

(No Model.)

A. E. HOTCHKISS.

CLOCK MOVEMENT.

No. 251,363.

Patented Dec. 27, 1881.

Fig. 1.

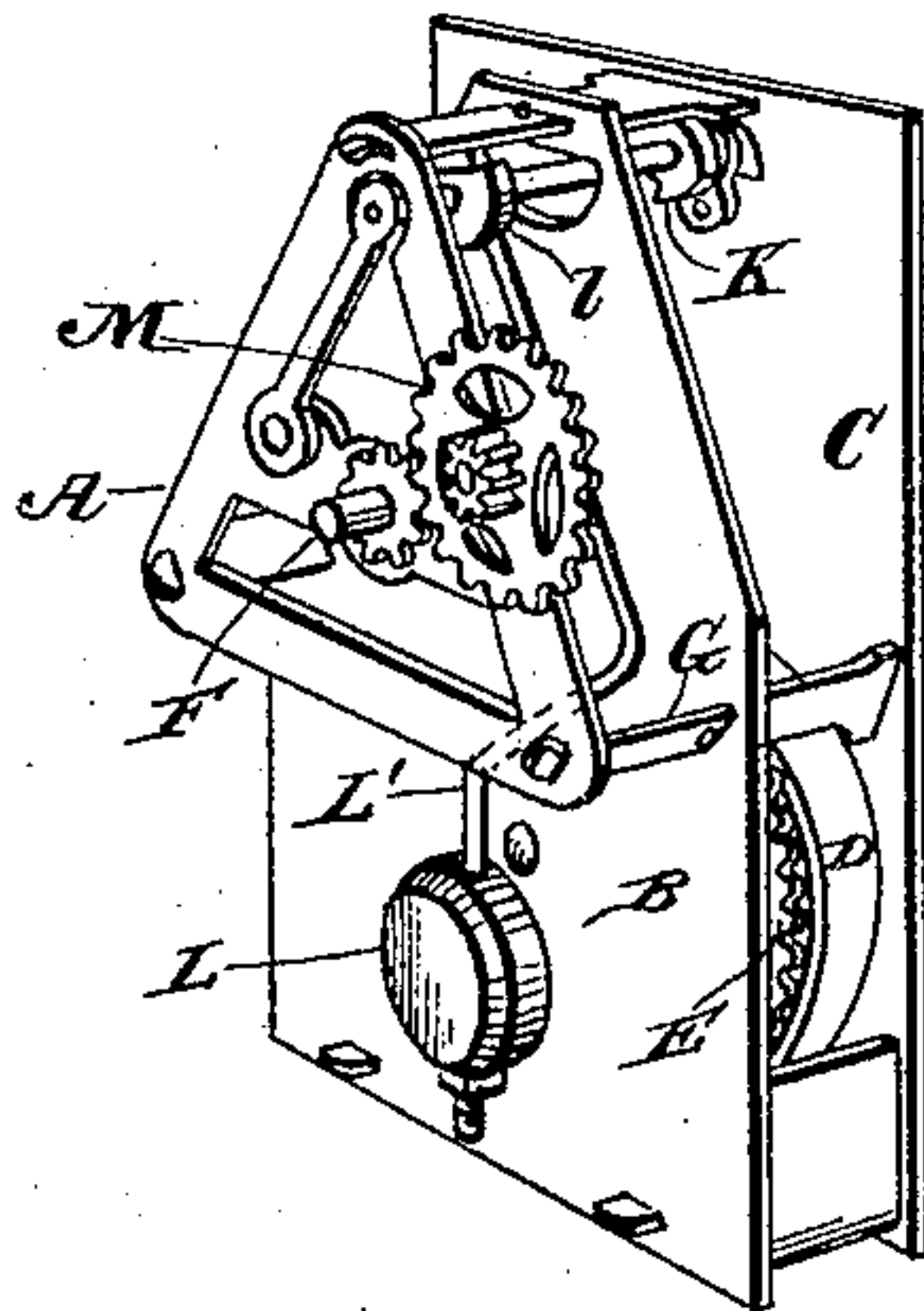


Fig. 2.

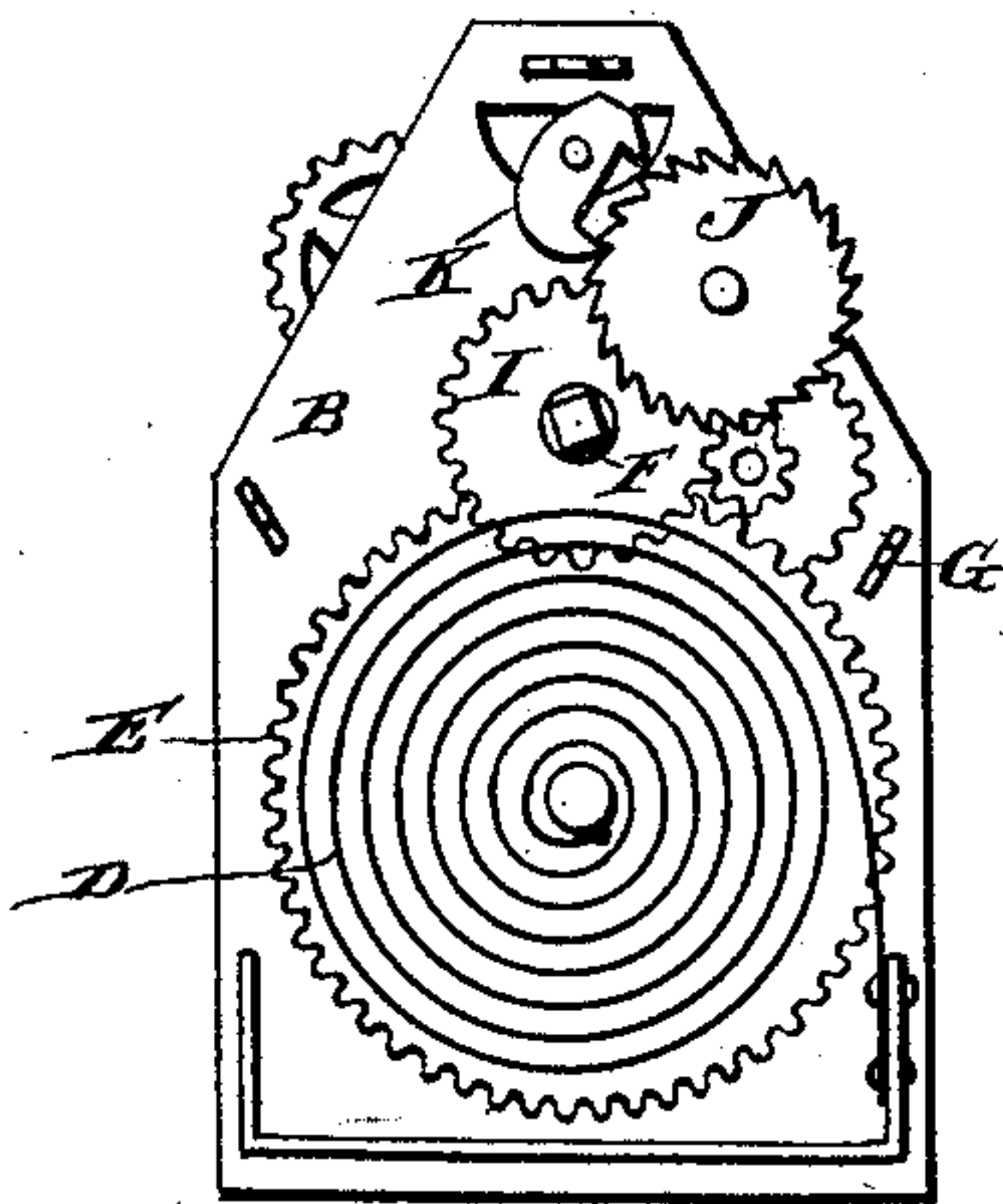
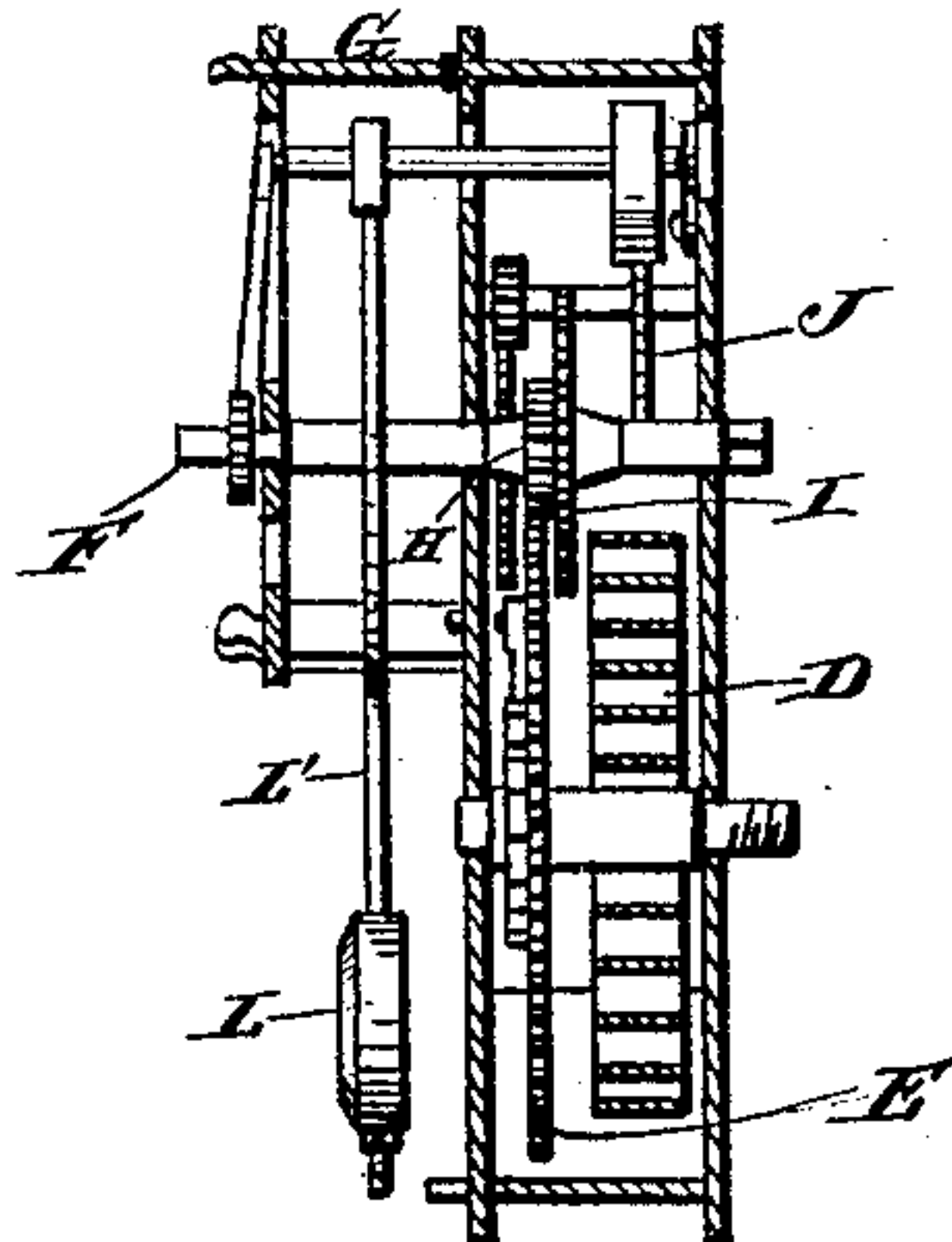


Fig. 3.



Witnesses.

Robert D. Pratt.

Edward G. Siggers.

Inventor.

Arthur E. Hotchkiss.

By W. H. Babcock.

Atty.

UNITED STATES PATENT OFFICE.

ARTHUR E. HOTCHKISS, OF CHESHIRE, CONNECTICUT.

CLOCK-MOVEMENT.

SPECIFICATION forming part of Letters Patent No. 251,363, dated December 27, 1881.

Application filed May 27, 1881. (No 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.

This invention is an improvement on the patent granted to Frederick A. Lane, January 25, 1881, No. 237,028, for a new and improved clock; and it consists, principally, in locating the entire movement between the intermediate plate and the back plate, except the pendulum, which is between the intermediate plate and the front plate, and the dial mechanism, which is on the front plate. This construction utilizes the space between the back plate and intermediate plate, near the top of the clock, which in Lane's construction is left unoccupied.

In the accompanying drawings, Figure 1 represents a perspective front view of my improved clock movement and plates. Fig. 2 represents a rear elevation, with the back plate removed; and Fig. 3 represents a vertical section of the same, through the center shaft, on the axial line thereof.

Similar letters of reference indicate corresponding parts in the several figures.

A designates the front plate, B the middle plate or intermediate plate, C the back plate, D the mainspring, E the main wheel, F the center shaft, and G the pillars or posts, all of which parts are constructed and arranged substantially as in the patent of Lane aforesaid.

In Lane's patent all of the clock-movement after the center pinion is arranged in front of the middle plate, and in consequence a considerable space is left unoccupied near the top of the clock, between the back plate and the middle plate, while the pendulum is crowded by the wheels, or requires the clock to be made thicker from front to rear, in order to give the pendulum sufficient room.

To avoid these disadvantages I adopt the following construction:

H designates the center pinion, which receives motion from main wheel E, and thus, as usual, causes the rotation of center wheel, I.

This center wheel is not located in front of the middle plate, as in Lane's patent, but between the center pinion and the back plate, and transmits rotary motion, through the usual pinions and wheels, to the shaft of escapement-wheel J, which is engaged by the pallets of verge K, all of these parts being located in the upper part of the space between the back plate and the middle plate, the verge being attached to the shaft or pivot-rod of the pendulum, near the rear end of said rod.

The pendulum L and pendulum-rod L' are left in the space between the middle plate and the front plate, said rod L' being attached to a disk, l, on said pivot-rod, about midway between these plates. It is obvious that with this construction the plates can be brought much closer together than would be possible if some of the train of wheels were interposed between the plates; also, that there will be much less danger that the parts may interlock when tilted in handling, or in case of some accidental lateral bending of the pendulum-rod. This feature of providing the pendulum with sufficient space to swing in without danger of interlocking with other parts, while retaining all the advantages of Lane's invention, constitutes the most important portion of the present improvement.

The dial mechanism M is shown as attached to front plate, A, but may be attached to the rear side thereof.

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

1. The combination of the front plate, middle plate, and back plate with the actuating mechanism, train of wheels, and verge, all arranged between the back plate and middle plate, the pendulum between the middle plate and front plate, and the dial mechanism on the front plate, substantially as set forth.

2. The pendulum and verge attached to the pivot-rod or shaft, near the opposite ends thereof, and on opposite sides of the middle plate, in combination with the actuating mechanism and train of wheels, all on the rear side of the middle plate, or between it and the back plate.

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

ARTHUR E. HOTCHKISS.

Witnesses:

D. R. WRIGHT,

JAMES S. THOMPSON.