

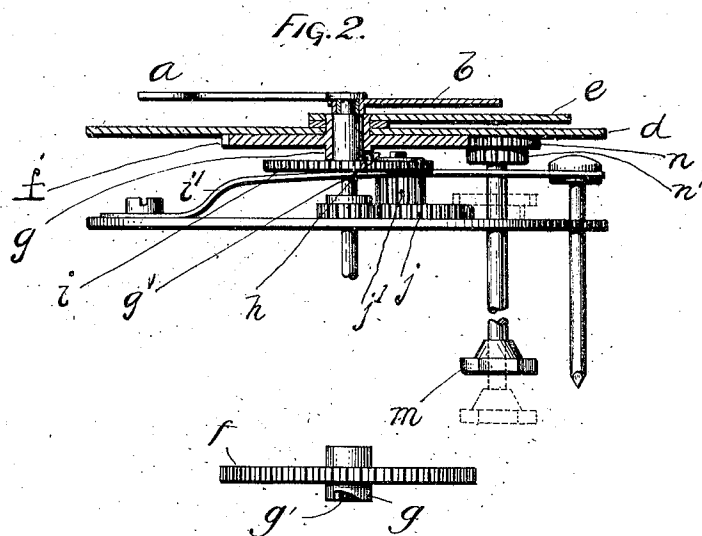
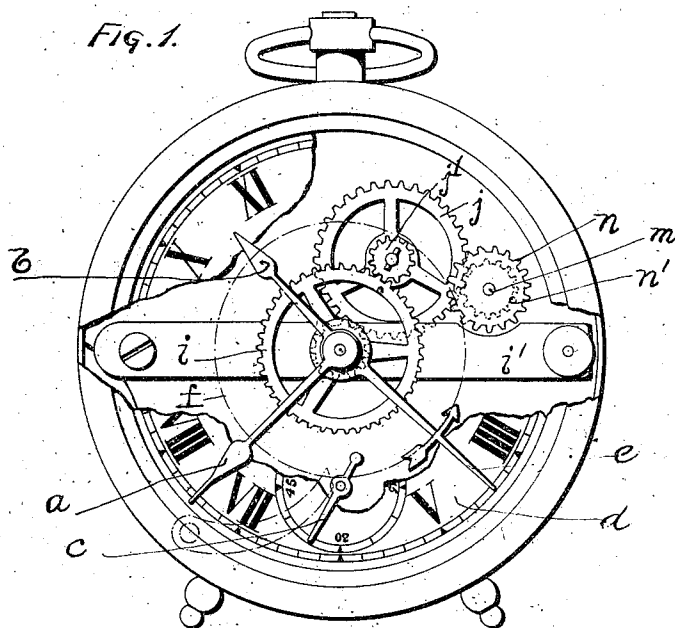
No. 871,019.

PATENTED NOV. 12, 1907

F. R. ALFORD.

CLOCK.

APPLICATION FILED OCT. 29, 1906.



WITNESSES:

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FRANK R. ALFORD, OF WINSTED, CONNECTICUT, ASSIGNOR TO THE WM. L. GILBERT CLOCK COMPANY, OF WINSTED, CONNECTICUT, A CORPORATION OF CONNECTICUT:

CLOCK.

No. 871,019.

Specification of Letters Patent.

Patented Nov. 12, 1907.

Application filed October 29, 1906. Serial No. 340,992.

To all whom it may concern:

Be it known that I, FRANK R. ALFORD, citizen of United States of America, residing at Winsted, in the county of Litchfield and State of Connecticut, have invented certain new and useful Improvements in Clocks, of which the following is a specification.

The herein described invention relates particularly to alarm clocks in which there are suitable time trains for operating hour, minute and second hands, the alarm train for operating the alarm and the alarm-set-indicator mounted in front of the dial.

The invention is of especial utility in connection with clocks of small size, for instance what is known in the trade as the two-inch movement, and its particular advantages being that it allows of the use of a second-hand and provides a much more accurate alarm-setting indicator than is possible by the usual setting devices.

In the drawings—Figure 1 is a front view of a clock with parts broken away to show construction. Fig. 2 is a detail sectional view illustrating the application of my invention. Fig. 3 is a detail view of the cam wheel.

Referring to the drawings *a* is the minute-hand, *b* the hour-hand and *c* the second-hand, all driven by a time-train of ordinary construction and arrangement.

d is the dial.

e is the indicator secured to a sleeve which surrounds the minute-hand staff; secured to this sleeve just under the dial is the cam-wheel *f* having a hub *g* with a cam-notch *g'* with which coöperates a pin *h* on one of the wheels *i* of the time-train to the hub of which the minute-hand *a* is secured. The spring *i'* exerts a pressure on the wheel *i* to raise it when the pin *h* comes opposite the cam-notch *g'*. This wheel *i* is driven from the minute-wheel *j* through the pinion *j'* in the usual manner.

As a means for setting the time-hands and also the alarm-indicator, I provide a longitudinally movable shaft *m* at the end of which there is mounted a pair of pinions *n n'* of different sizes, the alarm-set pinion *n* being adapted to mesh with the cam-wheel *f* and the time-set pinion *n'* being adapted to mesh with the minute-wheel *j*. These two pinions are located close together on the shaft *m* and but one of them can be in mesh with its coöperating wheel at a time.

By providing a setting device such as herein de-

scribed the size of the cam-wheel *f* is reduced so as to permit of the use of a second-hand shaft.

The time-set and alarm-set are entirely independent of one another except for the fact that they are both mounted on the same operating shaft and it is impossible to have but one of the setting trains operative at a time.

The construction is cheaper than the usual construction inasmuch as these setting pinions can be blanked out of sheet metal and the size of the cam-wheel is greatly reduced.

I claim as my invention:

1. The combination with an alarm clock having hour, minute and second hands and an alarm-set-indicator located in front of the dial, of independent means for setting the time-hands and the alarm-indicator, but one of said setting means being operative at a time and a common actuating device for said setting means.

2. The combination with an alarm clock having hour, minute and second hands and an alarm-set-indicator located in front of the dial, of a longitudinally movable shaft, and independent means mounted on said shaft operative one at a time for setting said time-hands and said alarm-indicator.

3. The combination with an alarm clock having hour, minute and second hands and an alarm-set-indicator located in front of the dial, of a cam-wheel located underneath the dial and connected with said indicator, a minute-wheel connected with the time-train, the periphery of said minute-wheel extending outside of the periphery of said cam-wheel, a longitudinally movable shaft, and pinions mounted on said shaft, one of said pinions being adapted for engagement with said cam-wheel and the other for engagement with said minute-wheel, substantially as described and for the purposes set forth.

4. The combination with an alarm clock having a minute-hand staff, an hour-hand rotatable about said staff, an alarm-set-indicator located in front of the dial and mounted to rotate about said staff, a cam-wheel located underneath said dial and having a sleeve on which said indicator is mounted, a second-hand staff and a second-hand carried thereby, independent means operative one at a time for setting the time-hands and the alarm-indicator, and a common actuating device for said setting means.

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

FRANK R. ALFORD.

Witnesses:

H. L. SLAUSON,
HUBERT P. WETMORE.