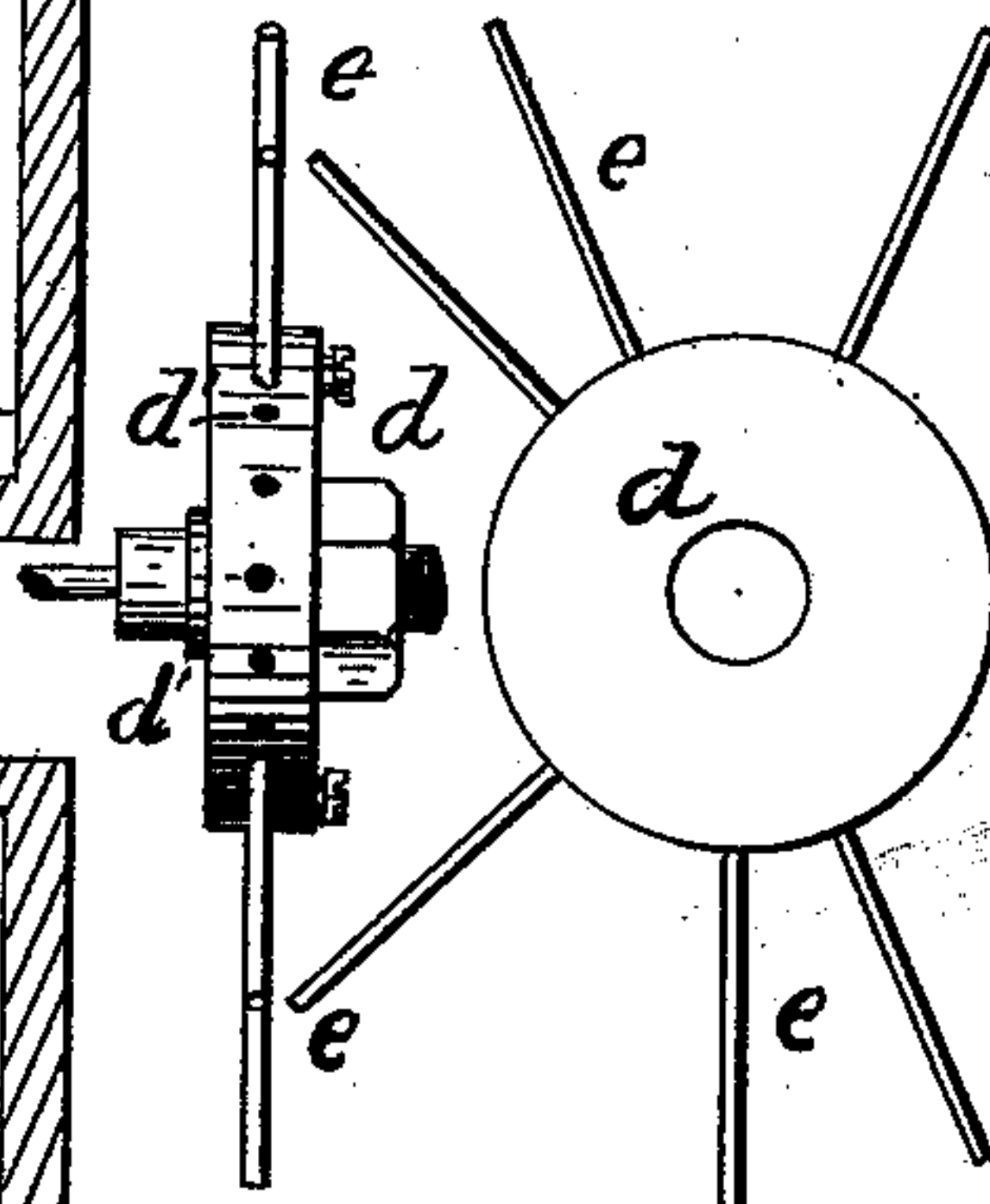
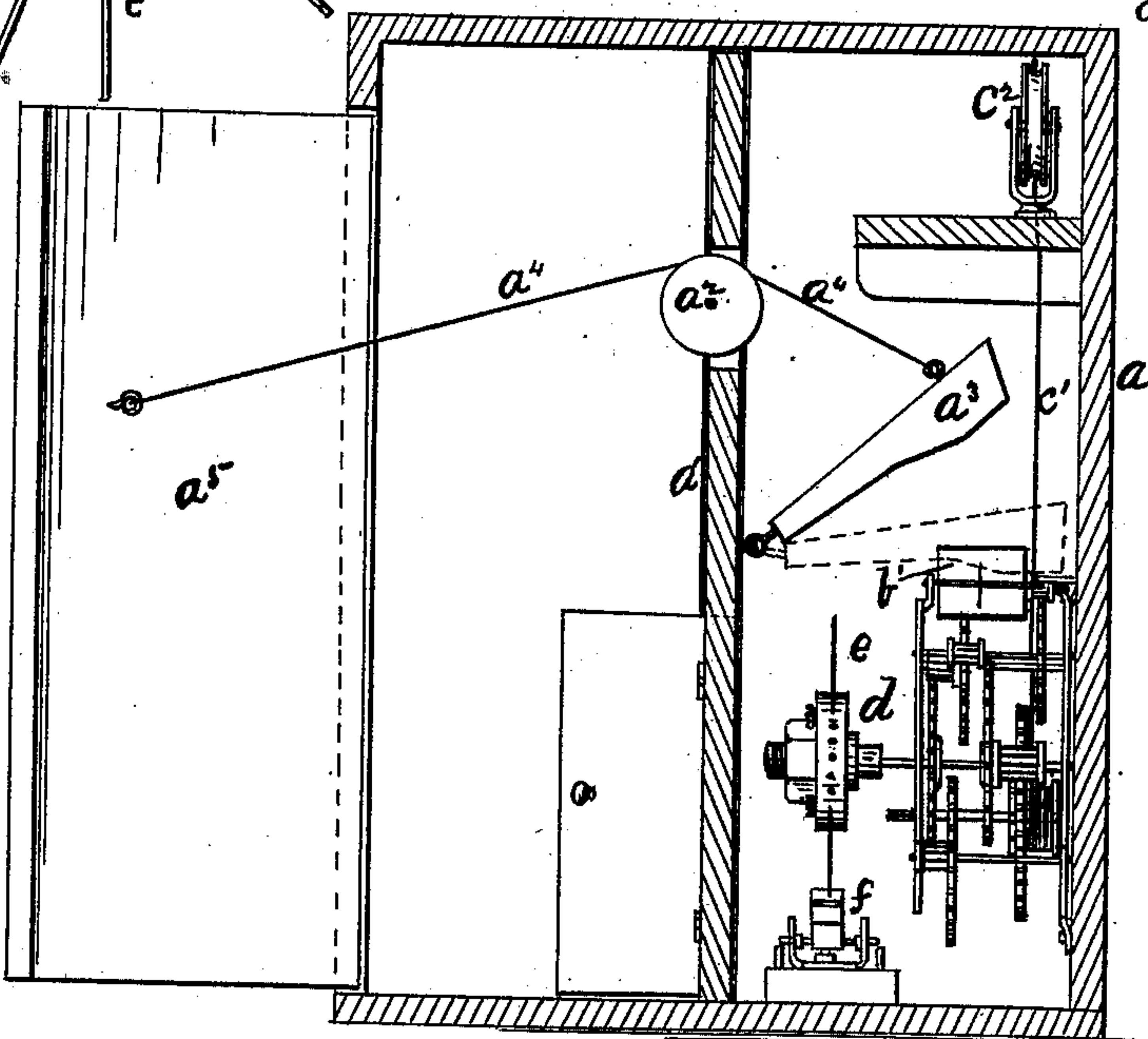


FIG. 2.



WITNESSES

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# UNITED STATES PATENT OFFICE.

THADDEUS A. NEELY, OF MUNCIE, INDIANA.

## IMPROVEMENT IN ELECTRIC FIRE-ALARM BOXES.

Specification forming part of Letters Patent No. **214,944**, dated April 29, 1879; application filed March 7, 1879.

*To all whom it may concern:*

Be it known that I, THADDEUS A. NEELY, of Muncie, in the county of Delaware and State of Indiana, have invented certain new and useful Improvements in Electric Fire-Alarm Boxes; and I do hereby declare that the following is a full, clear, and exact description of the invention, 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.

This invention has for its object to provide substantial improvements and facilities for operating electric fire-alarm signals.

It consists in adjustable arms in the registry-wheel, and in the means whereby the actuating-gearing is set in motion or stopped, all of which will be hereinafter fully explained.

In the drawings, Figures 1 and 2 are vertical sections on lines at right angles to each other of a fire-alarm box constructed according to my invention, and Figs. 3 and 4 are detail views of the registry-wheel.

*a* is the box within which is placed the clock-train *b*, operated by a weight, *c*, suspended by the cord *c*<sup>1</sup>, which passes over pulleys *c*<sup>2</sup> *c*<sup>2</sup>, affixed in the upper part of the box.

On the center post of the clock-train I affix the registry-wheel *d*, in the rim of which is formed the series of radial holes *d*<sup>1</sup>, for the reception of the ends of the radial arms *e*. On the side and near the rim of the said wheel I form the series of screw-holes *e*<sup>1</sup>, which connect with the radial holes *e*, and in which I place set-screws *e*<sup>2</sup>, by which the arms *e* may be rigidly fixed in position.

The adjustable arms *e* may be arranged to register any given number. As arranged in the drawings they register the number 21. By employing a greater number of arms *e*, and by an enlarged wheel, *d*, having a greater number of radial holes *d*<sup>1</sup>, the device can be made to register any number, however large it may be.

By the construction hereinbefore described I am enabled to avoid the inconveniences of making a separate mechanism for each number desired for the box; and in case it be-

comes necessary to remove a box, or for any purpose to change its number, the change can be made by loosening the screws *e*<sup>2</sup> and arranging the arms *e* in other holes *d*<sup>1</sup>, according to the required number to be registered.

The arms *e* may also be lengthened or shortened when desired by drawing them out of or pushing them farther into the holes *d*<sup>1</sup>, thus obviating the necessity of such exactness in placing the key *f* in the box with reference to the registry-wheel. If the key be placed too near to or too far from said wheel, the error can be corrected by sliding the arms *e* into or drawing them out of the holes *d*<sup>1</sup>, and fixing them rigidly in place by the screws *e*<sup>2</sup>. This adjustment to different lengths may be done by any person of ordinary mechanical skill.

The outer ends of the arms *e* strike and press down the ends of the key *f*, which, after the arm has passed off, is thrown back by the spring *f*<sup>1</sup>, thus opening and closing the magnetic circuit and producing the alarm according to the arrangement of the said arms.

The box *a* has placed in it a partition, *a*<sup>1</sup>, in which is fixed a pulley, *a*<sup>2</sup>, and to the inner side of which is hinged a drop, *a*<sup>3</sup>, which extends over the clock-train, as shown in dotted lines, Fig. 2. When the drop *a*<sup>3</sup> is let fall onto the clock-train, as indicated in Fig. 2, it engages and stops the motion of the flutter-wheel or fan *b*<sup>1</sup>, and thereby stops the movement of the clock-train and the registry-wheel. When lifted from its position on the fan *b*<sup>1</sup>, the clock-train will immediately act and cause the registry-wheel to revolve and give the alarm.

To the drop *a*<sup>3</sup> is affixed one end of a cord, *a*<sup>4</sup>, the opposite end of which passes over the pulley *a*<sup>2</sup>, and is affixed to the inner side of the door *a*<sup>5</sup> of the casing *a*, so that when the door is opened the drop will be lifted from the flutter-wheel, and the clock-train set in motion and the alarm sounded, without further action on the part of the person who opens the box.

The partition *a*<sup>1</sup> is extended across the box *a* and made close, in order to more perfectly protect the clock-train and other mechanism, and at the same time provide a support for the pulley *a*<sup>2</sup> and drop *a*<sup>3</sup>; but a simple narrow post could be arranged in proper relative position to the several parts for holding the

pulley and drop; but it is much more preferable to have a close or tight partition, as described.

For convenience in arranging the several parts the top of the casing is hinged or otherwise suitably constructed, so that it may be unfastened and lifted, that the hand may be put down into the box for any desired purpose; but I do not claim any novelty in the construction of the outer casing.

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

1. The combination, with the key *f* and the wheel *d*, constructed with the series of radial holes *d'* and side holes, *e'*, provided with set-

screws *e''*, of the series of radial arms *e*, inserted in the holes *d'* and adjustable to different lengths, and fixed rigidly in position by the set-screws *e''*, substantially as set forth.

2. The combination, with the door *a''* of the casing *a*, and the clock-train *b*, of the drop *a'''* and cord *a''''*, substantially as and for the purpose set forth.

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

THADDEUS A. NEELY.

Witnesses:

GEO. H. ANDREWS,  
THEOPH. E. BURT.