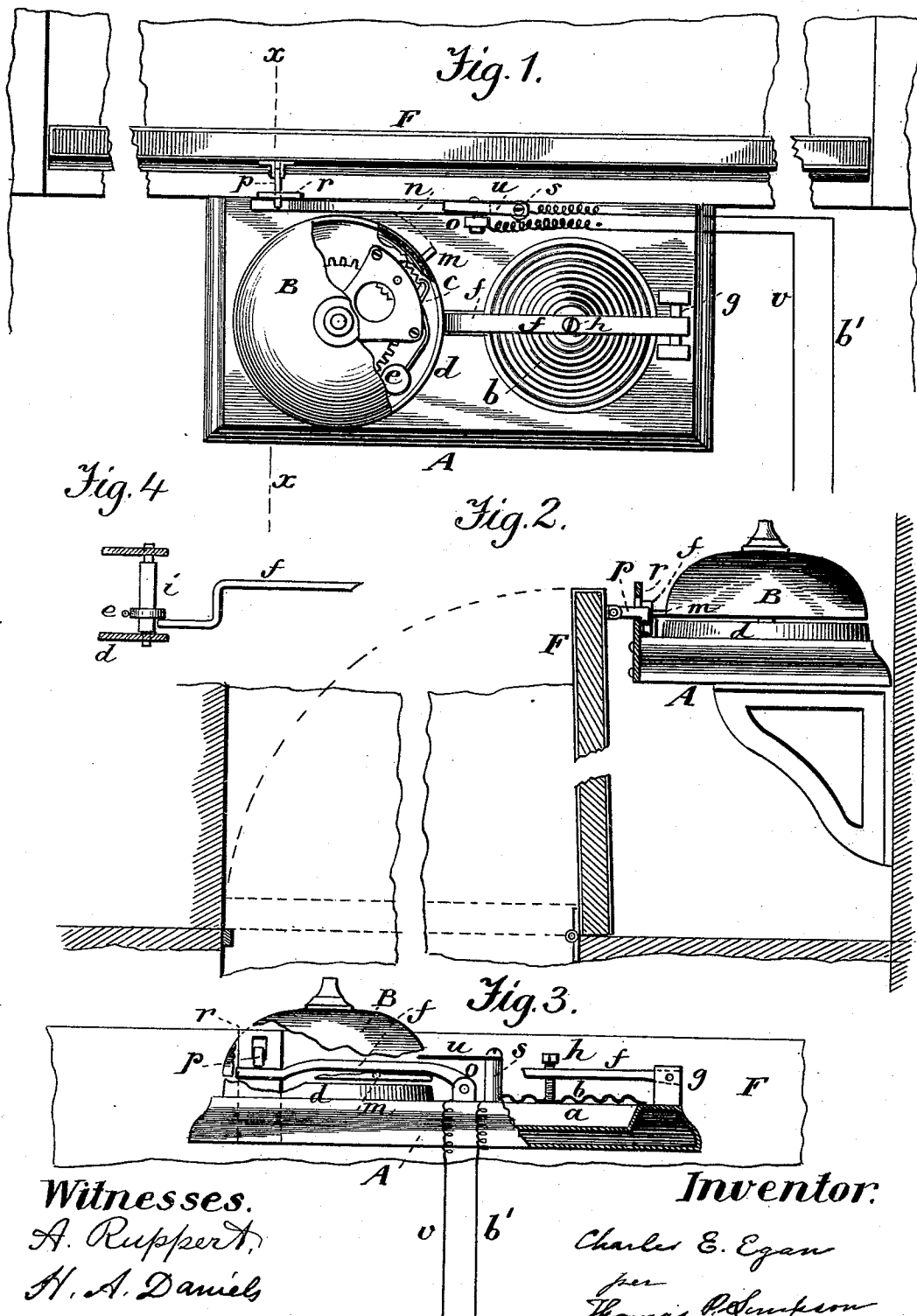


(No Model.)

C. E. EGAN.
FIRE ALARM.

No. 496,869.

Patented May 9, 1893.



Witnesses.
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per
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UNITED STATES PATENT OFFICE.

CHARLES E. EGAN, OF CHICAGO, ILLINOIS.

FIRE-ALARM.

SPECIFICATION forming part of Letters Patent No. 496,869, dated May 9, 1893.

Application filed September 1, 1892. Serial No. 444,800. (No model.)

To all whom it may concern:

Be it known that I, CHARLES E. EGAN, a citizen of the United States of America, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Fire-Alarms, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to automatic fire alarms and consists in certain improvements in the construction of the same, as hereinafter described and claimed.

The special object of my invention is to make a device which will be operated by heat to unlatch an elevator door, to close the well, and to give an alarm in some other part of the building.

In the accompanying drawings Figure 1 is a plan view illustrating my invention. Fig. 2 is a sectional elevation of the same. Fig. 3 is a sectional, side view of the alarm, parts being removed. Fig. 4 illustrates a sliding post and connecting parts.

The alarm mechanism is mounted on a bracket or other suitable support and is provided with a base A. In the base is formed a depression or chamber *a* which is preferably circular and is covered by a diaphragm or thin metallic disk *b* which closes said chamber and is fastened in place over the same. The said disk has annular corrugations formed therein as shown.

d indicates an open, circular plate which is secured to the base A and forms a base for certain operating mechanism which is mainly similar to ordinary clock mechanism, having a vertical shaft on which is mounted a bell B, a coiled spring by which the mechanism is actuated, an escape wheel and pallet *c* engaging therewith and a striking hammer *e* secured to the pallet. A sliding post *i* is mounted in plates supporting the mechanism and is provided with a lug or fixed collar for the purpose of the connection hereinafter set forth.

f indicates an arm which has a hinge connection at *g* with the base A and extends across the disk *b*, the free end of said arm being depressed and extended so that it may be made to engage the sliding post *i* by connection with the fixed collar thereon. A set screw

h is passed through the hinged arm *f*, the point end of said screw being very near the disk *b* at the center of said disk.

The several parts of my device above described and the operation of the same are substantially the same as described in a pending application for patent, filed by me February 25, 1892, and serially numbered 422,813, to which application reference is made.

Extending laterally from the bell B is a small tongue or projection *m* and near said bell is an arm *n* which is pivoted at one end to a lug *o* on the base A, said arm being depressed at its free end and being in position to be impinged against by the tongue *m* when the bell is rotated by the action of the spring in the clock mechanism.

F indicates a trap door connected with a floor of a building and in position to open and close the passage through an elevator in the building. A latch *p* is connected with the door F, and when the latter is in its open position, as seen in Fig. 2, it is secured by said latch and a catch formed of a plate *r* which is made fast to the base A of the alarm mechanism, the said latch projecting through an opening in said plate and hooking to the plate. The door F is slightly inclined when in its open position, so that when it is released, it closes by gravity. Now, in case the building takes fire and the air about the alarm apparatus and in the chamber *a* becomes heated, so as to cause an expansion of the disk *b*, the arm *f* is raised, through contact of the screw *h* with said disk, and thus raises the sliding post, releasing the escape wheel; the main spring then actuates the alarm mechanism and causes the rotation of the bell B; the tongue *m*, extending from said bell, passes under the arm *n*, and impinging against said arm, raises it, and the free end of the arm, being under the latch *p*, the latter is also raised, thus releasing the door F which immediately falls and closes the passage in the elevator.

For the purpose of communication with another part of the building, to announce the closing of the elevator, an electric circuit may be formed by means of a post *s* mounted on the base A, to the top of which post is fastened a metallic strip *u* which extends over the arm *n*, so that when the latter is raised,

it contacts with said strip; two conducting wires *v v'* are connected with the lug *o* and the post *s* respectively, and said wires may be connected with an electric annunciator, not shown, in another part of the building. The circuit may be closed or broken by the movement of the hinged arm *n* to or from the strip *u* on the post *s*.

I claim—

- 10 1. In a fire alarm, the combination, with a base having a chamber formed therein, of a metallic disk which closes said chamber, a hinged arm extending over said disk and constructed to connect therewith, an alarm mechanism, in position to be actuated by a movement of said hinged arm, a rotative alarm bell, provided with a tongue or projection *m*, another hinged arm, in position to be raised by the tongue *m*, a trap door provided with a latch, a fixed catch in position to receive said latch and retain said door in its open position, the last mentioned hinged arm being adapted to raise said latch and release said

door, substantially as and for the purposes described.

- 25 2. The combination with an alarm mechanism, having a rotative bell, provided with a lateral projection suitable means for releasing said alarm mechanism and mechanism for rotating said bell, of a hinged arm, in position to be raised by said projection when said bell is rotated, a trap door provided with a latch which, when said door is in its open position, extends over said hinged arm, and a fixed catch in position to receive said latch and retain said door, the parts being so constructed that said latch may be raised and the door released by a movement of said hinged arm, substantially as set forth and described.

In testimony whereof I have affixed my signature in presence of two witnesses.

CHARLES E. EGAN.

Witnesses:

JAMES O. BROWDER,
JAMES C. EGAN.