

(No Model.)

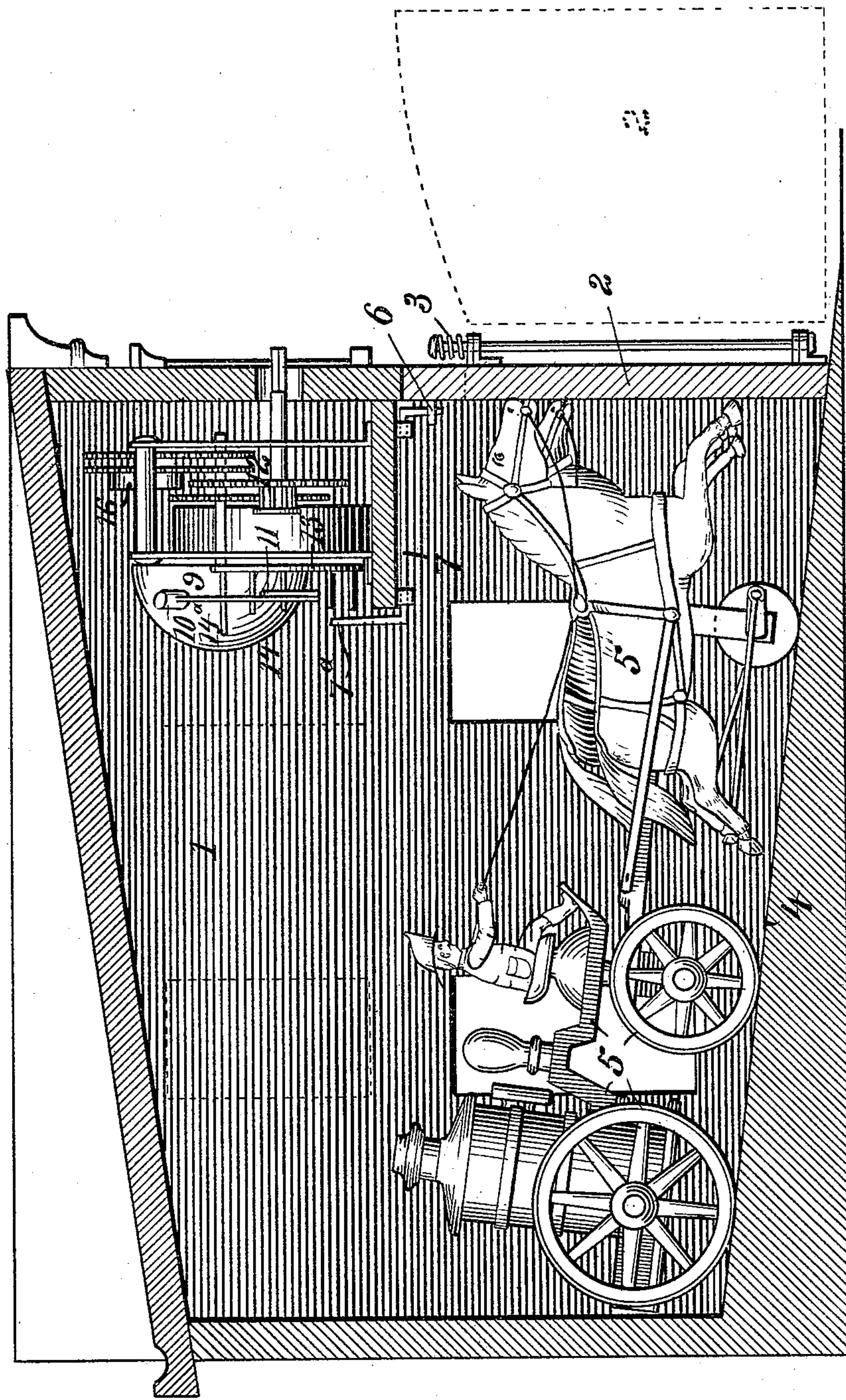
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E. R. IVES.
TOY FIRE ENGINE HOUSE.

No. 454,651.

Patented June 23, 1891.

Fig. 1.



WITNESSES

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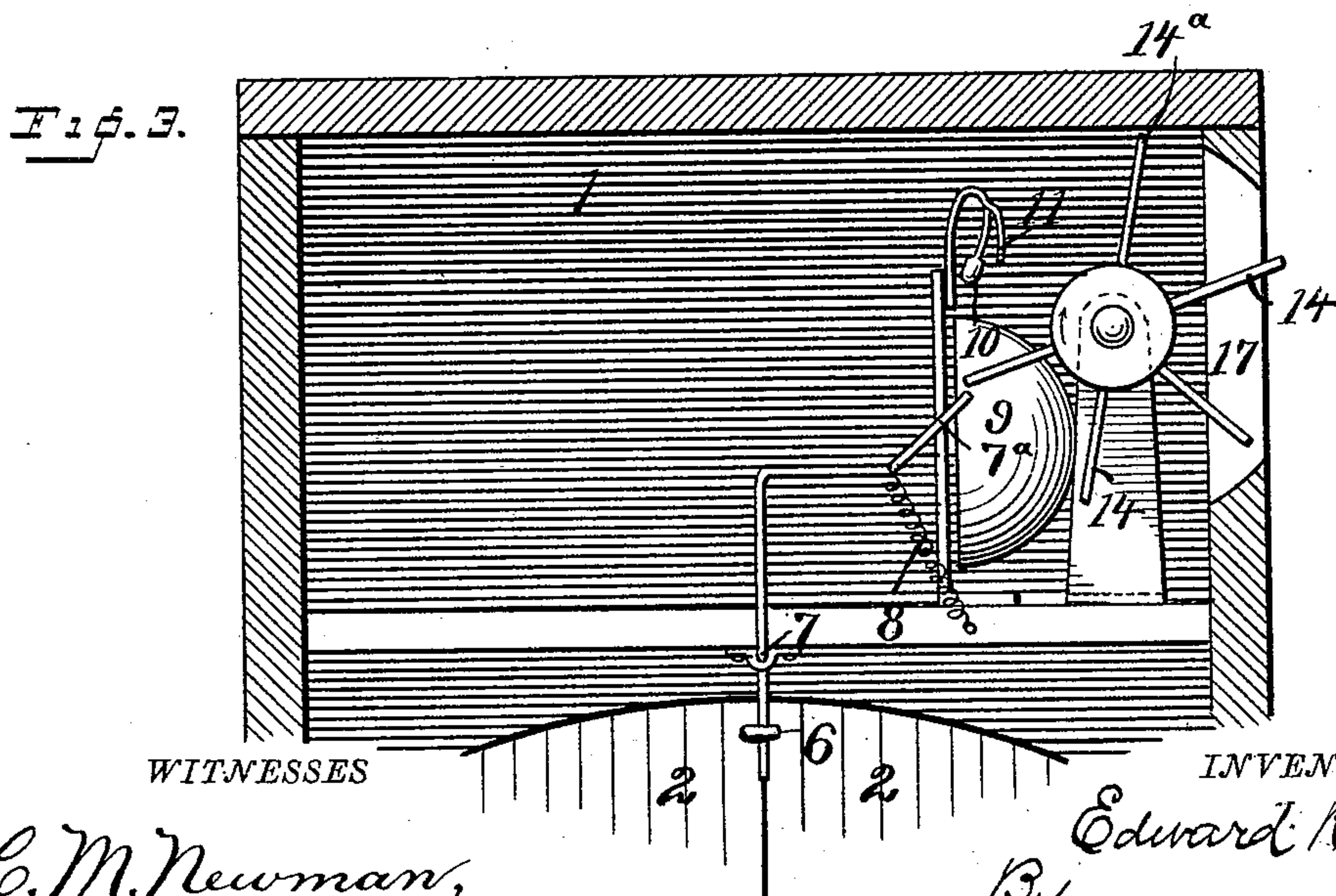
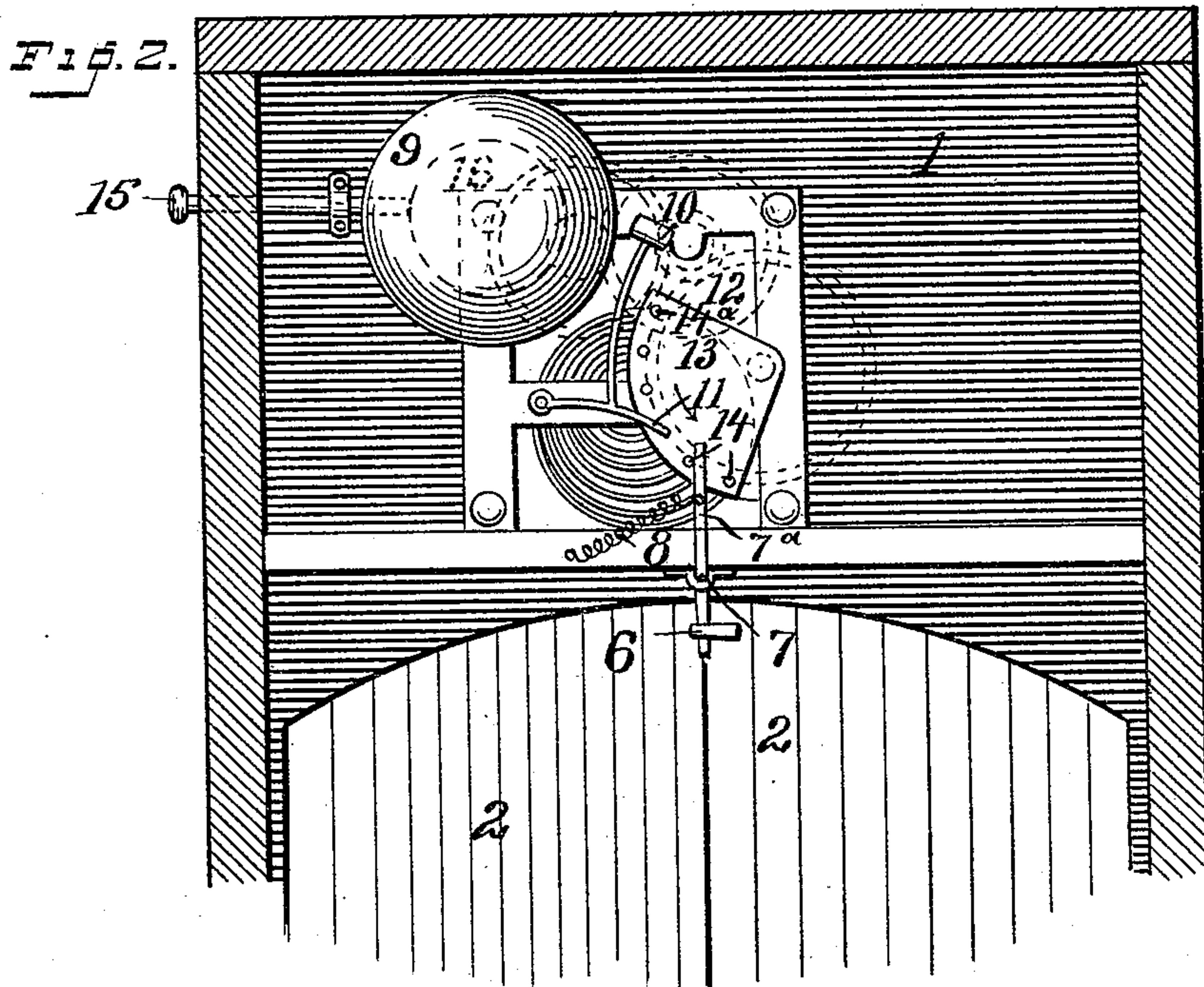
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UNITED STATES PATENT OFFICE.

EDWARD R. IVES, OF BRIDGEPORT, CONNECTICUT.

TOY FIRE-ENGINE HOUSE.

SPECIFICATION forming part of Letters Patent No. 454,651, dated June 23, 1891.

Application filed February 24, 1891. Serial No. 382,445. (No model.)

To all whom it may concern:

Be it known that I, EDWARD R. IVES, a citizen of the United States, residing at Bridgeport, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Toy Fire-Engine Houses; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to automatic toys, and has for its object to produce a toy of this class in which an alarm shall be sounded automatically, and the doors of a toy building be automatically thrown open, so as to allow a rolling toy—as, for instance, a fire-engine, a hose-carriage, or an ambulance—to move out of the building; and my invention consists in the special construction and combination of elements, which I will now describe, referring by numerals to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a longitudinal section of a toy engine-house, showing a clock-movement and a toy fire-engine and horses in elevation; Fig. 2, a transverse section of the engine-house, showing the clock-movement in front elevation; and Fig. 3 is a similar transverse section, showing a form in which the clock-movement is dispensed with.

1 denotes a toy house, which is provided with doors 2, having suitable opening-springs or spring-hinges 3.

In the present instance I have shown a toy house made to represent a fire-engine house. The floor of this house consists of an incline 4, made highest at the back—that is, opposite to the doors.

5 denotes a rolling toy, in the present instance a fire-engine with horses. A hose-cart, hook-and-ladder cart, or ambulance may of course be substituted, if preferred. Both of the doors are provided with suitable opening-springs or spring-hinges, and one of the doors, the right, as seen in Figs. 2 and 3, is made to overlap the other door slightly, so as to hold it in the closed position, and is itself provided with a suitable catch 6, which is engaged by an oscillating latch 7, having an arm 7^a, said latch being held at the locking position by a spring 8.

9 denotes a gong or other suitable alarm, and 10 a striker having an operating-arm 11.

12 denotes a clock-movement, which acts to rotate a plate 13, provided with outwardly-extending pins 14, each of which is made of suitable length to engage the operating-arm of the striker, and one of which (denoted by 14^a) is made longer than the others, so that in addition to engaging the operating-arm of the striker it will engage the arm 7^a of the oscillating latch. The operation of these pins will be clearly understood from Fig. 2 in connection with Fig. 1.

In the drawings, plate 13 is shown in the position in which the alarm is being sounded. Suppose, however, that plate 13 is in the reverse position from that shown in Fig. 2 and that the movement is wound up. As soon as the first pin upon the plate comes in contact with operating-arm 11 a blow will be struck upon the gong. This is followed at the proper interval by another blow.

It will of course be understood that any desired alarm within the limits of the size of the plate may be struck upon the gong and that by screw-threading the ends of the pins and threading the holes in the plate which they engage the alarm can be changed. In the present instance the alarm is 23.

It will be noticed that after the first two pins one pin is omitted, the interval being followed by three pins in regular order, the last pin being the long pin 14^a. This pin causes the last stroke of the alarm to be sounded, and an instant later engages the arm 7^a of the oscillating latch, trips the latch and disengages it from catch 6, so that the opening-springs will instantly throw the doors to the open position, as shown in dotted lines in Fig. 1. The rolling toy rests against the inner sides of the doors when they are in the closed position, so that the instant the doors are thrown open there is nothing to hold it in place. The incline is made sufficiently steep, so that the toy will start the instant the doors are thrown open and will acquire sufficient momentum to roll a number of feet away from the engine-house. After the doors have been thrown open plate 13 will continue to rotate as long as the movement is running, and will repeat the alarm at suitable intervals—that is, once during each rotation of the plate.

15 is a sliding stop, which is adapted to engage the fly-wheel 16 of the movement (see Fig. 1, also dotted lines, Fig. 2) to stop the movement at any time before it has run down.

5 In Fig. 3 I have shown another form of the toy in which plate 13 is operated by hand, the clock-movement being dispensed with. In this form the pins extend outward from the periphery of the plate and pass through an opening 17 in the side of the house, so that they may be readily operated by the fingers. In this form the operator strikes any desired alarm by giving the proper intervals between the actuations of the plate. The four shorter
10 pins pass arm 7^a without engaging it, the same as in the other form, each pin, however, engaging the operating-arm of the striker. Pin 14^a in this form engages the arm 7^a of the latch and releases the doors, permitting the
20 engine to run out, as before, and an instant later strikes the last blow of the alarm.

It will of course be apparent that the various details of construction may be considerably varied without departing from the principle of my invention.
25

I claim—

1. The combination, with a toy house having an inclined floor, spring-opened doors, and a latch for retaining said doors in the
30 closed position, of a rolling toy adapted to be placed on the inclined floor, resting against the doors in the closed position, so that when the doors are released the toy will roll out from the house.

35 2. The combination, with a toy house having an inclined floor, and spring-opened doors

and a spring-actuated latch adapted to hold the doors in the closed position, of a rolling toy adapted to be held upon the inclined floor by the doors, a gong, a striker therefor having an operating-arm and a rotating plate
40 having a series of pins 14, each of which engages the striker-arm, and a pin 14^a, which engages the striker-arm and also trips the latch.
45

3. The combination, with a toy house having an inclined floor, spring-opened doors, and a latch for retaining said doors in the closed position, of a rolling toy adapted to be placed on the inclined floor, resting against the doors,
50 alarm mechanism, and mechanism, substantially as described and shown, for sounding the alarm and tripping the latch.

4. A toy house having an inclined floor, spring-opened doors, one of which is provided
55 with a catch 6, a spring-actuated oscillating latch which engages the catch to hold the doors in the closed position, and a rolling toy adapted to be placed on the inclined floor, said toy resting against the door, in combination with a gong and striker, a clock-movement, and a rotating plate carried by said
60 movement, which is provided with a series of pins, each of which engages the striker, and another pin which engages the striker and also trips the oscillating latch.
65

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

EDWARD R. IVES.

Witnesses:

A. M. WOOSTER,
ARLEY I. MUNSON.