

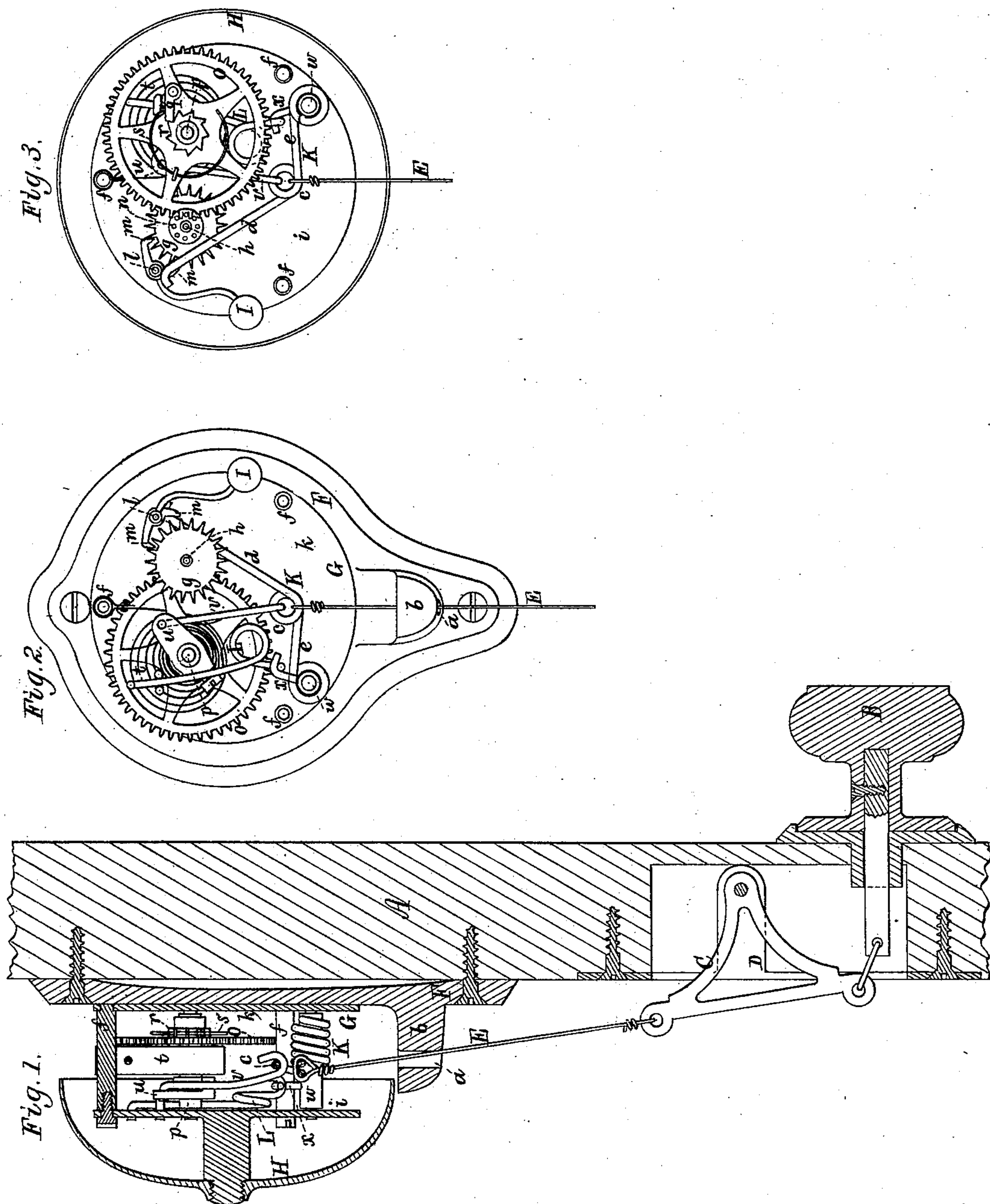
(No Model.)

N. J. BUSBY.

ALARM FOR DOORS, &c.

No. 361,048.

Patented Apr. 12, 1887.



Witnesses.

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UNITED STATES PATENT OFFICE.

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ALARM FOR DOORS, &c.

SPECIFICATION forming part of Letters Patent No. 361,048, dated April 12, 1887.

Application filed November 16, 1886. Serial No. 219,035. (No model.)

To all whom it may concern:

Be it known that I, NAHUM JUDSON BUSBY, of Maplewood, in the county of Middlesex, of the Commonwealth of Massachusetts, have invented a new and useful Improvement in Alarms for Doors, &c.; and I do hereby declare the same to be described in the following specification and represented in the accompanying drawings, of which—

Figure 1 is a transverse and vertical section of part of a door-frame and my improved bell or alarm applied thereto. Fig. 2 is a front view of the bell-striking mechanism as it appears when the bell and the front disk of the wheel-work frame are removed. Fig. 3 is a rear view of such bell-striking mechanism.

My present improvement has reference to the class of alarms such as is represented and described in the United States Patent No. 351,898, dated November 2, 1886, and granted to me.

In the alarm shown in such patent the main spring for actuating the train for working the bell-hammer had to be wound up by a key, which is not the case with my present improved alarm, in which the mainspring is wound sufficiently during each pull of the actuating-knob. The mechanism for operating the bell-hammer by means of the mainspring is much simpler than that of my patented alarm.

The nature of my present improvement is duly defined in the claims hereinafter presented.

In the drawings, A denotes part of a door-frame, to which the bell-pulling knob of the entrance door of a house is usually applied, the said knob being represented at B as jointed to a bell-crank lever, C, pivoted, as usual, within a stationary socketed carrier, D.

From the lever C a wire, E, leads upward to and through a hole, a, in an ear, b, extending from a bracket, F, to which is affixed the frame G, for supporting the bell H, the hammer I thereof, and the striking or operative mechanism of the latter. The wire E, at its upper end, is fastened to a take-up spring, K, which consists of a piece of wire spirally coiled to form an eye, c, near its middle or thereabout, the parts d and e of such wire extending from the eye being arranged at or about at a right angle to each other. The part e is coiled around and at its end is fastened to

a shaft, w, extending between and journaled in the two disks i and k of the metallic frame G.

Besides the take-up spring K there is another or auxiliary take-up spring, L, which, coiled at or near its middle, is hooked at one end upon a hook, x, extending from the shaft w, the said spring, at its other or outer end, being secured to the disk i. The two springs K and L constitute what may be termed a "compound" take-up spring, the auxiliary spring serving to prevent overstraining of the fellow-spring K by a pull on the bell-wire. The part d of the take-up is hooked at its upper end, the hook, with one of the parts connecting the disks i and k, serving as stops to prevent the bell-wire from being pulled so as to do injury to or overstrain the spring of the take-up.

The part d, at its upper portion, extends alongside of a scape-wheel, g, that is fixed on an arbor, h, journaled in the said two disks i and k of the said frame G. The bell-hammer (shown at I) projects from another arbor, l, provided with pallets m m, to engage with the scape-wheel. A lantern-pinion, n, fixed on the hub of the scape-wheel, engages with a gear, o, that revolves freely on the arbor p, and is provided with a pawl, q, to engage with a ratchet-wheel, r, fixed on said arbor, a curved spring, s, serving to press the pawl against the teeth of the ratchet-wheel. Extending around the arbor, and fixed at one end thereto, is a helical or main spring, t, which at its outer end is fastened to one of the posts f. There is fixed upon and projects from the arbor p an arm, u, to which and the eye c of the take-up spring K a connecting-rod, v, is pivoted.

On the knob B being pulled, the take-up spring will be drawn downward, in consequence of which the arbor p and the ratchet-wheel will be partially revolved, and the main-spring t will be sufficiently wound up—the ratchet-wheel slipping at the time under the pawl. On the knob B being let go of, the take-up spring will retract and will revolve the arbor p, so as to cause the ratchet-wheel, by its action against the pawl, to revolve the gear o, and thereby cause such gear to put in operation the rest of the train, by which the bell-hammer is reciprocated and caused to rapidly strike the bell several times in succession.

I claim—

1. In a door-alarm, the combination of an

ordinary bell-striking mechanism having the usual mainspring and arbor therefor, and a take-up spring secured near such arbor, and the bell-pull wire secured to such take-up
5 spring, with an intermediate connection connecting said take-up spring with said arbor, whereby when the wire is pulled out the mainspring is partially wound, as described.

2. The combination, with the frame G and
10 the main take-up spring and its shaft, arranged in such frame as described, and with the bell-hammer operative mainspring and train, also arranged in said frame, and the intermediate connection connecting the mainspring-arbor
15 and the main take-up spring, of the auxiliary take-up spring applied to the main take-up shaft and to the said frame, substantially as set forth.

3. The combination, with the bell, its hammer, and the operating train of the latter, consisting of the mainspring, its arbor, the ratchet-
20 wheel fixed and the gear revoluble on such arbor, the pawl and its spring applied to such gear, the lantern-pinion and its shaft, and the pallets and their shaft, of the arm fixed on the
25 said arbor, the actuating-wire, the take-up spring, and the link or rod connecting the latter with the said arm, all being substantially and to operate as represented.

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Witnesses:

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