

(No Model.)

2 Sheets—Sheet 1.

A. O. JENNINGS.

ALARM CLOCK.

No. 329,455.

Patented Nov. 3, 1885.

Fig: 1

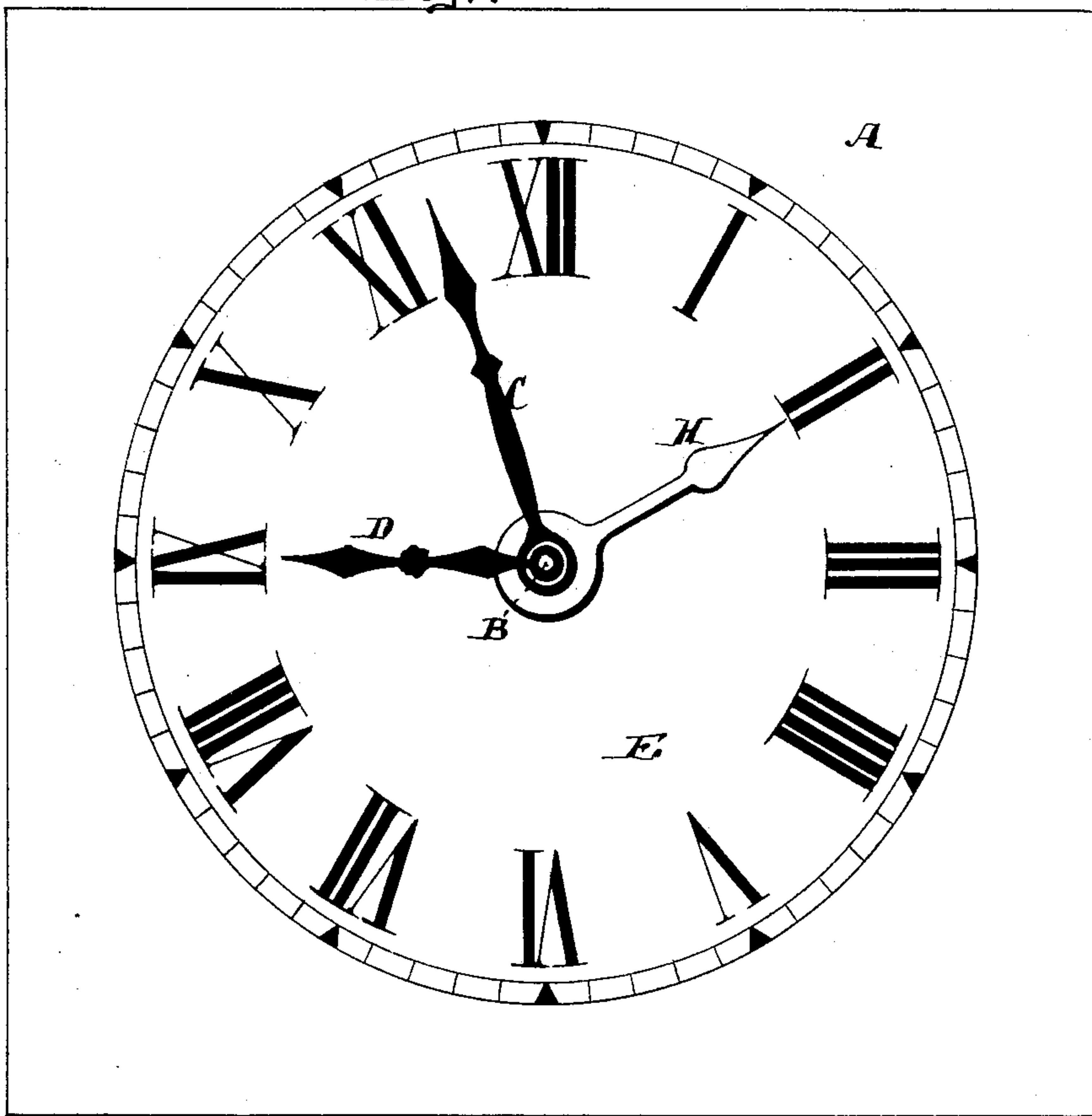


Fig: 2

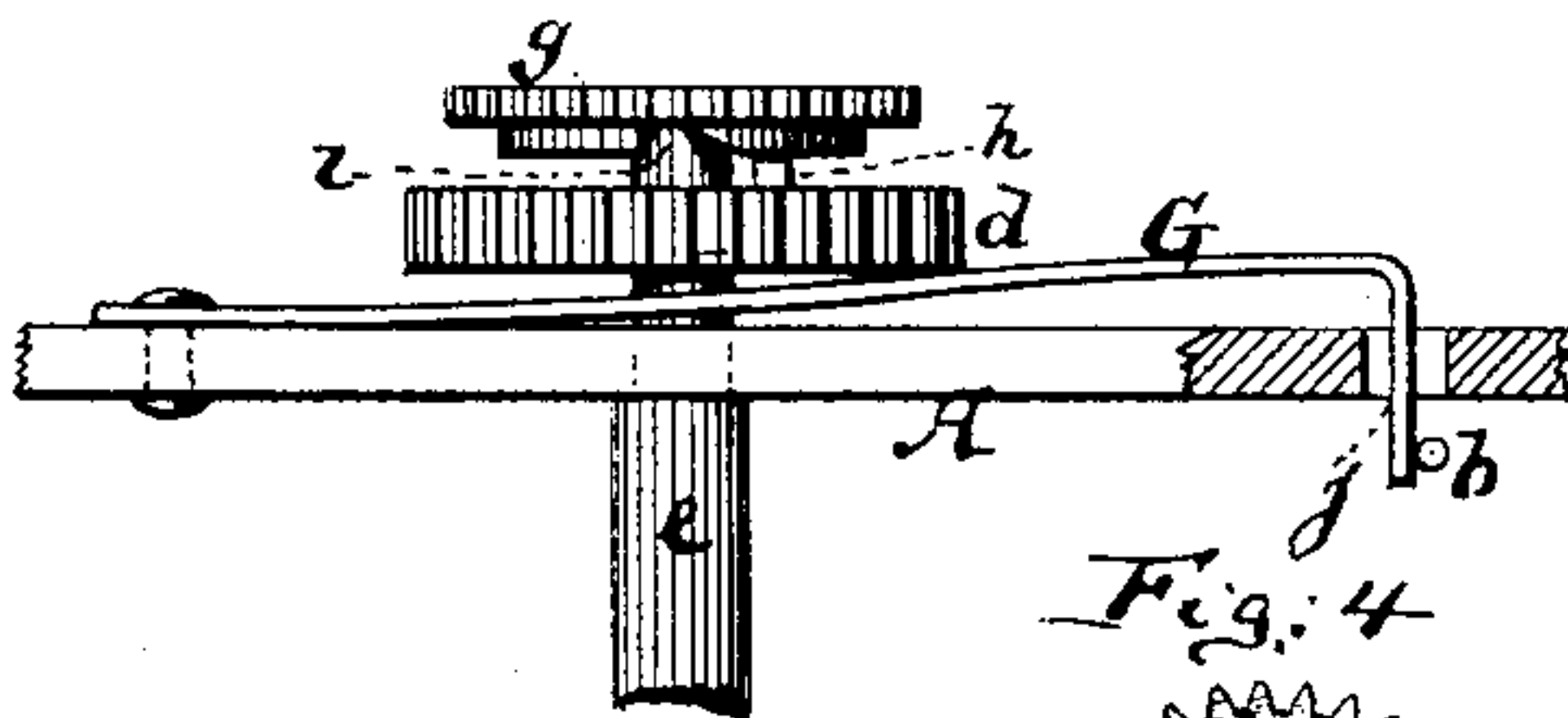


Fig: 3

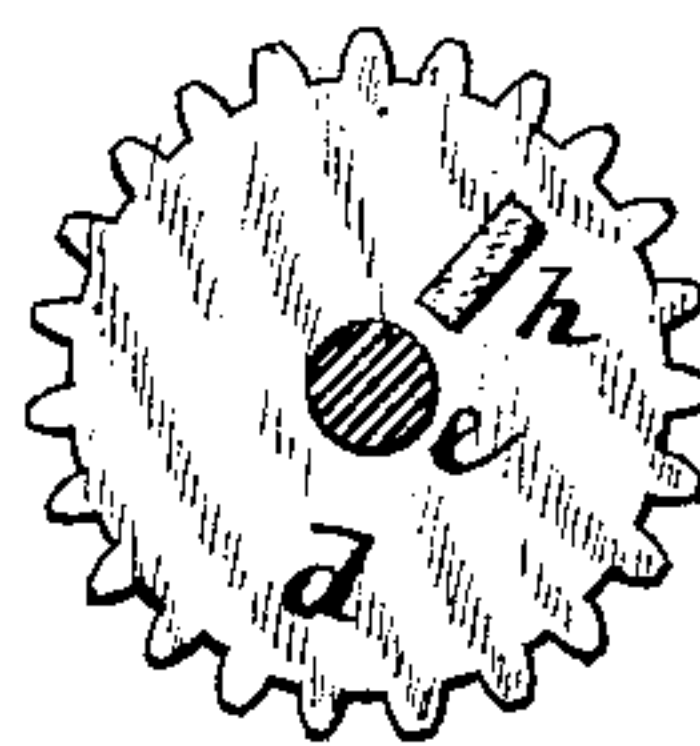
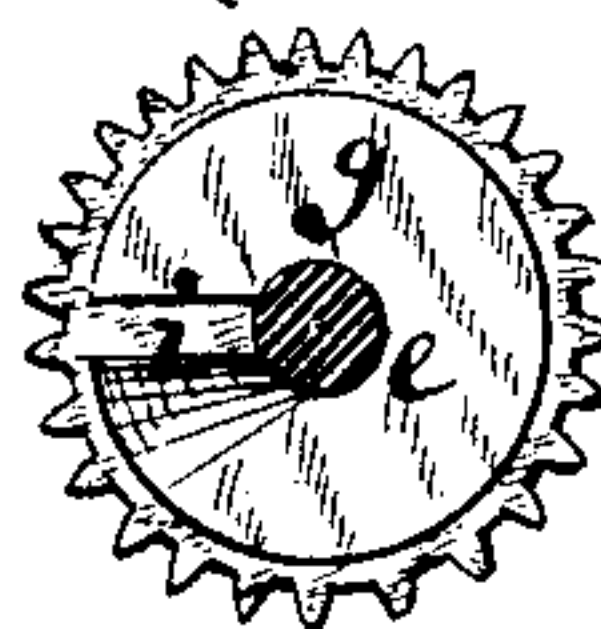


Fig: 4



Witnesses
John C. Tunbridge
John M. Speer.

Inventor:
Arthur O. Jennings
by his attorneys
Briesen & Steel

(No Model.)

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Fig: 5

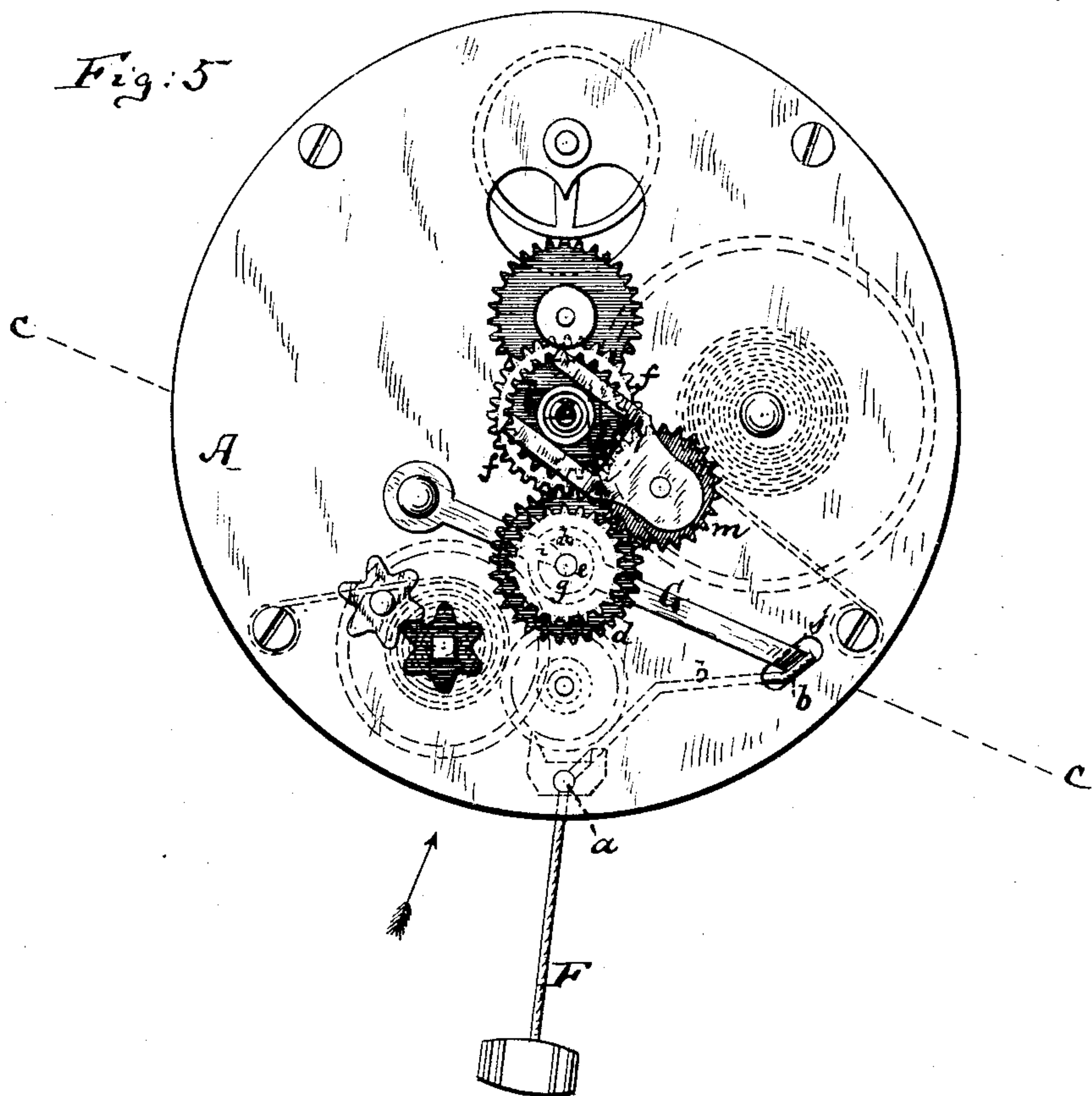
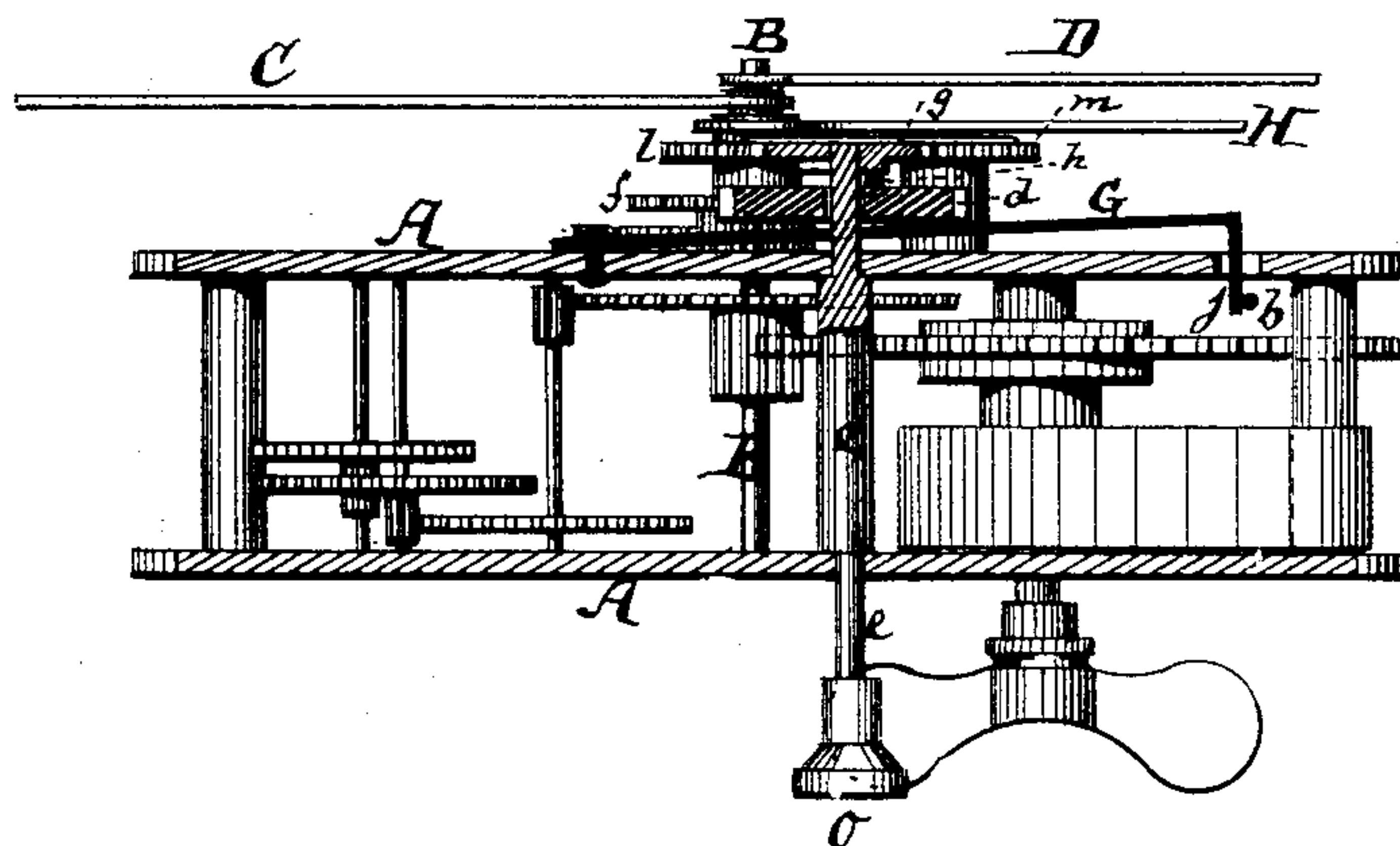


Fig: 6



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UNITED STATES PATENT OFFICE.

ARTHUR O. JENNINGS, OF SOUTHPORT, CONNECTICUT.

ALARM-CLOCK.

SPECIFICATION forming part of Letters Patent No. 329,455, dated November 3, 1885.

Application filed November 24, 1884. Serial No. 148,689. (No model.)

To all whom it may concern:

Be it known that I, ARTHUR O. JENNINGS, a resident of Southport, in the county of Fairfield and State of Connecticut, have invented an Improvement in Alarm-Clocks, of which the following is a full, clear, and exact description, reference being made to the accompanying drawings, in which—

Figure 1 is a face view of my improved alarm-clock. Fig. 2 is an enlarged edge view of the wheels that start the alarm. Fig. 3 is a face view of the inner one of said wheels. Fig. 4 is a back view of the outer one of said wheels. Fig. 5 is a face view of the clock when the dial is removed. Fig. 6 is a section thereof on the line *c c*, Fig. 5, looking in the direction of the arrow which is shown near Fig. 5.

The object of this invention is to produce an alarm-clock which shall have but one dial and two springs.

In the alarm-clocks now in use, in which there is a distinct alarm-spring, there is always needed, besides the dial on which the hour and minute hands indicate the time, an additional smaller dial or annulus, which is divided in the same manner as the dial proper, and which must be set with reference to the specific hand to indicate the time when the alarm is to go off. By my invention this additional little dial or annulus is rendered wholly superfluous.

My invention consists in combining with the arbor which carries the minute and hour hands of a clock a pointer or hand for the alarm, and wheels connecting said alarm pointer or hand directly with the wheels and spring that set the alarm off, all as hereinafter more fully described.

In the drawings, the letter A represents the frame of the clock. B is the main arbor, carrying the minute-hand C, and carrying also the hour-hand D, said arbor being in gear with the train of wheels and a spring, which in usual or suitable manner imparts the proper motion to said hands C and D. E is the dial, which is divided into spaces indicating hours and parts of hours, the same as in every ordinary clock. F is the hammer of the alarm, the same being pivoted by its swivel *a* in the frame A, and provided with a projecting detent or arm, *b*, which detent or arm, when let go, re-

leases the alarm and permits the separate alarm-spring to vibrate said hammer.

Nothing here stated is to intimate that I have improved upon the mechanism for vibrating the hammer. The spring, anchor, and intermediate wheels of such mechanism are all well known, and are, or may be, of any suitable construction. The detent *b* is, when the alarm is at rest, pressed by the alarm-spring against the end of an L-shaped spring-bar, G, which is fastened to the frame A, as indicated in Figs. 2 and 6. This spring-bar G bears against the inner face of a wheel, *d*, which is fitted loosely around an arbor, *e*, that has its bearings in the frame A. Upon this arbor *e* the wheel *d* is also capable of sliding. The wheel *d* is at all times in gear with a wheel, *f*, which is placed upon the minute-arbor B, or in gear therewith, so that the wheel *d* receives from the wheel *f* one revolution during every twelve hours; hence the wheel *f*, which gears into *d*, is by preference placed upon the sleeve or tube which carries the hour-hand. On the outer face of the wheel *d* is affixed a projection, *h*, which, by the spring action of the arm G, is crowded against the back or inner face of a toothed wheel, *g*, which is mounted upon the arbor *e*. That face of the wheel *g* which is in contact with the projecting pin *h* has at one certain place a notch, *i*, or recess cut into it. (See Fig. 4.) Whenever the wheel *d*, during its revolution, carries its pin *h* into line with the notch *i* of the wheel *g*, the spring-arm G will crowd said pin into said notch, will thereby bring the wheels *d* and *g* nearer together, and will, by its said motion, carry its own projection *j* out of the way of the detent *b*, thereby releasing the alarm.

From what has been stated it follows that in order to set the alarm to go off at any particular hour it is only necessary that the wheel *g* should be set to hold its notch *i* in such a position that the alarm will go off whenever the pin *h* reaches that position, which said position is to be indicated by a hand on the dial E. To this end I have fitted around the minute-arbor B, so as to loosely embrace also the tube that carries the hour-hand, a toothed wheel, *l*, which is in gear by an intermediate wheel, *m*, or directly, if desired, with the said wheel *g*. A tubular projection on the wheel *l*

carries the alarm pointer or hand H. The wheels *l m g* are by preference made of equal diameters and provided with the same number of teeth, so that when the hand H is set on the dial opposite any particular hour or portion of the dial it will carry the wheel *l* around with it, and thereby also the wheel *g*, leaving the notch *i* in a position which will be analogous to that of the pointer H. Thus, if the pointer H be set at 12, the notch *i* will be in a position facing the pin *h* in the place which that pin will occupy at twelve o'clock, while if the hand H is set opposite, say, the figure 5 on the dial, the notch *i* of the wheel *g* will thereby be placed opposite the position which will be occupied by the pin *h* at five o'clock, &c.

It will be perceived from the foregoing specification that the alarm can be set by the use of this invention without requiring a separate dial. After the alarm has gone off, the regular clock-movement will continue the wheel *d* in motion, and will cause it gradually to carry the pin *h* out of the notch *i*, said notch having a beveled wall for that purpose, until the wheels *d* and *g* are again as far apart as they are shown to be in Fig. 2, whereby the spring-arm G is forced again into position for locking the alarm and holding it fast after it (the alarm) shall have been wound.

One particular advantage which flows from this improvement, apart from the advantage of economy, is that the alarm is applicable to clocks having covered dials—that is, where the dial is covered by a glass that cannot be taken off—for according to my invention it is only necessary that the arbor *e* be turned for the purpose of setting the wheel *g* and the hand H. Thus in Fig. 6 is represented on the arbor *e*, at the back of the clock-move-

ment, a button, *o*, which, when turned, can be used to set the hand H on the dial E into any suitable position, after which the alarm mechanism can be wound by a key applied also to the back of the clock.

In all alarm-clocks which have separate dials, like those heretofore known to me, it was necessary that access be had to the dial itself in order to set the alarm.

It is quite evident that instead of the notch *i* being on the wheel *g* and the pin *h* being on the wheel *d* these parts may be reversed without in anyway changing the operation hereinbefore described, and without, therefore, departing from my invention.

I claim nothing shown or described in Letters Patent No. 259,174.

I claim—

1. The combination of the alarm-hand H with the minute-hand arbor B, wheel *l* on said arbor, said wheel carrying the hand H, wheels *m g*, the wheel *g* having recess *i*, wheel *d*, having pin *h*, spring-arm G, having projection *j*, the detent *b* of the alarm-hammer F, and the separate alarm-spring, substantially as specified.

2. The combination of the arbor *e*, having button *o* at the back of the clock, and notched wheel *g*, with the sliding wheel *d*, spring-arm G, alarm-detent *b*, and with the wheels *m l*, the latter being on the arbor of the minute-hand of the clock, with the alarm-hand H, which is connected with the wheel *l*, and with the separate alarm-spring, substantially as herein shown and described.

ARTHUR O. JENNINGS.

Witnesses:

CHARLES G. M. THOM
GUSTAV SCHNEPPÉ.