

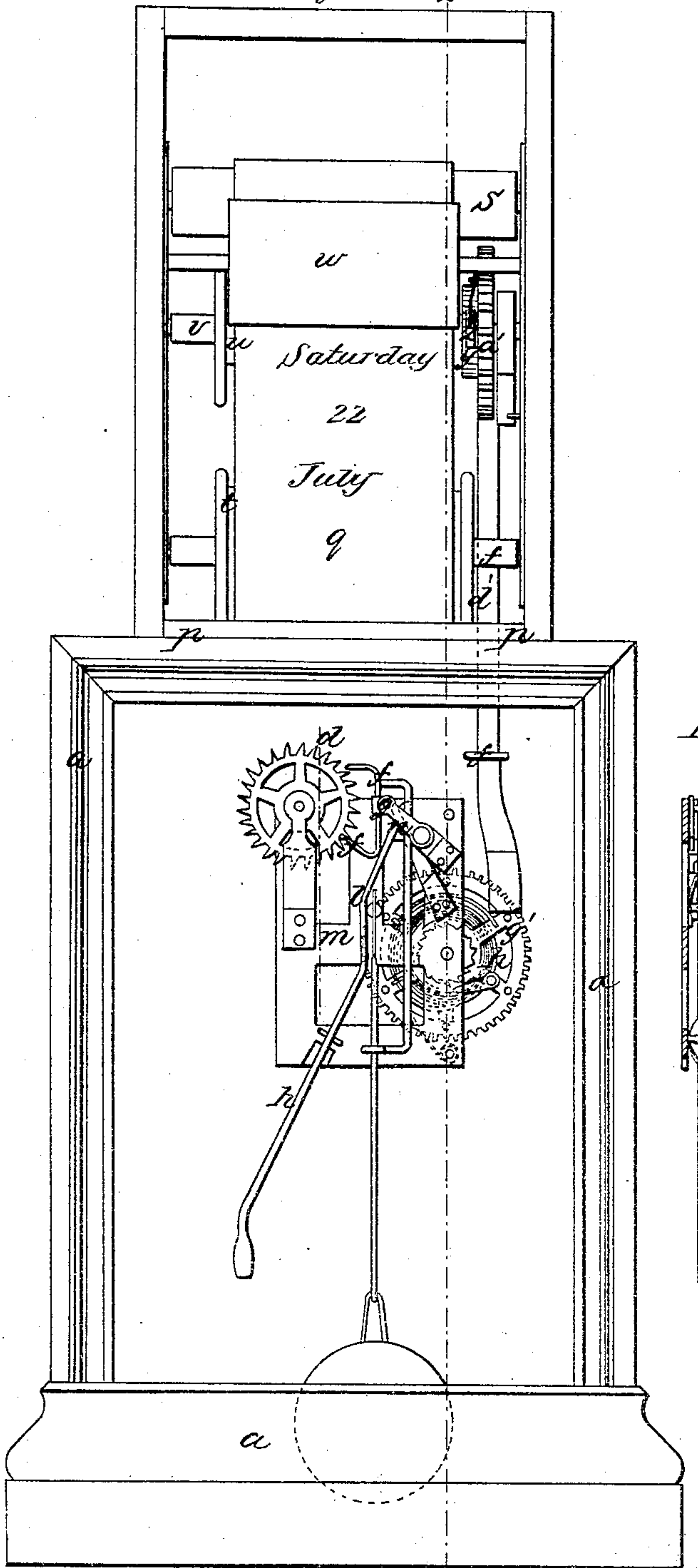
W. H. Chase.

Calendar Clock.

N^o 51,556.

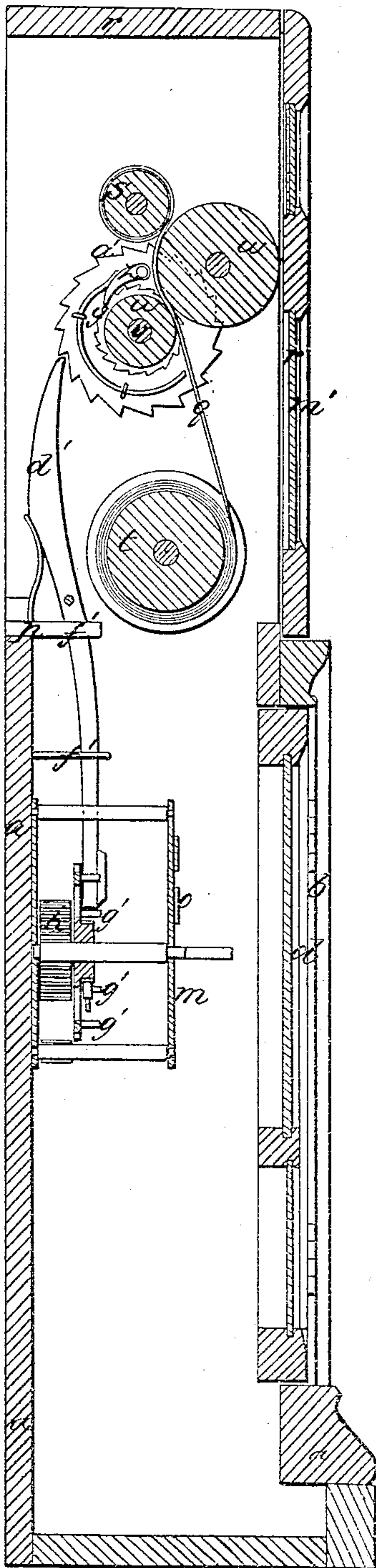
Patented Dec. 19, 1865.

Fig. 1.



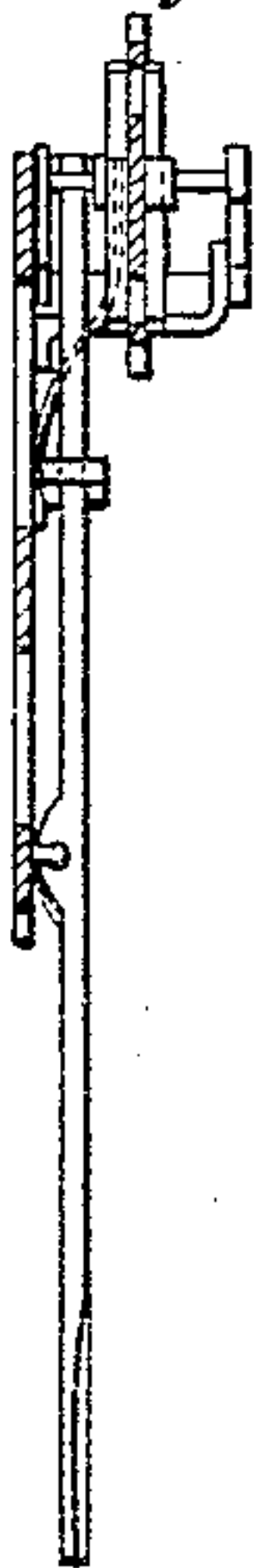
*Witnesses:
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Fig. 2.



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Fig. 3.



UNITED STATES PATENT OFFICE.

WILLIAM K. CHASE, OF CHARLESTOWN, MASSACHUSETTS.

IMPROVEMENT IN CALENDAR-CLOCKS.

Specification forming part of Letters Patent No. 51,556, dated December 19, 1865.

To all whom it may concern:

Be it known that I, WILLIAM K. CHASE, of Charlestown, in the county of Middlesex and State of Massachusetts, have invented a new and Improved Calendar and Clock-Regulator; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification.

The present invention relates, first, to a peculiar arrangement of the pallet in connection with the scape-wheel of a clock, which allows it to be easily and readily thrown out of and into the rotating plane of the wheel, thus leaving it free to rotate, whereby the hands of the clock can be set to indicate the right time with but little delay and without directly touching the hands of the clock; and, second, to the combination, with a clock, of a calendar, the said calendar being connected with the operating parts of the clock in such a manner that upon the expiration of every twenty-four hours it is operated thereby in the proper direction to show and indicate the day of the week and month, or any other information to which it may be especially adapted, the calendar first, however, having been properly set.

In accompanying plate of drawings my improvements are illustrated, Fig. 1 being a front view of a clock having its face and front portion of the case removed so as to show its interior, together with the arrangement of the calendar devices. Fig. 2, a vertical section taken in the plane of the line *x x*, Fig. 1; and Fig. 3, a detail view, to which reference will be hereinafter made.

a a in the drawings represent the outer casing or box of the clock, which may be of any desired style, shape, and material, provided with a glass plate, *b*, for viewing the face of the clock, which may be arranged in a door, *d*, or be fixed in any other manner which may be deemed best.

The arrangement of devices so far as relates to the operation of regularly moving the hands of the clock is substantially the same as in ordinary clocks as hitherto constructed, and therefore needs no particular mention or description herein, as it is familiar to all conver-

sant with clocks, except so far as they are involved in connection with the present improvements.

*d*² is the scape-wheel of the clock, and *f* the anchor-pallet, hung and swinging upon a horizontal shaft or axis, *g*, as in ordinary clocks, but which is so arranged that it can be moved laterally upon its axis, so as to disengage it from the teeth of the scape-wheel and leave it free to be rotated at pleasure from the action of the coiled spring *h*, thus correspondingly causing the hands to move over the face of the clock and with great rapidity, whereby they can be readily and quickly set at any desired point of the dial without touching them with the hands. This arrangement consists in the use of a long lever-rod, *h*, extending below the dial-plate of the clock, hung and turning upon a fulcrum, *l*, of the frame *m* of the clock-work, the upper end, *n*, of which engages with the pallet, and as the lever is turned in the proper direction moves it sufficiently on its axis to disengage it from the scape-wheel, in which position it remains so long as the hand is retained upon the lever, but is immediately thrown back to its original position the instant it is withdrawn by the force of the bent spring *o*, properly connected with it therefor. This mode of setting the clock is, it is obvious, much more convenient and expeditious than by the ordinary modes hitherto practiced.

In addition to the above-described regulator for clocks, and which can be applied to any clock, whether having the regulator or not, I arrange to and upon the top *p* of the clock a series of devices for setting a calendar, *q*, at the proper times, by means of the movements of the clock-work, the arrangement and operation of which devices are now about to be described in detail.

r r represent the outer casing or box, which may be made of any desired style, shape, configuration, or ornamentation, having one or more openings, as may be necessary, to allow the printing on the calendar to be plainly and readily seen.

s and *t*, the upper and lower calendar-rolls, both hung and turning in suitable bearings of the side of the box, from the lower one of which, *t*, the calendar *q* is unwound at the proper times

to and upon the upper one, *s*, passing partially around an intermediate roller, *u*, upon a cross-shaft, *v*, hung in the frame-work of the box, in contact with which roller it is held by a weighted roller, *w*, covered with sand or emery paper or cloth, for producing a frictional surface thereon.

On one end of the roller *u* is formed a toothed ratchet-wheel, *y*, with which engages a spring-pawl, *z*, hung upon the inner face of the larger ratchet-wheel *a'*, attached to the transverse shaft *v* before referred to.

b' is a coiled spring placed around the shaft *v*, to which it is secured at one end, and at the other to a fixed staple, *c'*, of the outer box.

d' is an upright bar placed and moving in suitable guide-clasps *f' f'* of the outer box, which bar at its lower end in turn rests upon fixed pins or studs *g'* of the clock-spring wheel, by which it is raised, thus causing the ratchet-wheel *a'*, with the teeth of which the upper end of the said bar engages, to be partially revolved each time the said bar is thus raised, each stud in turn passing under and away from the lower end of the bar as the clock-wheel revolves, when the bar drops, falling upon the next pin, and so on as long as the clock is kept running. This bar, engaging with and revolving with the ratchet-wheel *a'*, as above described, is so arranged with regard to the actuating-wheel of the clock that when said wheel has completed a revolution, which is accomplished once in every twenty-four hours, the said ratchet-wheel shall have been revolved once around, thus winding the spring about the shaft *v*, so that as the projecting arm *l'* on the other end of the said shaft strikes against and relieves the holding-spring *m²* from the pin in one end of the intermediate roller, *u*, the force of the said coiled spring in then unwinding shall cause the said roller, acting through the pawl and ratchet-wheel thereon, to be quickly revolved once around, when it is again stopped by the abutment of its stud against the fixed staple of the outer box, this revolution of the roller feeding the printed calendar-band along with it a sufficient distance to change the date shown by it through the glass *m'* of the box, and winding it up and upon the upper roller, *s*, which is made of such a weight as to produce sufficient friction by resting against the weighted roller *w* to receive the necessary revolution therefrom to wind the band thus drawn along.

The spring-pawl engaging with the ratchet-wheel of the intermediate roller, it is obvious, prevents any backward movement of the larger

ratchet-wheel as it is operated upon by the vertical or upright bar, as described, until the proper time has arrived therefor, when the roller is let loose and the feeding along of the calendar is produced, as before explained.

In lieu of using a coiled spring, as described, for actuating the feed-roller for the calendar, a weight may be employed or any other suitable motor which will accomplish the result; but I find a spring to be the most convenient and practical.

The calendar-rolls are, of course, to be first adjusted with regard to the operating devices of the clock, so that the date of the calendar shall change at the proper time, or, in other words, twelve o'clock at midnight, and by then regularly winding the clock, when so necessary, no further trouble will be experienced from the calendar devices, they acting in unison with the clock-work, as before stated.

The manner of this adjustment of the clock-work and calendar-rollers to each other is, of course, so simple and self-evident as to hardly require any particular mention herein, it consisting, mainly, in first setting the hands of the clock precisely at twelve, and then slowly and easily moving the calendar-rollers until the proper date thereof is brought in front of the opening in the box for showing it, when, the pendulum being set in motion, the same operation takes place as in ordinary clocks so far as the hands are concerned, but with the additional movements of the calendar devices described.

The calendar-strip can be printed on both sides, if desired, and thus adapted for two years; and it is obvious that as the intermediate roller *u* feeds or draws the calendar by its revolution, produced as described, the periphery of such roller and the space of the printed calendar-strip must correspond.

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

1. The anchor-pallet *f*, in combination with the lever *h*, or its equivalent, arranged substantially as and for the purpose specified.

2. The arrangement of the calendar-rolls herein described, connected with and operated by the actuating-wheel of the clock through the bar *d'*, arranged with regard thereto and so as to operate substantially in the manner specified.

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