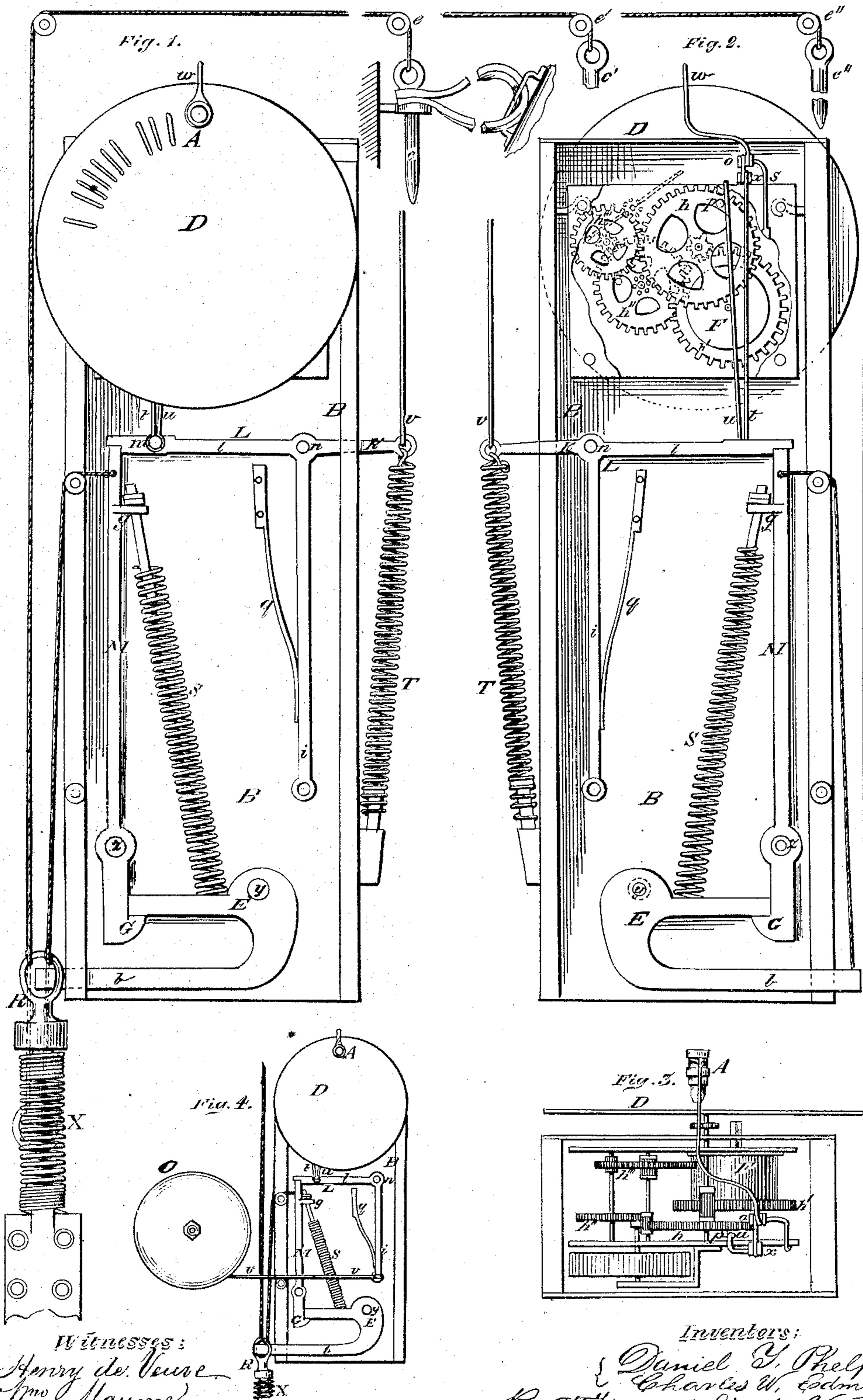


D. T. PHELPS & C. W. EDMONDS.  
Fire-Alarm Register.

No. 161,544.

Patented March 30, 1875.



Witnesses:  
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# UNITED STATES PATENT OFFICE.

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## IMPROVEMENT IN FIRE-ALARM REGISTERS.

Specification forming part of Letters Patent No. **161,544**, dated March 30, 1875; application filed June 29, 1874.

*To all whom it may concern:*

Be it known that we, DANIEL T. PHELPS and CHARLES W. EDMONDS, both of the city and county of San Francisco, State of California, have invented an Improved Fire-Alarm Register and Horse-Detaching Rig, of which the following is a specification:

Our invention relates to the combination of a marker and dial, as also a detaching-rig for horses belonging to a fire-engine, with mechanism so arranged as to be actuated by the movements of a fire-alarm hammer, and at once set free the horses thus placed in readiness, as well as to register on such dial, in proper form, the number of strokes of this hammer.

Figure 1 is a front longitudinal elevation of the fire-alarm register and horse-detaching rig embodying our invention. Fig. 2 is a rear longitudinal elevation of the principal parts of the fire-alarm register and horse-detaching rig embodying our invention. Fig. 3 is a plan of Fig. 2 with top plate removed. Fig. 4 is a front elevation of the fire-alarm register and unhitching-rig, wherein a gong is used within the engine-house in place of a bell at the top of the same, as in Figs. 1, 2, and 3.

With reference to Figs. 1, 2, and 3 of the drawing, B B is a box so arranged and constructed as to hold the principal parts of the mechanism embodying our invention. D is a dial-face, painted black, which is made to revolve on its axis by clock-work *h h' h''*, when wound up in the usual manner, by compression of the spring contained within the drum F. A is a chalk marker, fitted to a stout piece of wire, *w*, that pivots at *o* on the support *s*, behind the dial-face D, and is actuated vertically, up and down, for rubbing the chalk stick onto this face D, by means of the limb *t* of another piece of wire, bent into a V shape, connecting with it at *x*, the other limb, *u*, of this bent wire acting as a stop to the clock-work by reason of the fixed pin *p* in one of the wheels *h* meeting it at certain intervals. L is a T-shaped lever, pivoted at *n*, to which this V-shaped wire is adjusted by a screw, *m*. The longer horizontal arm, *l*, of this lever L rests on the top of the bar-catch M, and the shorter arm, *k*, is connected to a wire, *v*, leading to the hammer of a bell placed at the top of the

engine-house, and is also pressed downward by a spiral spring, T, fastened to the side of the box B B, so that the arm *l* may be forced upward when the wire *v* loses its tension after each stroke of the hammer. M, the perpendicular bar on which the end of the arm *l* of the lever L rests, is pivoted at *z*, and provided with a catch, G, and spiral spring S, which is attached at *g*, near the end of its longer arm, and is adjusted so as to rest on the hook-piece E. This hook E pivots at *y*, and has a bent arm, *b*, so arranged as to project through the box B B, for receiving a ring, R, forming part of a powerful spring, X, which is fastened to a convenient place in the engine-house. To this ring R two thin ropes are attached, one being secured over a pulley to the end of the longer arm of the perpendicular bar M, while the other passes over the pulleys *e e' e''* to the eyebolts *c c' c''*, which fit into the leather halters and staples, that hold the horses to their respective stalls in such manner that, on the withdrawal of these bolts, these horses shall be released from their positions.

The mode of operation is as follows: The clock-work, having been wound up, is stopped by the pin *p* of the wheel *h* meeting the wire *u*; then, when the hammer strikes on the bell of the engine-house, the connecting-wire *v*, being slackened, allows of the spring T forcing up the arm *l*, and thus pushing away the stop *u*, so that the dial D commences immediately to revolve, while the longer arm of the bar M falls to the right by reason of the superior force of the spring S acting on the long arm, so as to disengage the catch E; but the spring X, being now unsupported from the ring R falling off the arm *b*, pulls down the rope, securing the halters and staples by the bolts *c c' c''*, and releases the horses from their stalls, so that they immediately, of their own accord, walk to their places at the head of the engine, while each stroke of the hammer causes a corresponding upward movement of the lever *l* and wire *t*, producing a vertical reciprocating movement of the chalk marker A, attached to the wire *w* on the dial-face D, and thus writes on the dial as many marks as the hammer gives strokes; also, each pause of the hammer is recorded, since the dial keeps revolving all the time, and consequently spaces are left be-

tween these marks, as shown in Fig. 1, so that the number of the district wherein a fire may be can be readily ascertained.

With reference to Fig. 4, when a gong is used in an engine-house in place of a bell, the short arm *k*, spring *S*, and bell-connecting wire *v* are not required; but the wire is attached to the end of the perpendicular arm *i*, which is kept in place by a spring, *q*. This wire is actuated by the hammer of the gong *o*, and similar results are obtained, as already described, in unhitching the horses and recording the number of the district on the dial.

On the return of the engine the apparatus is reset by readjusting the ring *R* to the bar *l*.

We do not propose to claim, broadly, either the combination of a fire-alarm-registering mechanism with devices for unhitching the horses, or the horse-detaching devices separately, but confine ourselves to the special combination of the parts shown.

We claim as our invention—

1. In a fire-alarm-registering device, the marker *A*, dial *D*, wires *t w u*, and pin *p* in the wheel *h* of the clock-work *h h' h'' h''' F*, in combination with the T-shaped lever *L*, bar *M*, detaching-rig *R E e e*, spiral spring *T*, alarm-hammer connection, and bell attachment *v*, arranged substantially as and for the purposes described.

2. The combination of the T-shaped lever *L* with perpendicular bar *M*, fitted with spring *S*, catch *N*, registering and stopping wires *t w u*, respectively, alarm-hammer connection, and detaching-rig *R E e e*, with spring *T* and fire-alarm attachment *v*, arranged in the manner described, substantially as and for the purposes specified.

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