

(No Model.)

C. M. BURTON & J. C. GOULD.
DEVICE FOR OPERATING CLOCKS.

No. 472,028.

Patented Apr. 5, 1892.

FIG 1.

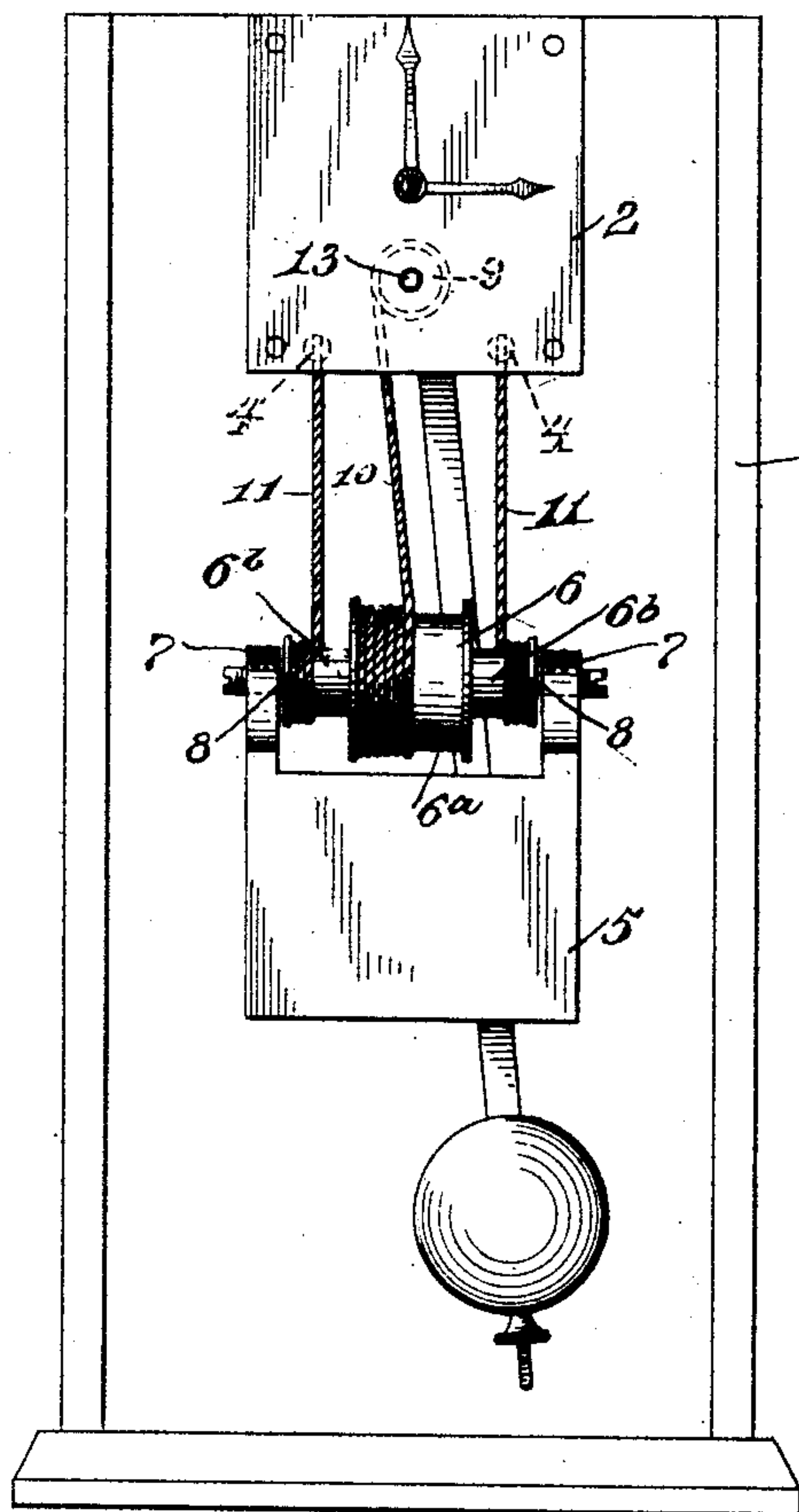
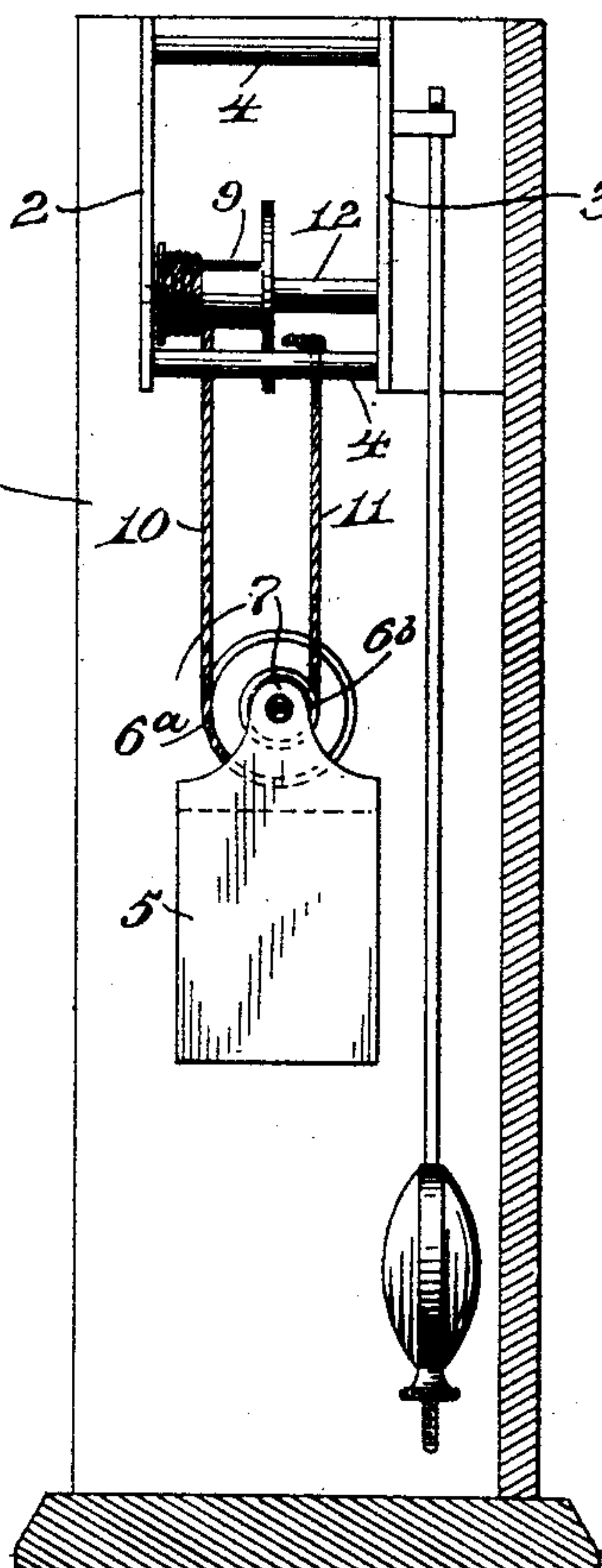


FIG 2.



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UNITED STATES PATENT OFFICE.

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DEVICE FOR OPERATING CLOCKS.

SPECIFICATION forming part of Letters Patent No. 472,028, dated April 5, 1892.

Application filed June 1, 1891. Serial No. 394,719. (No model.)

To all whom it may concern:

Be it known that we, CHARLES M. BURTON and JOHN C. GOULD, citizens of the United States, residing at New Haven, in the county of New Haven and State of Connecticut, have invented certain new and useful Improvements in Devices for Operating Clocks; and we 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.

Our invention has for its object to produce a device for operating clock-movements upon the weight principle which shall be simple and inexpensive, practicably impossible to get out of repair, easily and quickly wound, and which shall occupy so little space as to adapt it perfectly to low-priced and small-sized thirty-hour and eight-day clocks.

It is of course well understood by those familiar with the art that clocks operated by the weight principle run more evenly and regularly and require much less adjustment than ordinary spring-clocks. The weight principle, however, has not gone into general use in low-priced and small-sized clocks on account of the amount of space required. In order to adapt the weight principle to all sizes and grades of clocks, we have devised the novel clock-operating device of which the following description, in connection with the accompanying drawings, is a specification, numerals being used to designate the several parts.

Figure 1 is a front elevation illustrating our novel operating device as applied to a clock-movement; and Fig. 2 is a side elevation corresponding therewith, the frame of the clock in Fig. 2 being in section.

1 denotes the frame of a clock, and 2 and 3 the front and back plates of a clock-movement, which are connected by cross-pieces 4.

The essential principle of our invention is that the weight is provided with a winding-drum having two diameters, to which the cords are attached, three cords being ordinarily used in practice.

5 denotes the weight, and 6 the winding-drum mounted therein, said winding-drum having a greater diameter, as at 6^a, and a lesser diameter, as at 6^b. The special manner in which the drum is mounted in the

weight is of course not of the essence of our invention. In the present instance we have shown the weight as provided with ears 7, each ear having an adjustable cone-bearing 8, which engages one end of the drum, as clearly shown in the drawings.

9 denotes the driving-drum of a clock-movement. As the special style of movement used has nothing to do with our present invention, we have not deemed it necessary to require illustration in detail.

10 is a cord, one end of which is attached to driving-drum 9 and the other to the greater diameter 6^a of the winding-drum, and 11 denotes other cords, the upper ends of which are attached to any fixed part. In the present instance we have shown them attached to cross-pieces 4, the lower ends being attached to the lesser diameter 6^b of the winding-drum, cords 11 winding, however, in the opposite direction from cord 10, so that as cord 10 is unwound cords 11 are wound up, and vice versa.

12 denotes the shaft of driving-drum 9, the end of which is squared, as at 13, to receive a key for the purpose of winding.

In use the movement is wound by applying the key to the squared end of the driving-drum shaft and winding cord 10 upon the driving-drum. As said cord is wound upon the driving-drum it is of course unwound from the greater diameter of the winding-drum and cords 11 are simultaneously wound upon the lesser diameters of the winding-drum.

It will of course be understood that we do not limit our invention to any special diameters of driving-drum and winding-drum, it being simply necessary that the driving-drum and the greater diameter of the winding-drum bear such relation to each other that as cord 10 passes from one to the other cords 11 will be simultaneously wound upon or unwound from the lesser diameters of the winding-drum, the principle of operation being that the entire power of the weight is exercised at all times; but, owing to the use of a plurality of cords and a winding-drum having two diameters as a means of connecting the weight with the driving-drum, the amount of space required for the movement of the weight is reduced to the minimum.

Having thus described our invention, we claim—

1. The combination, with a freely-suspended weight having a drum with two diameters 5 mounted therein, of a driving-drum having a hub for the attachment of a key, a cord extending from the driving-drum to the greater diameter of the winding-drum, and other 10 parts and whose lower ends wind in the opposite direction on the lesser diameter of the winding-drum.

2. A suspended weight provided with ears 7, a driving-drum having greater and lesser diameters adapted to receive cords, and cone- 15 bearings which pass through the ears and engage the ends of the drum.

In testimony whereof we affix our signatures in presence of two witnesses.

CHARLES M. BURTON.
JOHN C. GOULD.

Witnesses:

HARRY GRANT THOMPSON,
SAMUEL E. MOWER.