

(Model.)

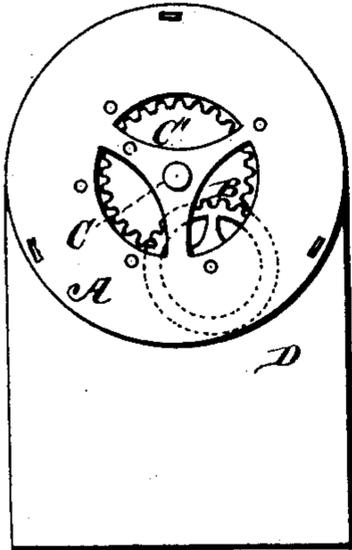
A. E. HOTCHKISS.

CLOCK MOVEMENT.

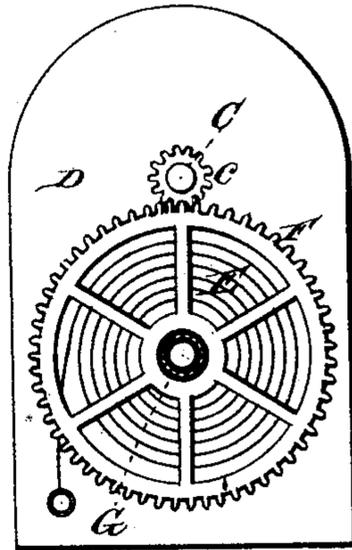
No. 252,465

Patented Jan. 17, 1882.

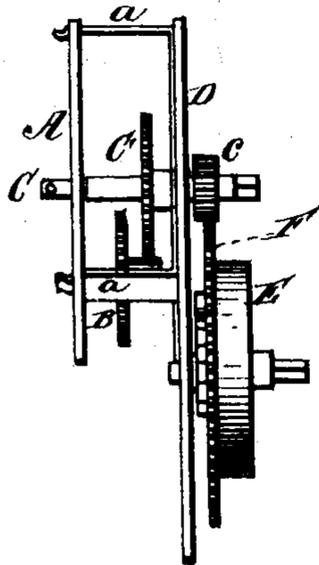
*Fig. 1.*



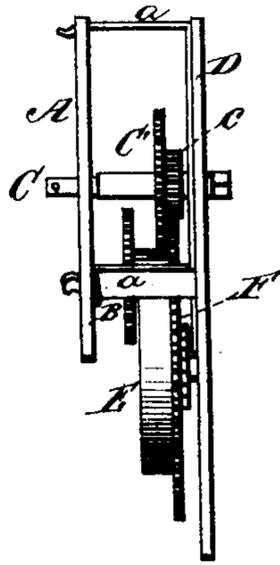
*Fig. 2.*



*Fig. 3.*



*Fig. 4.*



*Witnesses:*

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*by*

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# UNITED STATES PATENT OFFICE.

ARTHUR E. HOTCHKISS, OF CHESHIRE, CONNECTICUT.

## CLOCK-MOVEMENT.

SPECIFICATION forming part of Letters Patent No. 252,465, dated January 17, 1882.

Application filed January 22, 1881. (Model.)

*To all whom it may concern:*

Be it known that I, ARTHUR E. HOTCHKISS, a citizen of the United States, residing at Cheshire, in the county of New Haven and State of Connecticut, have invented certain new and useful Improvements in Clock-Movements; 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, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

The object of this invention is to lessen the thickness of small clocks similar in their general construction and appearance to that described in the patent granted me on the 4th day of November, 1879. This general object is attained by the construction and combination of the back plate, the mainspring, main wheel, and center pinion, said mainspring and main wheel being arranged on one side of said plate in the lower part of the clock and mounted on a stud projecting therefrom.

In the accompanying drawings, Figure 1 represents a front view of a front plate, a back plate, and some of the train of wheels arranged between the two. Fig. 2 represents a rear view of the back plate, showing the main wheel and mainspring attached thereto. Fig. 3 represents a side view of clock-movement and plates, and Fig. 4 represents the mainspring and main wheel on the front of the plate.

Similar letters designate similar parts in all the figures.

In another application I have shown and described the attachment of the main wheel and mainspring to opposite sides of the lower part of the back plate of the movement. When they are thus mounted, however, it is impossible to have access to both at the same time without separating the movement from the clock-case. It is also impossible under such circumstances to use the main wheel as a shielding-plate for the mainspring. These objections I obviate by the construction hereinafter set forth and claimed.

In the annexed drawings, A designates the front plate; *a*, the pillars; B, the train of wheels; C, the center shaft; C', the center

wheel; *c*, the center pinion, and D the back plate. The wheels B are only shown in part, as their arrangement has been shown in my aforesaid patent, and is also shown and described in my application above mentioned.

E designates the mainspring, and F the main wheel, both of which are mounted on a winding-arbor, G, which passes through back plate, D, and through or into the back of the clock-case. The construction of these parts is substantially the same as in the application aforesaid, except that said wheel is shown of sufficient size to engage directly and immediately with the center pinion. It may, however, be made smaller and a transmitting-wheel interposed between them. The said mainspring and main wheel are arranged on the same side of the back plate, the one being directly in front of the other. In Fig. 2 both of these are shown arranged on the back of the back plate, the spring being between the wheel and the plate, so that the wheel in a measure shields the spring and may guide the unwinding of the latter.

In Fig. 3 the mainspring and main wheel are attached to the back of the back plate, but the spring is outside of the wheel.

In Fig. 4 the mainspring and main wheel are attached to the front of the back plate, and the wheel is between the spring and the plate. Of course, as before, said wheel and spring may be transposed.

In all the arrangements above described the wheel F and spring E are attached solely to the back plate, D, and removable therewith. The front plate, being used for the support only of the remaining wheels, of course extends only from the top of the movement down to the middle thereof, or nearly to the middle.

The winding-arbor may be solid, as shown in Fig. 3, or it may be a hollow sleeve mounted on a stud fixed to the back plate, as in Figs. 2 and 4. The connection between the mainspring and the main wheel is made by means of a pawl carried by the main wheel and a ratchet-wheel which turns with the winding-arbor, the main wheel itself being loose upon said arbor.

Under some circumstances the use of a strong stud projecting from the back plate as a bearing for a hollow arbor has decided ad-

vantages. Thus when the arrangement is as  
in Figs. 2 and 4 there is no need to carry the  
winding-arbor through the back plate, and a  
very simple and strong support is assured with-  
out any bracket or other additional bearing.  
When arranged as in Fig. 4 the clock is most  
conveniently wound from the front.

I am aware that it is not broadly new to  
make a time-piece having only one bearing for  
the arbor of its mainspring and main wheel,  
and therefore I do not broadly claim the same;  
but,

Having thus fully described my invention,  
what I claim as new, and desire to secure, is—

In combination with a supporting-plate for  
a clock-movement, a stud projecting from said  
plate, a hollow arbor sleeved thereon, and a  
mainspring and main wheel mounted on said  
arbor and arranged on the same side of the  
said plate.

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

ARTHUR E. HOTCHKISS.

Witnesses:

WM. H. BABCOCK,  
EDWARD G. SIGGERS.