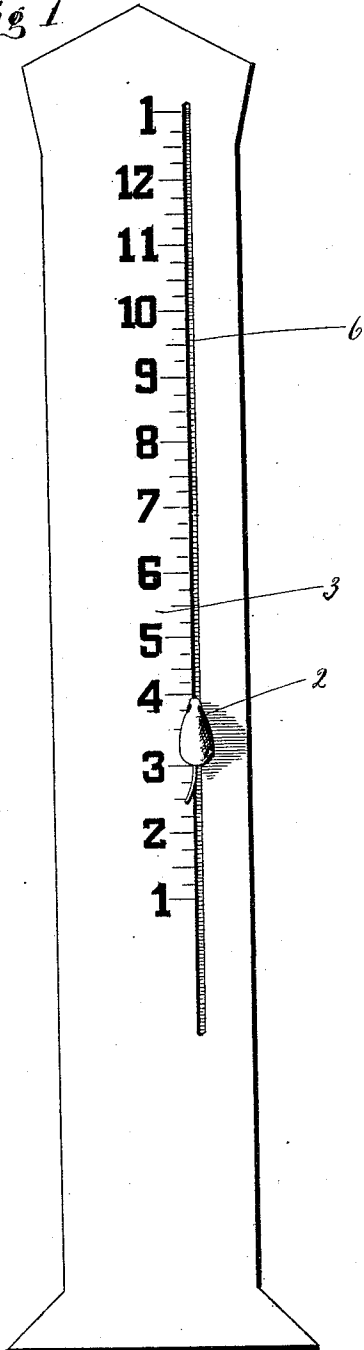


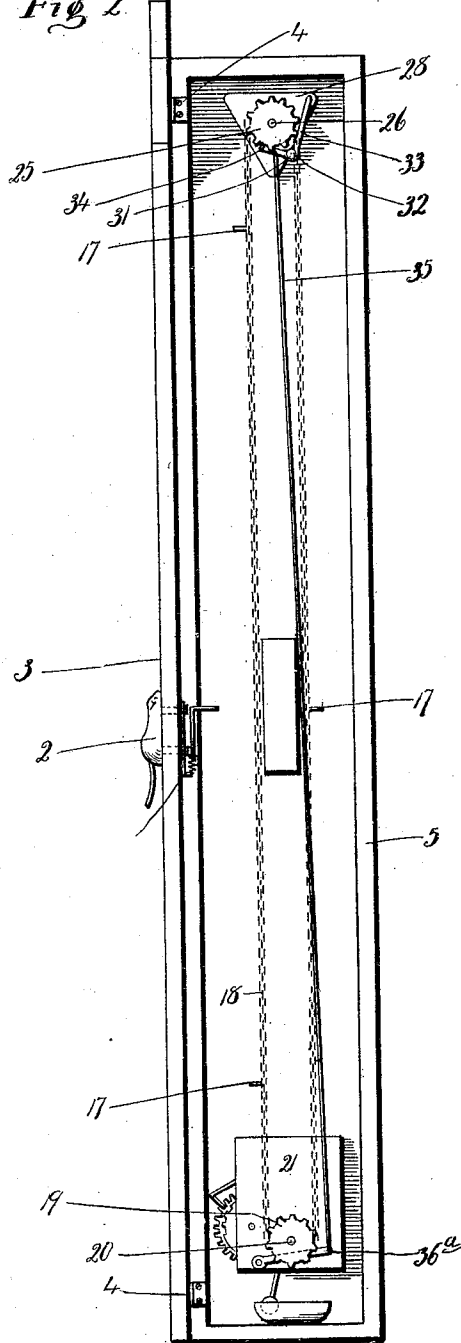
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Fig 1



Witness
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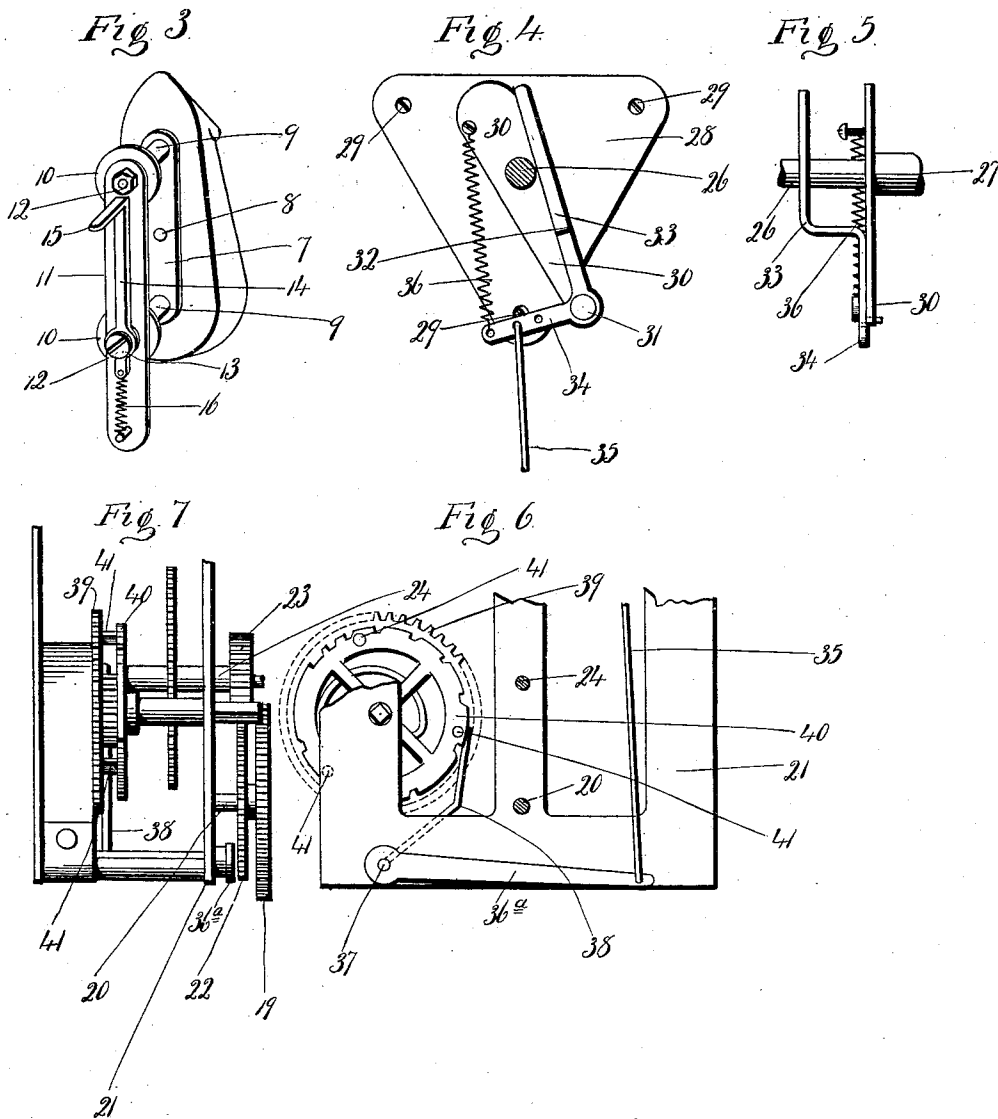
Fig 2



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991,235.

Patented May 2, 1911.
2 SHEETS-SHEET 2.



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UNITED STATES PATENT OFFICE.

WILSON E. PORTER, OF NEW HAVEN, CONNECTICUT, ASSIGNOR TO NEW HAVEN CLOCK CO., OF NEW HAVEN, CONNECTICUT, A CORPORATION.

CLOCK.

991,235.

Specification of Letters Patent.

Patented May 2, 1911.

Application filed October 23, 1909. Serial No. 524,171.

To all whom it may concern:

Be it known that I, WILSON E. PORTER, a citizen of the United States, residing at New Haven, in the county of New Haven and State of Connecticut, have invented a new and useful Improvement in Clocks; and I do hereby declare the following, when taken in connection with the accompanying drawings and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1 a view in front elevation of a "mouse clock" constructed in accordance with my invention. Fig. 2 a similar view thereof with the dial formed by the door of the clock, swung open so as to expose the interior mechanism of the clock. Fig. 3 a detached perspective view of the mouse and the parts directly carried thereby. Fig. 4 a detached view in front elevation of the frame-plate and throw-off lever located at the top of the clock-case, the upper sprocket-wheel being broken away. Fig. 5 a broken view of the same parts in side elevation. Fig. 6 a broken view in front elevation of the lower portion of the time-movement with particular reference to showing the main strike-wheel and the count-rim thereof, and the operating-wire operated thereby. Fig. 7 a view thereof in side elevation.

My invention relates to an improvement in "mouse clocks," so called, because constructed to illustrate the familiar old verse of,—

"Dickory, dickory dock,
The mouse ran up the clock,
The clock struck one,
The mouse fell down,
Dickory, dickory, dock."

In these clocks a mouse is moved from the lower portion to the upper portion of a vertical dial on which the figures from 1 to 12 inclusive are arranged in a vertical line with the figure 1 at the top and bottom of the line.

The object of my present invention is to produce a simple and reliable clock of the character described.

With these ends in view my invention consists in a clock having certain details of construction and combinations of parts as will be hereinafter described and pointed out in the claims.

In carrying out my invention, I employ

a dummy mouse 2 which is located upon the outer face of a long narrow, vertically arranged clock-dial 3 secured by hinges 4 to the clock-case 5 of which it forms the door. The said dial 3 is formed at one side of its vertical center with a long narrow vertical slot 6 arranged alongside of a vertically arranged series of figures running from 1 to 12 counting from the bottom up, and with an additional figure 1 at the top of the line, as the mouse must not only travel from 12 to 1 at the top of the dial, but from 1 to 2 at the bottom of the dial.

The mouse 2 as herein shown is provided upon its inner face with a sheet-metal plate 7 secured in place by a screw 8, and carrying two guide posts 9 extending through the slot, and at their inner ends supporting retaining-washers 10, and a retaining-plate 11 held in place by nuts 12 upon the reduced threaded inner ends of the posts 9. The said plate 11 carries a stud 13 forming a pivot for the suspension-lever 14 having at one end a suspension-finger 15, and at its opposite end a helical tripping-spring 16. The suspension-finger 15 aforesaid is successively engaged from the underside by a series of three lifting-fingers 17 carried by a constantly traveling sprocket-chain 18 located within the clock-case 5. At its lower end the sprocket-chain 18 passes over a sprocket-wheel 19, turning upon a stud 20 in the front movement-plate 21. A driving-wheel 22 made rigid with the sprocket-wheel 19 is meshed into and driven by a pinion 23 mounted upon the center-arbor 24, whereby the sprocket-chain is constantly driven. At its upper end the sprocket-chain passes over a corresponding sprocket-wheel 25 turning upon a stud 26 formed by reducing the outer end of a heavy post 27 mounted in a triangular frame-plate 28 fastened by screws 29 in the bottom of the clock-case 5. A carrier-plate 30 secured to the post 27 is provided at its lower end with a stud 31 forming a pivot for a bell-crank throw-off lever 32 having a throw-off arm 33 and an operating arm 34 which latter has connected to it the upper end of a long wire 35 extending downward to the bottom of the case 5. A helical spring 36 connected with the arm 34 of the said throw-off lever, and to the upper end of the carrier-plate 30, exerts a constant effort to turn the said lever on its pivot 31 so as to bring its throw-off

arm 33 into play for pushing the suspension-finger 15 of the suspension-lever 14 from the lifting fingers 17 of the sprocket-chain 18.

At its lower end the connecting wire 35 is attached to the outer end of an operating-lever 36^a mounted upon an arbor 37 pivoted between the plates of the time-movement and also carrying an operating-wire 38 extending between the main strike-wheel 39 and the count-rim 40 of the strike-train of the time-movement. The said wheel 39 and rim 40 are secured together by three pins 41 located at equal distances apart and coacting therefore once in four hours with the wire 38, while the clock is actually striking. When the wire 38 drops off from one of the pins 41, the spring 36 asserts itself and throws the throw-off lever 33 from left to right. This will happen as often as the wire 38 drops off from one of the pins 41 and that will depend upon the number of pins 41 employed. But the operation of the throw-off lever can be effective of course, only when the mouse has reached the end of his upward journey, which is once in twelve hours. Therefore at 1 o'clock in the afternoon and at 1 o'clock at night, just as the clock is striking 1, the throw-off lever will be quickly swung from left to right and engaged with the suspension finger 15, overcoming the tension of the spring 16 and pushing the finger 15 off the lifting finger 17 with which it was engaged, and by which the mouse was lifted. The mouse, now unsupported, falls to the bottom of the slot 6 where the suspension finger 15 finds and re-engages with the upper face of another lifting finger 17 carried by the sprocket chain 18 and so on.

I claim:—

1. In a mouse-clock, the combination with a dial having a long slot, of a dummy mouse, a suspension-device carried by the mouse, a time-movement located adjacent to the lower end of the said slot, a throw-off mechanism located adjacent to the upper end of the said slot, a sprocket-chain driven by the said time-movement and co-acting with the said suspension-device in raising the mouse over the face of the dial, and an operating connection, independent of the said

chain, between the time-movement and the throw-off mechanism which latter operates upon the said suspension-device when the mouse reaches the limit of its upward excursion, for dislodging the same from the sprocket-chain, whereby the mouse drops back to its starting position.

2. In a mouse clock, the combination with a dial having a long slot, of a dummy mouse, a suspension-lever pivotally connected with the mouse, a spring for the said lever, a time-movement located adjacent to the lower end of the said slot, a throw-off mechanism located adjacent to the upper end of the said slot, a sprocket-chain driven by the time-movement and carrying lifting-fingers co-acting with the said suspension-lever for lifting the mouse, and connection, independent of the said chain, between the time-movement and the throw-off mechanism, whereby the same is operated when the mouse reaches the limit of its upward excursion, to dislodge the suspension-lever from one of the lifting-fingers carried by the said chain, permitting the mouse to drop back into its starting position.

3. In a mouse clock, the combination with a dial having a long slot, of a dummy mouse, a suspension-device carried by the mouse, a time-movement located adjacent to the lower end of the slot, a spring-controlled throw-off lever located adjacent to the upper end of the slot, a sprocket-chain driven by the time-movement and provided with lifting-fingers which co-act with the said suspension-device for lifting the mouse, and a connection, independent of the said chain, between the time-movement and the said throw-off lever, whereby the said lever operates, when the mouse is at the limit of its upward excursion, to disengage the suspension-device from one of the said lifting-fingers and thus permit the mouse to drop back to its starting position.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

WILSON E. PORTER.

Witnesses:

GEORGE D. SEYMOUR,
CLIFFORD J. REED.