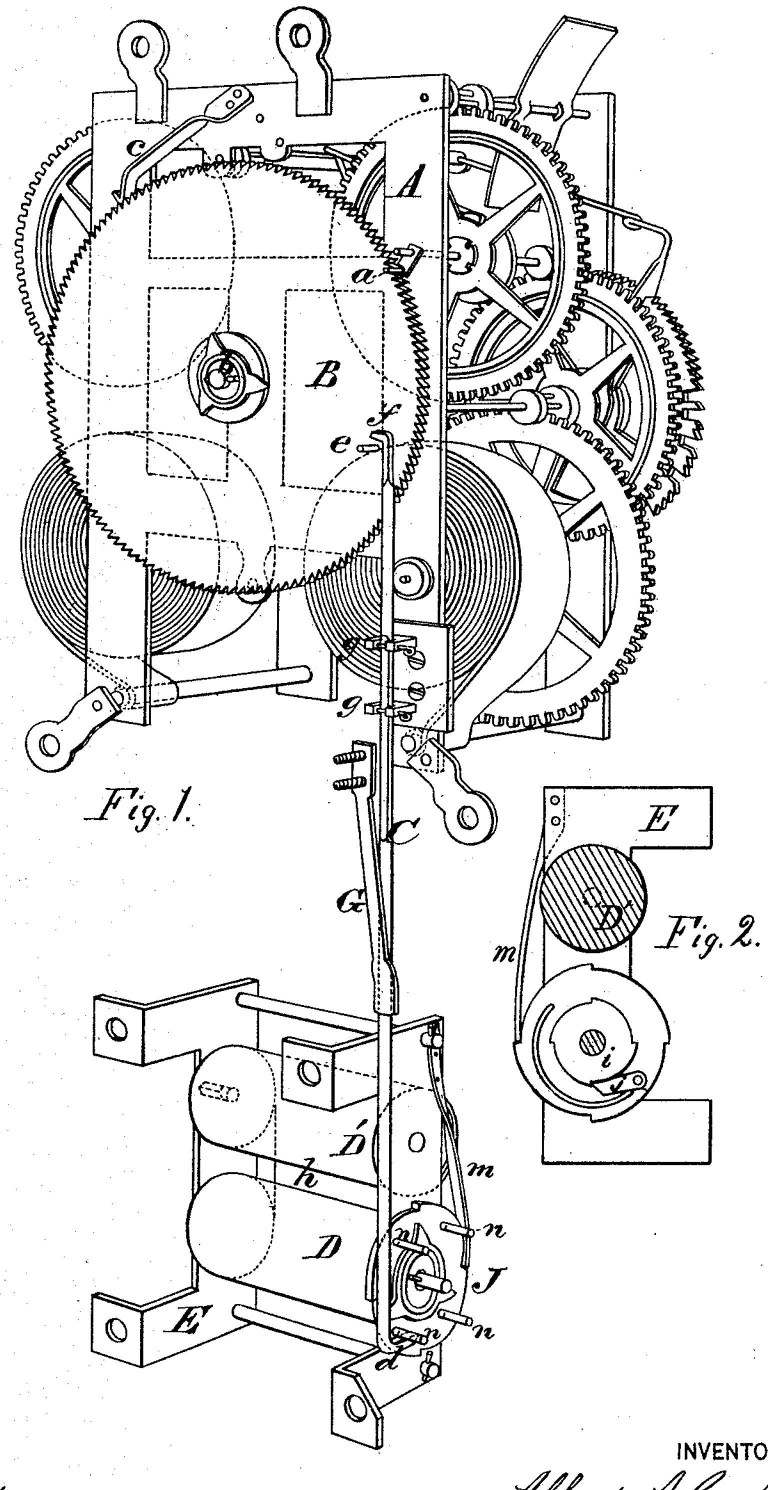
A. A. COWLES.

Calendar-Clock.

No. 165.548. Patented July 13, 1875.



WITNESSES

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ALFRED A. COWLES, OF NEW YORK, N. Y.

IMPROVEMENT IN CALENDAR-CLOCKS.

Specification forming part of Letters Patent No. **165,548**, dated July 13, 1875; application filed May 8, 1875.

To all whom it may concern:

Be it known that I, ALFRED A. COWLES, of the city of New York, in the county of New York and State of New York, have invented a new and valuable Improvement in Calendars; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a perspective view of my calendar-clock, and Fig. 2 is a detail view of the same.

This invention has relation to calendar mechanism which is especially designed for hanging and mantel clocks, and which can be applied to such clocks without changing their construction in any manner whatever, and when applied will be operated automatically once every twenty-four hours, as will be understood from the following description.

In the annexed drawing, A designates the frame of a well-known striking-clock designed to run eight days. The pinion-shaft of the second strike-wheel is extended through the frame A, and provided with a single leaf, *a*, which at every revolution of said shaft will engage with a tooth on a large wheel, B, and move this wheel the distance of one tooth. The wheel B has its bearing on a stud, *b*, at the back of frame A, around which stud it is allowed to turn freely in the direction indicated by the arrow in the drawing. Wheel B is prevented from turning backward by means of a spring-pawl, *c*, and at a certain point on this wheel B is a stud, *e*, which is designed for engaging with the hooked end *f* of a vertical rod, C. Rod C works in guides *g g* fixed to frame A, and it extends to the mechanism which carries the cloth on which the numbers of the days of the months are printed. D D′ designate two rollers, the shafts of which have their bearings in a frame, E, secured in a suitable position to the case of the clock. On these rollers the strip *h* is wound, which has printed upon it the numbers of the days of the month, which numbers will be successively exposed to view through an aperture made in a plate not shown in the drawing. The shaft of the lower roller D has a studded disk, J, applied on it, which is caused to engage with it when turned in one direction by means of a ratchet-wheel, *i*, and a pawl, *j*. The lower end of the rod C is hooked and the extreme end of this hook *d* is beveled for a purpose hereinafter explained.

G designates a light spring, which causes the lower portion of the rod C to bear lightly against the studs *n* on disk J. The disk J is prevented from turning backward by means of a spring-pawl, *m*, which engages with teeth on the periphery of the disk. When the leaf *a* is at rest it does not strike the wheel B, but leaves it perfectly free and disconnected from the works of the clock. When the clock is striking the leaf *a* makes one revolution for each stroke of the hammer, pushing wheel B forward one tooth with each revolution.

Inasmuch as a clock makes one hundred and fifty-six strokes every twenty-four hours, it follows that the wheel B, having one hundred and fifty-six teeth, will make a complete revolution every twenty-four hours. Now, let the wheel B be so adjusted that at the last stroke of 11 p. m. the stud *e* is brought directly under the hook *f* of rod C. At the first stroke of 12 the stud *e* will catch the hook and begin to raise rod C with a regular motion corresponding to the strokes of the hammer. At the same time the lower end of rod C catches one of the studs *n* on disk J and transmits motion to the rollers D D′ of the calendar cloth. At the eleventh or twelfth stroke of midnight the stud *e* will have passed far enough to release rod C and allow it to drop by its own weight. The lower lifting-hook *d* of rod C will, during its fall, snap past the succeeding stud *n*, and lie directly under this stud ready for another lifting-stroke, which is repeated every twenty-four hours.

The calendar described is for the days of the month only, but the same principle of construction is applicable for registering the days of the week.

When the calendar-cloth has been wound from the upper roller D′ upon the lower roller

D it can be wound back upon the first roller by means of a key applied on the square end of the shaft of this roller.

What I claim as new, and desire to secure by Letters Patent, is—

1. In combination with the striking mechanism of a clock the leaf *a*, toothed wheel B, rod C, and calendar mechanism, substantially as described.

2. Studded disk J on the shaft of roller D, combined with hooked lifting-rod C, spring G, and the clock-actuating mechanism, substantially as described.

In testimony that I claim the above, I have hereunto subscribed my name in the presence of two witnesses.

ALFRED A. COWLES.

Witnesses:

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A. J. BRINKERHOFF.