L. H. McCULLOUGH & C. ANDERSON.

Fire-Alarm Box.

No. 162,085.

Patented April 13, 1875.

Fig. 2.

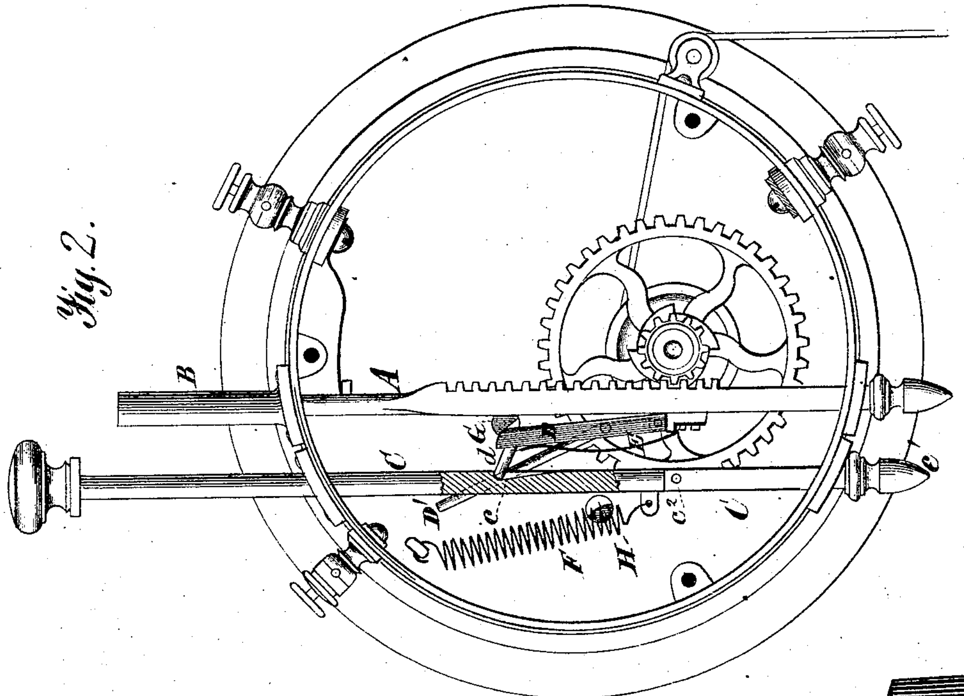
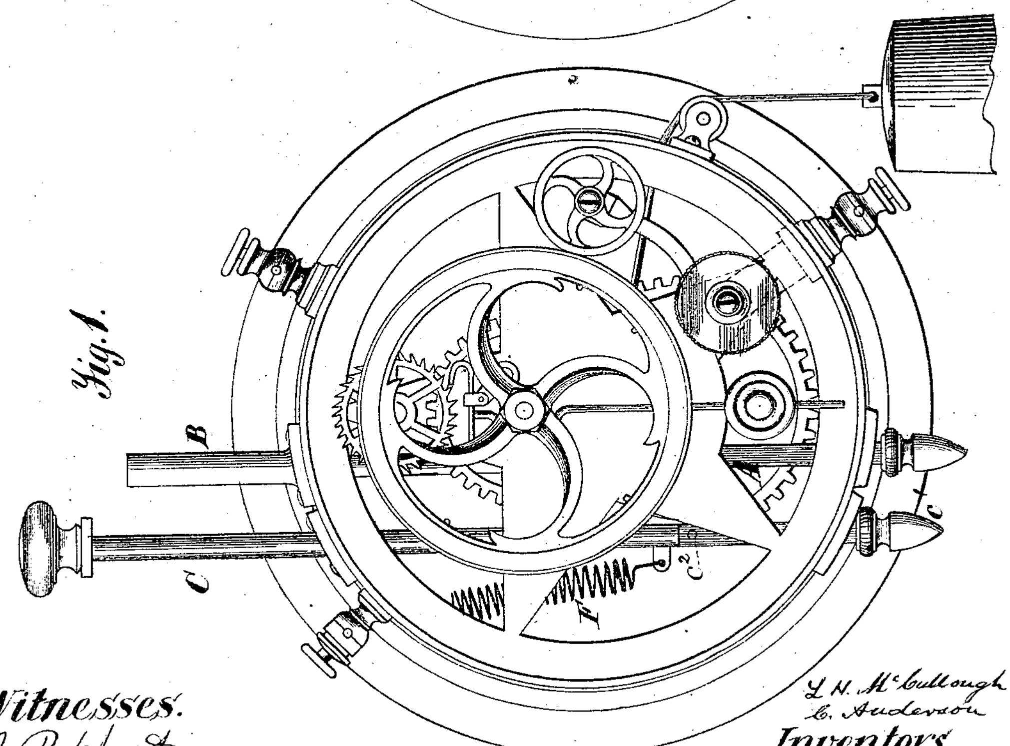


Fig. 1.



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UNITED STATES PATENT OFFICE.

LEWIS H. McCULLOUGH, OF RICHMOND, INDIANA, AND CHARLES ANDERSON, OF CINCINNATI, OHIO, ASSIGNORS TO THE NATIONAL FIRE-ALARM COMPANY, OF RICHMOND, INDIANA.

IMPROVEMENT IN FIRE-ALARM BOXES.

Specification forming part of Letters Patent No. **162,085**, dated April 13, 1875; application filed September 3, 1874.

To all whom it may concern:

Be it known that we, LEWIS H. McCULLOUGH, of Richmond, in the county of Wayne and State of Indiana, and CHARLES ANDERSON, of Cincinnati, in the county of Hamilton and State of Ohio, have invented a certain Improvement in Fire-Alarm Telegraphs, of which the following is a specification:

Our invention relates to signal-boxes for fire-alarm telegraphs, of the kind in which the winding-gear is so combined with the works that it is impossible to turn in, either by design or accident, an alarm other than that designed to be given by the particular box operated upon.

Our invention consists in embodying this principle of operation in the signal-box shown in the United States Patent No. 146,698, granted to Lewis H. McCullough, January 20, A. D. 1874. At the same time we do not propose to claim, broadly, any and all alarm-boxes in which the device for moving the winding-gear loses control of the same at every full winding of the work.

In the annexed drawings, Figure 1 is a front elevation of an alarm-box embodying our improved winding mechanism. Fig. 2 is also a front elevation of such a box, with some of the parts removed to expose to better view the winding mechanism.

The same letters of reference are used in both figures in the designation of identical parts.

The works of our improved alarm or signal box are inclosed preferably in a circular case, and as the motive power we use a weight rather than a spring, as described in McCullough's above-mentioned patent. In other respects the work is similar, with only unimportant structural modifications, to that shown in said patent, to which reference may be had for a detailed description, except only as concerns the means for winding.

The upper end of the winding-rack A, passing through the rim of the case, is covered by a closed socket or tube, B, so that it cannot be manipulated from the outside by direct application of power. The rack is forced down in winding up the box by an independent slide-rod, C, through the medium of an arm, D, pivoted upon the back of the winding-rack, and normally held in close contact therewith—that is, held folded against the rack—by a spring, E. This arm is provided with a stud, *d*, projecting from its outer end toward the slide-rod C, which is provided with a notch, *c*, capable of receiving the outer end of stud *d*. The slide, moving in bearings in the rim of the case, is held in the elevated normal position (shown in both figures) by the stress of spring F, its upward movement being limited by the nut c^1 on its lower end striking the rim of the case, while its downward movement is similarly checked by the stop-pin c^2. G is a fixed wedge-shaped post, so disposed, with reference to the winding-rack and its pivoted arm D, that it will enter between them when the work has run down, forcing the arm D over toward the slide-rod C, so that stud *d* of the former will enter notch *c* in the latter, as clearly shown in Fig. 2. If the slide-rod be now pressed down it will carry the winding-rack with it; but just before the end of the down-stroke is reached, an obliquely-projecting finger, D′, fixed on arm D, will come in contact with a fixed post, H, acting upon it, as the motion continues to force arm D again toward the winding-rack, until its stud *d* is freed from the slide-rod, when the stress of spring E will instantly fold the arm against the rack, and the weight, beginning to act at the same time, sets the work in motion, returning the rack to its first position. The arm D will also become disengaged from the slide-rod at any point of its intended stroke if the power be removed, because, no pressure being exerted on stud *d*, spring E will at once throw the arm out of gear.

What we claim as our invention, and desire to secure by Letters Patent, is—

The combination of the concealed winding-rack A, spring E, arm D *d*, fixed finger D′, posts G and H, and notched slide-rod C *c*, substantially as and for the purpose specified.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

LEWIS H. McCULLOUGH.
CHARLES ANDERSON.

Witnesses:
W. P. BIDDLE,
A. DRAHMANN.