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W. E. PORTER.
WINDING MECHANISM FOR CLOCKS.
APPLICATION FILED JAN. 16, 1904.

Fig. 1

Fig. 2

Fig. 3

Fig. 4

Fig. 5

Witnesses.

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To all whom it may concern:

Be it known that I, Wilson E. Porter, of the city and county of New Haven and State of Connecticut, have invented certain new and useful Improvements in Clocks, of which the following is a full, clear, and exact description when taken in connection with the accompanying drawings, which form a part thereof, and in which—

Figure 1 represents a vertical section through a clock-movement embodying my improvement, showing the main gear and associated parts; Fig. 2, a sectional view through the mainspring; Fig. 3, a transverse section on line 3 of Fig. 2; Fig. 4, a detail front view of the spring ratchet-plate, and Fig. 5 an enlarged detail edge view of the same.

In all figures similar letters of reference represent like parts.

This invention relates to clocks, and more particularly to the connection between the mainspring and main gear, and has for its object the production of a novel, simple, and efficient method of transmitting the tension of the mainspring to the gear and of the other improvements and combinations of parts set forth and claimed hereinafter.

To this end the invention consists in a flat spring-plate secured to the winding-post of the mainspring and having struck or stamped thereon a series of spring-lips bent out of the plane of the gear to engage in one or more of a series of properly-disposed slots in the main gear against which the plate is adapted to bear.

The details of the construction may be more readily understood by reference to the drawings, in which the part designated by the letter A represents one plate of the movement-frame, and B the main gear, herein shown in mesh with a lantern-pinion C.

E designates the mainspring, with its outer end shown secured to the frame at the pillar F and its inner end connected by a pin O or otherwise to the winding-arbor D.

H is a flat spring-plate having a series of curved spring-lips K, stamped out and bent out of the plane of the plate. The plate H is provided with a squared hole P, through which passes the winding-arbor D, so that the plate will rotate therewith. It is obvious then any suitable means may be employed to rigidly connect the arbor and plate.

L is a shoulder or flange on the arbor adapted to bear on the side of the main gear opposite to the plate H, thus holding the plate in contact with the gear.

M designates a plurality of slots or notches in the surface of the gear disposed about the center, and when the parts are properly assembled one or more of the lips K of the plate will take into these slots.

N is the finger-piece of the winding-arbor.

In operation when the winding-arbor is turned to increase the tension of the spring the plate H will be turned therewith, so that each of the lips K will slide over the surface of the gear B and successively drop into the slots of the main gear, where they will engage to prevent the reverse movement of the plate H independently of the main gear B.

By this means is provided an effective device for transmitting the tension of the spring to the main gear, simple in construction, and powerful in its operation. By the proper arrangement in the number and position and length of the lips and slots the slightest movement of the arbor in increasing the tension of the spring will be taken up by the gear.

Having now described my invention, which may vary in its details without departing from the spirit thereof, what I claim, and desire to secure by Letters Patent, is—

1. In a clock or similar article the combination with a gear having a series of cut-out portions; of a spring; a winding-arbor to which one end of said spring is connected; and a plate mounted on said arbor to rotate therewith and having a plurality of lips bent out of the plane of said plate to engage said cut-out portions in said gear, substantially as described.
2. In a clock or similar article, the combination with a gear having a series of cut-out portions; of a spring; a winding-arbor to which one end of said spring is connected; a plate mounted on said arbor to rotate therewith and having a plurality of lips bent out of the plane of said plate to engage said cut-out portions in said gear; and means for holding said plate substantially in contact with said gear, substantially as described.

In witness whereof I have hereunto set my hand on the 27th day of August, 1903.

WILSON E. PORTER.

Witnesses:

GEORGIE T. NOLIN,
KATHERINE TURBERT.