2 Sheets—Sheet 1.

S. JOHNSON.

ALARM CLOCK.

No. 180,594. Patented Aug. 1, 1876.

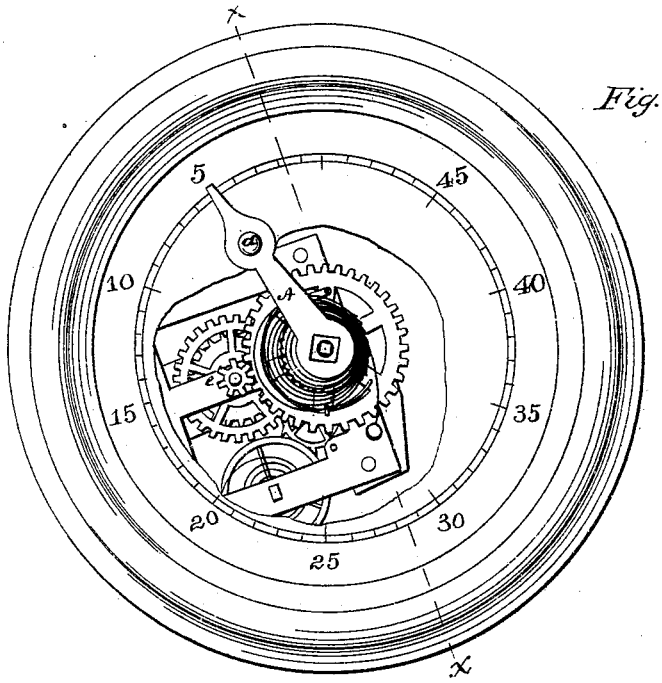

Fig. 1.

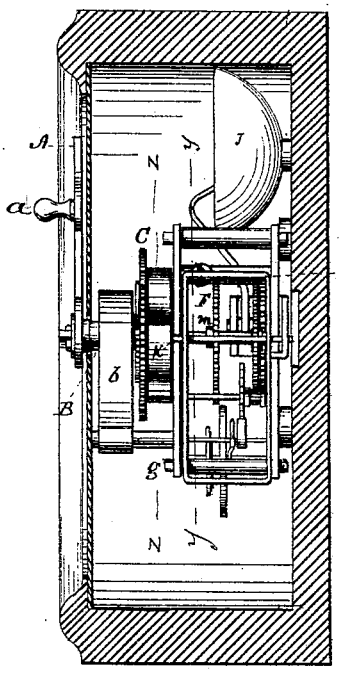

Fig. 2.

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Washington D.C.

2 Sheets—Sheet 2.

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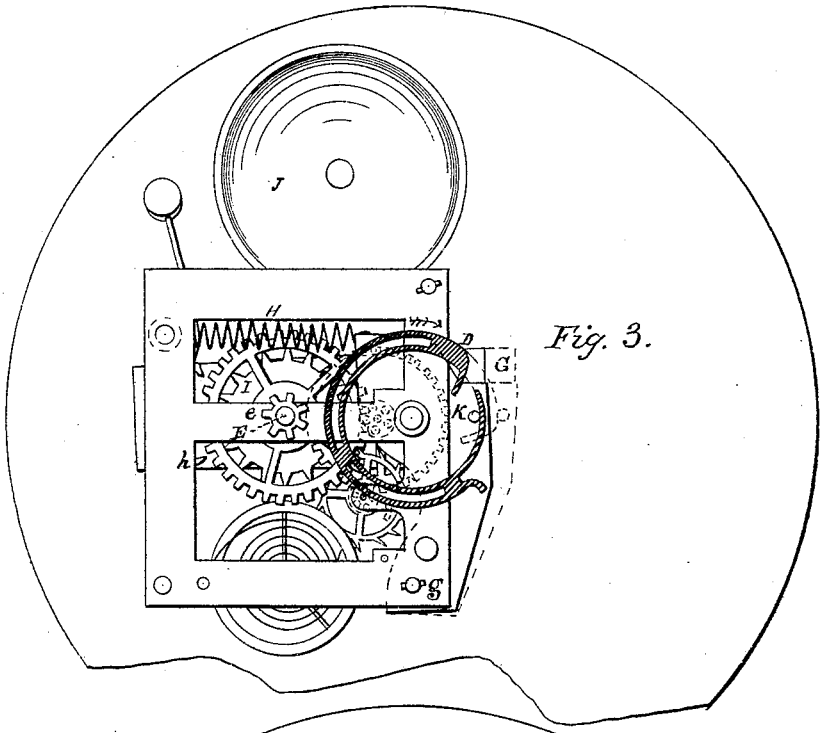

Fig. 3.

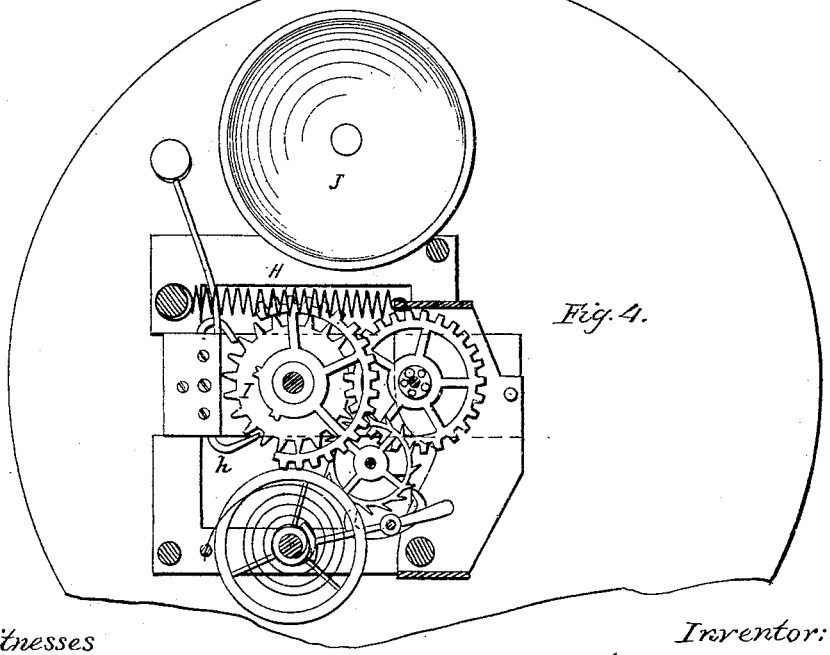

Fig. 4.

Witnesses
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UNITED STATES PATENT OFFICE.

SANDER JOHNSON, OF MINNEAPOLIS, MINNESOTA, ASSIGNOR OF ONE-HALF HIS RIGHT TO JOHN N. BERG, OF SAME PLACE.

IMPROVEMENT IN ALARM-CLOCKS.

Specification forming part of Letters Patent No. **180,594**, dated August 1, 1876; application filed May 31, 1876.

To all whom it may concern:

Be it known that I, SANDER JOHNSON, of Minneapolis, Minnesota, have invented certain new and useful Improvements in Alarm-Clocks, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a front elevation with a portion of the face broken away. Fig. 2 is a vertical cross-section through the line *x x*. Fig. 3 is a section through the line *z z* of Fig. 2, showing the time mechanism in gear. Fig. 4 is a section through *y y* of Fig. 2, showing alarm mechanism in gear.

My invention relates to that class of alarm-clocks used by cooks; and it consists in the devices by which the time mechanism and alarm mechanism are alternately and automatically thrown in and out of gear.

To enable others skilled in the art to make and use my invention, I will proceed to describe the exact manner in which I have carried it out.

In the drawings, A represents the index or hand, provided with the knob *a*, by which the hand is held when being moved for the purpose of setting the clock, or for the purpose of winding up the mainspring. This hand is attached at the outer end of short shaft B, on which is the mainspring *b* and the main driving-wheel C. Rigidly attached to the inner side of the driving-wheel C is the cam D, as shown in Fig. 3. On the outer end of the shaft E is rigidly attached the pinion *e*, gearing with the driving-wheel C, and on the center of same shaft is arranged the cog-wheel F, which gears into and drives the time mechanism. This mechanism is arranged within the independent frame G, pivoted at *g*, the frame being held in position by the spring H, and the pinion *m* being thus held in gear with the cog-wheel F, which operates the time mechanism. On the rear of the frame G is loosely pivoted the alarm-escapement *h*, on the upper arm of which is the hammer for striking the alarm upon the gong J. Near the rear end of the shaft E, and behind the cog-wheel F, is rigidly secured the toothed wheel I, as shown in Fig. 4, so arranged on the shaft that it will be brought in contact with the escapement *h* when the frame G is thrown forward. In the forward portion of the frame G is a pin, K, against which the cam D comes in contact as it moves in the direction of the arrow, whereby the frame is forced forward, as shown in dotted lines in Fig. 3.

It is evident that by thus throwing forward the frame G at any predetermined time, the pinion *m* will be ungeared from the cog-wheel F, and operations of the time mechanism will be suspended, while the alarm-escapement will be drawn into gear with the cog-wheel F, and the alarm will be immediately given.

To wind up the spring again, it is only necessary to take hold of the knob *a*, and turn to the left until the pin K again passes over the cam D, when the frame G is drawn back by the spring H into its first position, and the time mechanism is again in gear, and the alarm mechanism is again out of gear. As soon as the pin K drops over the cam D, and the time mechanism is in gear, it is only necessary to turn the index A to the left, and set it at any desired point. For instance, if the cook wishes to have her attention called in five minutes, she turns the index to the figure 5, and at the expiration of five minutes the automatically-changed gearing causes the alarm to be given.

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

1. In an alarm-clock, the pivoted frame G, holding the time mechanism and the alarm-escapement, and provided with the pin K, in combination with the cam D and gear mechanism, substantially as and for the purpose set forth.

2. In an alarm-clock, time mechanism, and alarm mechanism, which are alternately and automatically thrown in and out of gear with one another, substantially as and for the purpose set forth.

In testimony that I claim the foregoing I have hereunto set my hand.

SANDER JOHNSON.

Witnesses:

JOHN N. BERG,

VERNON BELL.