

W. S. OVERLIN.

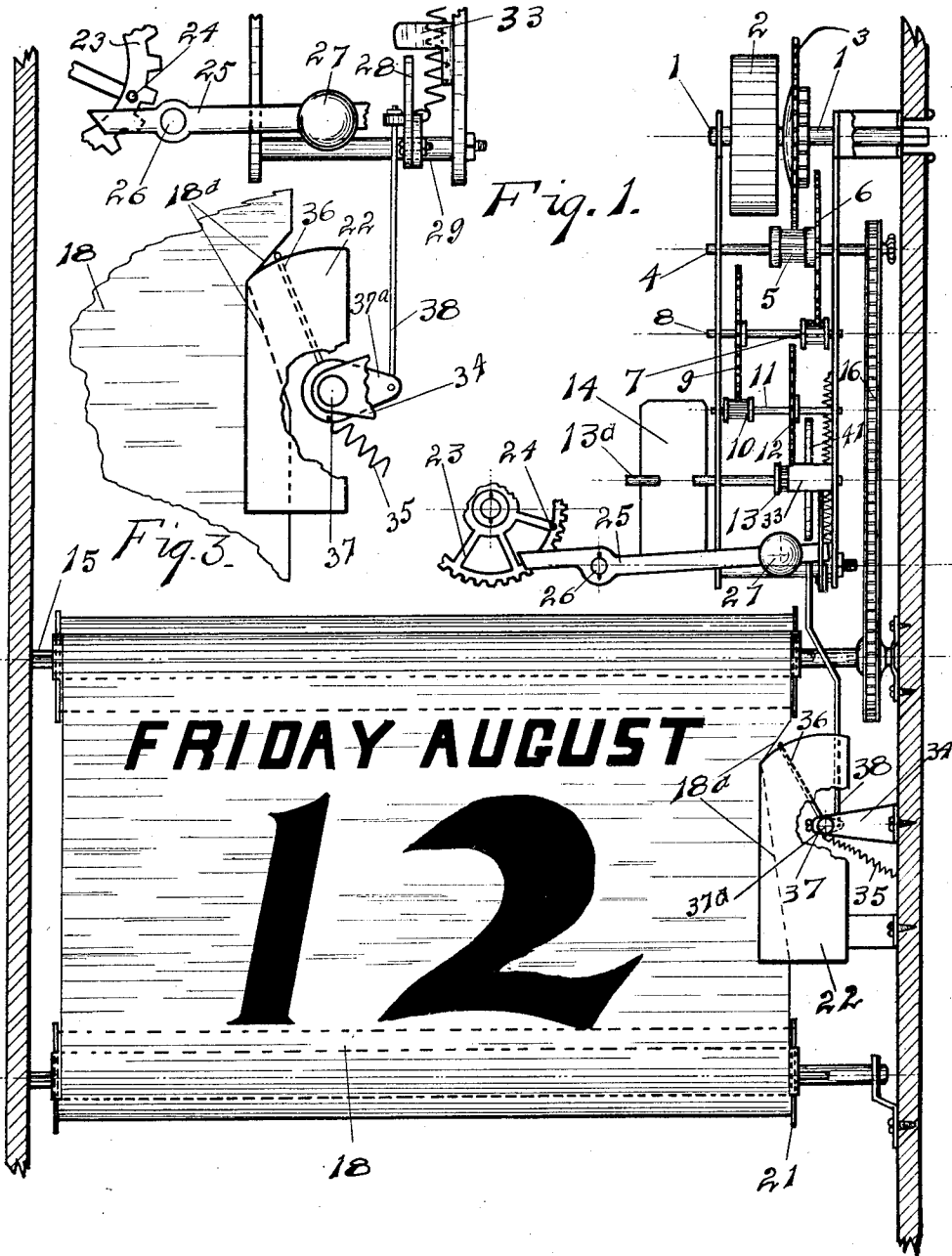
CALENDAR CLOCK.

APPLICATION FILED SEPT. 7, 1910.

Patented Nov. 14, 1911.

1,008,859.

2 SHEETS—SHEET 1.



Witnesses

Arthur B. Smith
Annette J. Peterson

Inventor

William S. Overlin

By Thomas B. Blyen
Att'y.

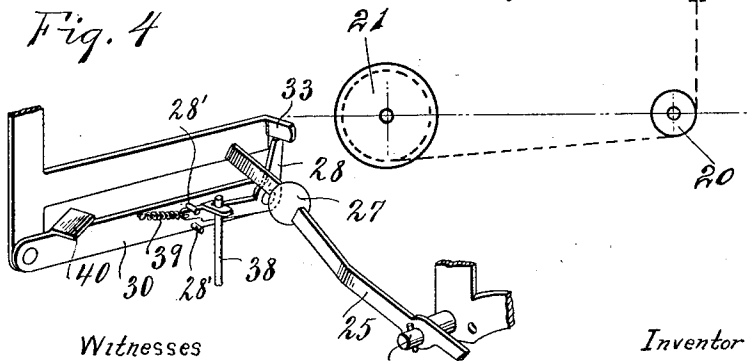
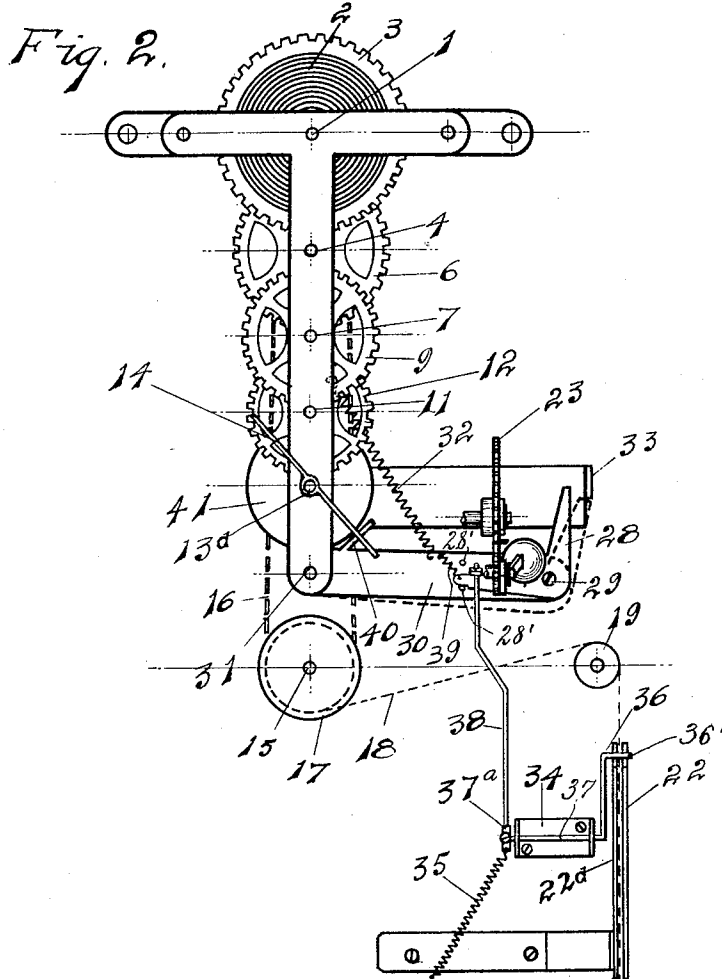
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Witnesses

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UNITED STATES PATENT OFFICE.

WILLIAM S. OVERLIN, OF PORTLAND, OREGON, ASSIGNOR OF ONE-HALF TO ELSWORTH PICKEL, OF PORTLAND, OREGON.

CALENDAR-CLOCK.

1,008,859.

Specification of Letters Patent.

Patented Nov. 14, 1911.

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To all whom it may concern:

Be it known that I, WILLIAM S. OVERLIN, a citizen of the United States, residing at 1566 Virginia street, Portland, county of Multnomah, and State of Oregon, have invented a new and useful Improvement in Calendar-Clocks, of which the following is a specification.

The present invention consists of a clock adapted for use especially in offices, banks, public places, or the home, and comprising a calendar automatically operable once in twenty-four hours to present to view in clearly visible shape, the day of the week, month and year, or similar indicia.

In carrying out the invention, it is contemplated to associate with a clock of any conventional type, a suitable motor, and a calendar consisting preferably of a continuous tape or strip having printed thereon in large type, the days of the year in consecutive order.

Peculiar controlling mechanism is employed for permitting operation of the calendar motor at a predetermined time, preferably at twelve o'clock at night, to advance the calendar strip or tape to present at a vision opening, a new date, the operation of the motor being automatically controlled by the clock motor. Coacting with the calendar motor is a special form of controlling device for automatically stopping the calendar motor, the latter forming an essential feature of the present invention.

For a full understanding of the present invention, reference is to be had to the following description and to the accompanying drawings, in which—

Figure 1 is a sectional view of a clock, showing a member of the clock motor, the calendar motor and the operative connection between the calendar and said motor; Fig. 2 is a view in elevation showing the calendar motor and controlling mechanism therefor, the calendar tape or strip being diagrammatically illustrated in connection with the guide means therefor; Fig. 3 is a fragmentary view showing more clearly detail parts of the invention; Fig. 4 is a perspective view of the starting and stopping lever, the detent carried thereby and the tripping lever.

Throughout the following detail description and on the several figures of the draw-

ings, similar parts are referred to by like reference characters.

Specifically describing the invention, 1 denotes the winding shaft, and 2 the spring of the calendar motor; 3 is a gear on the shaft 1 which meshes with the pinion 5 of the gear 6 on a counter shaft 4, the gear 6 meshing with a pinion 7 on a shaft 8 and the latter having a gear 9 meshing with a pinion 10 on a shaft 11. A gear 12 of the shaft 11 meshes with the pinion 13 of a shaft 13^a having the fan governor 14.

A sprocket chain 16 connects the sprockets on the shafts 4 and 15, the latter shaft carrying a drum 17 about which a calendar comprising a strip or continuous tape 18 is adapted to wind. The term "strip" or "tape" as used in connection with the calendar aforesaid is designed primarily as meaning, in a broad sense, a body of a suitable size to carry the indicia of a calendar, whether such body is actually a strip or other equivalent part. The calendar strip or tape 18 may have any suitable indicia thereon, that illustrated being the name of the month; the day of the week and the number of the day of the month, the latter being in large print so as to be readily visible through a suitable vision opening provided in the clock. The date or calendar strip 18 is initially carried by a drum 21 and passes around guide rollers 19 and 20 to the drum 17 above mentioned, unwinding from the drum 21 and winding around the drum 17 in the ordinary operation of the machine.

Between the guide rollers 19 and 20 are arranged guide means comprising closely spaced plates 22 and 22^a adapted to receive therebetween a longitudinal edge portion of the date strip 18, holding the embraced portion of the strip rigid when guiding the same. The clock motor with which the invention may be associated comprises the operating wheel 23 having a laterally projecting pin 24, said wheel 23 being connected up with the gearing of the clock motor, not shown, so that the wheel 23 makes a complete revolution once in 24 hours. The pin 24 is adapted to engage the adjacent end of a tripping device consisting of the tripping lever 25 pivoted between its ends at 26, the other end of the lever 25 having a weight 27 thereon.

The date strip 18 is formed in its length with a plurality of notched out portions 18^a, one being provided for each date space of the calendar. The notched out portions 18^a of the calendar strip 18 are preferably located at one edge of the same and perform a peculiar function. Adjacent to the plates 22 and 22^a is a bracket 34 on which is mounted a shaft 37 having a controller arm 36 at one end and a lifting arm 37^a at its other end, the latter being adapted to be raised by means of a coiled spring 35 connected thereto. A lifting rod 38 is attached at its lower end to the free extremity of the lifting arm 37^a and the upper end of the lifting rod 38 is loosely secured to a lateral projection on the lower arm of a bell crank detent 28 pivoted at 29 to a releasing lever 30. The movement of the detent 28 on the lever 30 is slight, being limited by spaced projections 28' extending from the lever 30 on opposite sides of the lower arm of the detent. The lever 30 is pivoted at 31 to the frame of the calendar motor and is provided with a friction shoe 40 movable into and out of engagement with a friction wheel 41 controlling the operation of said motor. Normally a spring 32 connected with the lever 30 holds the latter at the upper limit of its movement with the shoe 40 engaging the friction wheel 41 to cause the calendar motor to remain inactive. The detent 28 is so arranged that its vertical arm is movable so as to engage beneath a projection 33 on the motor frame, and normally the end of the tripping lever 25 opposite the wheel 23 rests on the starting and stopping lever 30.

A lateral projection 36' at the outer end of the controller arm 36 of the shaft 37 is adapted to ride over the upper curved edges of the guide plates 22 and 22^a in engagement with the notched portions 18^a and adjacent to the longitudinal edge portion of the calendar strip 18, the notched portions forming cams coöperating with the controller arm 36 in a manner to now be described. The projection 36' bears edgewise against the calendar strip, and the buckling of the latter under the pressure of the member 36 is prevented effectively by the immediate contact of the guide plates 22 and 22^a with the strip on opposite sides thereof.

A small spring 39 connects the lower arm of the detent 28 to the lever 30 and has a tendency to force the vertical arm of the detent outwardly beneath the projection 33.

In the operation of the present invention, assuming that the movement of the wheel 23 is properly timed, at twelve o'clock at night, or other predetermined time, the pin 24 of the wheel engages the lever 25 so as to raise the weighted end of the lever. As soon as the pin 24 is disengaged from the lever 25, the weighted end of said lever, which has previously been lifted, is per-

mitted to drop, thus imparting a slight downward movement to the lever 30 sufficient to disengage the friction shoe 40 from the friction wheel 41 and permit the calendar motor to start its operation. The tension of the spring 32 is sufficient to bring the lever 30 to its original position with the shoe 40 in engagement with the wheel 41, but this is prevented by the engagement of the vertical arm of the detent 28 with the projection 33, as shown in dotted lines in Fig. 2.

When the calendar strip 18 is not in motion, the projection 36' of the controller arm 36 is at the deepest portion of one of the edge notches 18^a of said strip. The movement of the strip 18 caused by starting of its motor gradually forces the projection 36' outwardly, thereby positively moving the rod 38 downwardly, said rod thus holding the lever 30 away from the wheel 41 through the connection of the rod to the detent 28. While the projection 36' rides on the adjacent straight edge of the strip, the motor will continue to operate the calendar until the projection 36' is opposite the top portion of the next notch 18^a in the calendar strip, whereupon the movement of the controller arm 36 inwardly toward the middle portion of the strip is caused by the spring 35, thus relieving the pull on the rod 38. The loose connection of the rod 38 with the detent 28 then permits the lever 30 to be raised by the spring 32 and the friction shoe 40 to be engaged with the wheel 41, instantly stopping the motor. When the outward rocking movement of the controller arm 36 holds the lever 30 down, the tendency of the rod 38 is to exert a pull on the horizontal arm of the detent 28 sufficient to normally hold the vertical arm out of engagement with the projection 33. The plates 22 and 22^a stiffen or render the strip 18 taut while engaging the projection 36'.

Having thus described the invention, what is claimed as new is:

1. In means of the class described, the combination of a motor, a calendar comprising a strip movable by said motor, means normally preventing operation of said motor, mechanism for initially releasing the motor, and controlling means coöperating with the releasing mechanism comprising a controller arm arranged in the path of movement of the calendar strip, said strip having a cam portion leading to one of its edges and adapted to engage the controller arm to move the latter into operative contact with said edge whereby to maintain the operation of the motor a predetermined length of time.

2. In means of the class described, the combination of a motor, a calendar comprising a strip having suitable indicia thereon and operably connected with the motor, a

releasing lever for the motor, a projection adjacent to said lever, a detent carried by the lever, means for normally holding the lever in a position preventing operation of the motor, means controlled by the calendar strip and connected with the detent aforesaid to hold the lever in released position, means for initially actuating the lever, and means for causing engagement of the detent beneath the projection when the lever is initially actuated.

3. In means of the class described, the combination of a motor, a calendar connected therewith for operation thereby, a releasing lever for the motor, a tripping member for initially actuating said lever to permit the motor to operate, a projection adjacent to said lever, a detent carried by the lever to engage the projection when the lever is initially actuated, and means operable by contact with the calendar in the movement of the latter connected with the detent of the lever, to hold the latter in released position after initial movement of the lever.

4. In means of the class described, the combination of a motor, a calendar connected therewith for operation thereby, a releasing lever for the motor, a tripping member for initially releasing the motor, a projection adjacent to said lever, a detent carried by the lever to engage the projection

when the lever is initially released, and means operable by contact with the calendar in the movement of the latter connected with the detent of the lever to hold the latter in released position, after initial movement of the lever, a spring for normally holding the lever in a position preventing operation of the motor, and spring means connected with the calendar operated member for moving the latter into a position permitting the releasing lever to stop the operation of the motor.

5. In combination, a calendar strip, a motor for moving said strip, a controlling member for governing the operation of the motor, means for holding the controlling member in a position in which it bears against the strip edgewise of the latter, means coacting with the controlling member for releasing and stopping the motor, and means for preventing buckling of the calendar strip under normal pressure of the controlling member thereagainst.

In testimony that I claim the foregoing as my own, I hereunto attach my signature in the presence of two witnesses.

WILLIAM S. OVERLIN.

Witnesses:

ARTHUR B. SMITH,
ANNETTE J. PETERSON.