

July 5, 1938.

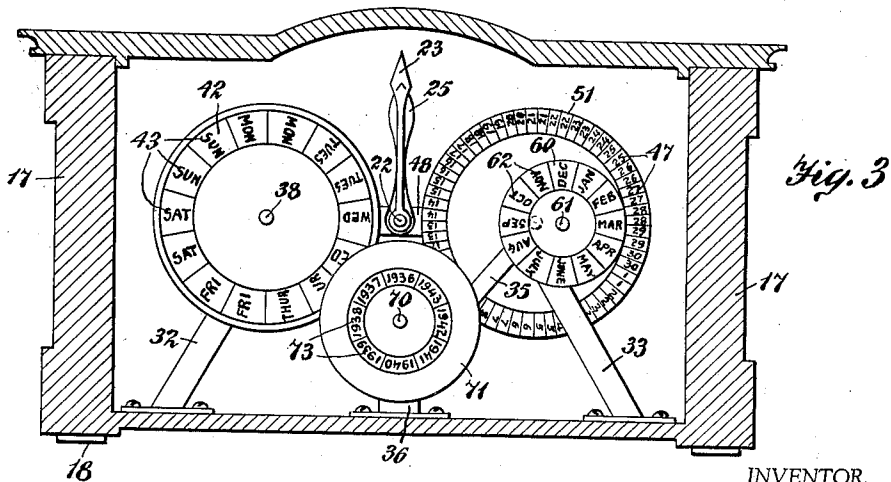
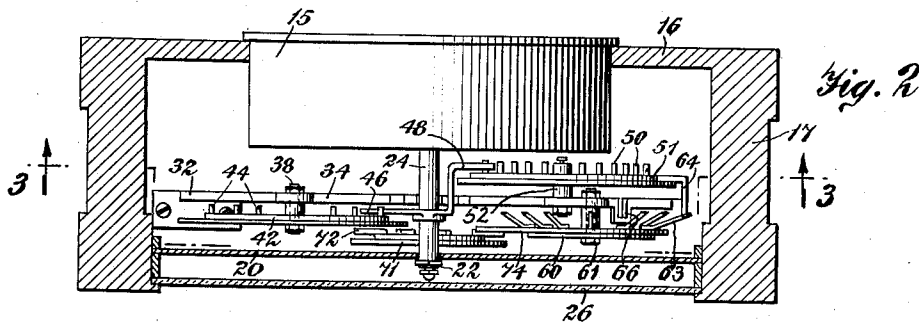
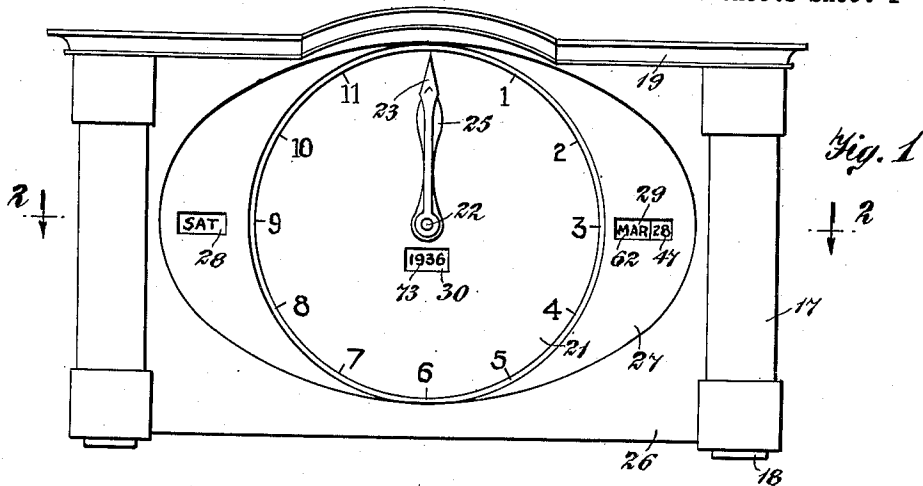
O. BECKER

2,123,091

CALENDAR CLOCK

Filed Aug. 28, 1936

2 Sheets-Sheet 1



BY

INVENTOR.
OTTO BECKER
Marvin C. Beck
ATTORNEY.

July 5, 1938.

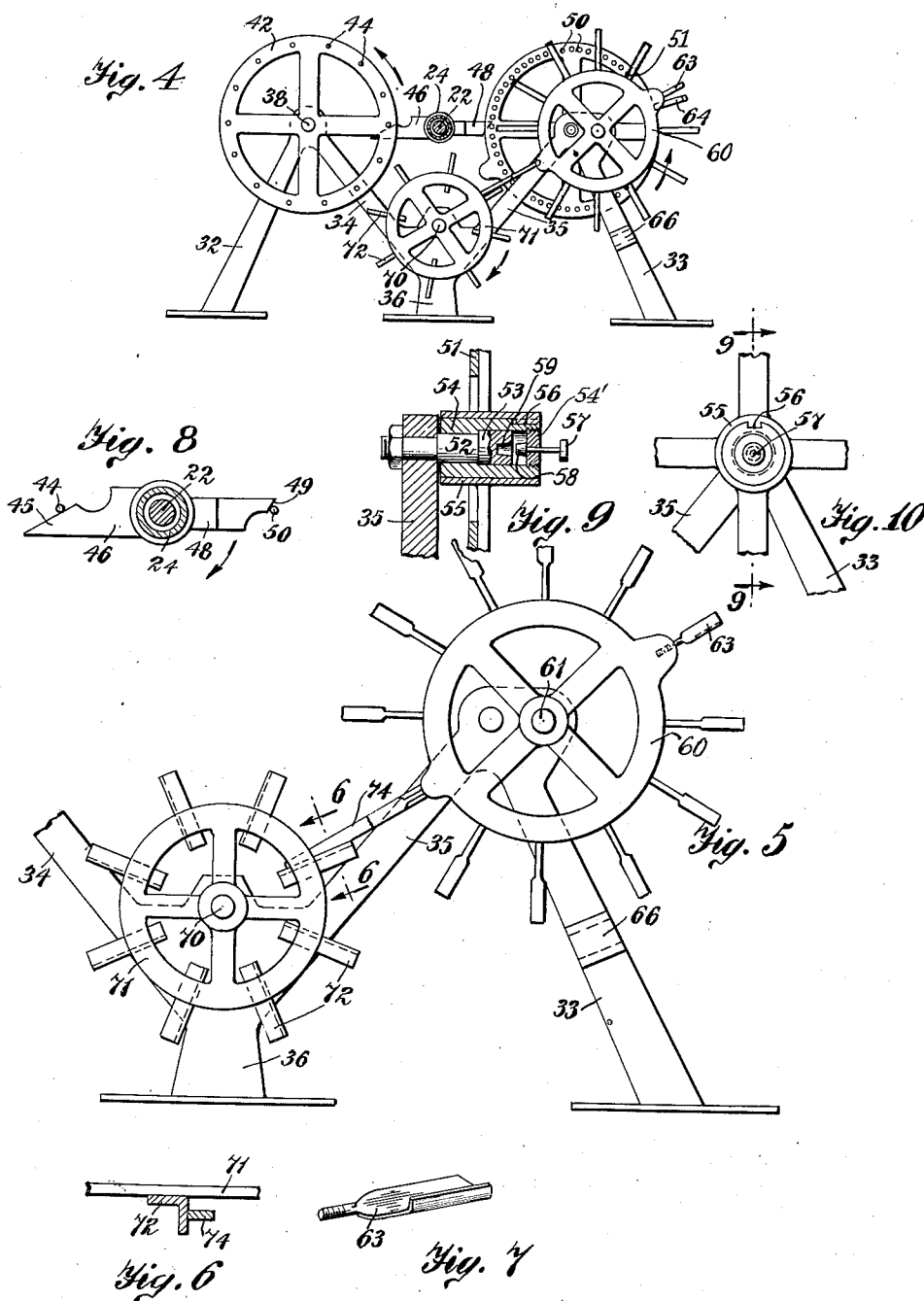
O. BECKER

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CALENDAR CLOCK

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2 Sheets-Sheet 2



INVENTOR.

OTTO BECKER

BY

Maxim Remy
ATTORNEY.

UNITED STATES PATENT OFFICE

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CALENDAR CLOCK

Otto Becker, Corona, N. Y.

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1 Claim. (Cl. 58—5)

This invention relates to horological movements or time clocks in which the minutes, hours, days of the week, days and names of the month, and years are shown.

One object of the invention is to provide an effective, although simple device that may be attached to any ordinary clock mechanism, particularly of the larger sizes, for public observation.

A further feature is in the provision of a calendar clock which requires no attention, except at the end of each month, and the usual winding of the clock mechanism at customary intervals.

These and other meritorious purposes are accomplished by the novel construction, combination and arrangement of parts hereinafter described and illustrated in the accompanying drawings, constituting a material component of this disclosure, and in which:—

Figure 1 is a front elevational view of an embodiment of the invention.

Figure 2 is a horizontal sectional view taken on line 2—2 of Figure 1.

Figure 3 is a vertical sectional view taken on line 3—3 of Figure 2.

Figure 4 is a front elevational view of the calendar operating mechanism.

Figure 5 is an enlarged partial front view of the same.

Figure 6 is a fragmentary sectional view taken on line 6—6 of Figure 5.

Figure 7 is a detail in perspective of one of the transmission elements.

Figure 8 is a partial elevational, partial sectional view of the combined day of the week and day of the month drive device.

Figure 9 is a sectional view of day of the month clutch drive means, the section being taken on line 9—9 of Figure 10, and

Figure 10 is a fragmentary side elevational view of the same.

Referring in greater detail to the drawings, a conventional clock mechanism, designated by the numeral 15, is shown as housed in a casing 16 having thickened sides 17 resting on feet 18 and having a removable cover 19 at the top.

An opaque plate 20, set near the front of the casing is provided with a central circular dial 21 carrying the numerals 1 to 12 representing hours and at the left of the dial is a rectangular opening 28, while at the right is a similar opening 29, both being in a horizontal plane level with the axis of the hand, and closely below is another aperture 30, the dial and several openings

being rearward of an outer, transparent plate 25 set in the front of the casing.

Extending axially through the dial is a spindle 22 carrying the minute-hand 23 while a tubular spindle 24 carries the hour-hand 25, these spindles being driven by the clock mechanism in the ordinary manner.

Secured on the casing floor is an M shaped frame composed of outer convergently inclined members 32—33 joined by downwardly convergent members 34—35 united by a base member 36 secured to the floor of the casing.

At the junction of the frame members 32—34 is a stud 38 rotatable in its bearing and fixed to the stud is a disc 42, its marginal face divided into fourteen spaces each bearing the name of each day of the week consecutively repeated in the contiguous space, as Sunday, Sunday, Monday, Monday, etc., as at 43, these names appearing singly through the aperture 28 as the disc is rotated.

Set in the rear of the disc are a series of fourteen pins 44 at equally spaced distances corresponding to the names displayed on the front of the disc. These pins are contactable by the angular end 45 of a finger 46 rigidly fixed on the hour-hand spindle so as to rotate twice in twenty-four hours, hence the necessity of repeating the names of the days of the week.

Extending oppositely from the finger 46 is a similar finger 48 offset rearwardly and having an angular end 49 adapted to engage one of a series of pins 50, of which there are two for each day of the month, the pins being set in a disc 51 rotatable on the axis of a stud 52 at the junction of the frame elements 33—35 to extend rearwardly therefrom. The ends of the fingers 46 and 48 are bevelled to acute points and the bevelled edges notched to reduce the length of contact with the pins 44 and 50 respectively.

The face of the disc 51 is provided with marginal spaces bearing numerals 47 for each day of the month, the numerals being arranged in duplicate paired relation, as 1, 1; 2, 2; 3, 3, etc., for the same reason as the duplication of the names of the week on the disc 42 due to being twice actuated by the finger 48 during twenty-four hours of operation.

In this case however, by reason of the months varying in length from 28 to 31 days, it becomes necessary to change the discs 51 each month, unless the following month has the same number of days.

This is accomplished by the device shown in Figures 9 and 10, in which the stud 52, fixed in

the upper part of the frame member 35, is provided with an elongated head 53 to retain and act as a bearing for a rotatable bushing 54, enclosed in a sleeve 55 slidably held to the bushing by a key 56, the sleeve constituting the hub of the disc 51.

Thus the disc and its hub sleeve may be withdrawn from the bushing 54, replaced, or another substituted on the bushing which transmits rotary motion to it by reason of the key 56.

Rigidly set in the outer end of the bushing 54 is a screw plug 54' through which passes a stem having at its outer extending end a fixed knob 57 and at its inner end a friction cone 58, engageable in an axial conical recess 59 in the stud head 53, causing it to expand slightly, thereby to frictionally retain the bushing from motion except when caused to turn slightly by the action of the finger 48.

A third disc 60 is mounted on a stud 61 on the front side of the frame, to the right of the stud 52, and bears on its face the names of the months, as at 62.

A series of twelve arms 63 on the rear of the disc 60 are adapted to be contacted by a bent finger 64 on the disc 51, once at each full revolution, thereby disclosing the name of the month through the aperture 29, closely adjacent the numerical day 47 of the month on the disc 51.

As the discs 51 must be exchanged the arms 63 are removably engaged, and in order to permit the discs to rotate, the frame member is grooved, as at 66.

Mounted on a raised portion of the stand member 36 is a stud 70 on which is rotatable a disc 71 having set in its periphery a plurality of pins 72 of angular cross section, one for each consecutive year, while on the face of the disc 71 are a series of consecutive years 73, eight being shown.

An arm 74 extends from the disc 60, opposite

the arm 63, and is adapted to contact the pins 72 causing the disc 71 to rotate sufficiently to bring one of the years on its face into position to show through aperture 30, thus providing a complete calendar.

Having thus described the invention, what is claimed as new and desired to secure by Letters Patent, is:—

In a calendar clock having a driving mechanism, an hour-hand spindle driven by the mechanism, a finger fixed on said spindle and having oppositely extending angular end faces, a dial having right, left and central apertures, a disc having spaces bearing the names of the days of the week once repeated in adjacent relation, said disc actuated by one end face of said finger to rotate twice in twenty-four hours at uniform intervals to exhibit its spaces through the left hand aperture of said dial, a second disc having spaces bearing numerals indicating the days of the month once repeated in contiguity, said second disc actuated by the opposite end face of said finger also twice in twenty-four hours to exhibit its spaces through the right hand aperture of said dial, a third disc arranged in front of said second disc on an offset axis therefrom, this axis of said third disc being between the axis of said second disc and the periphery thereof, said third disc having twelve spaces bearing the names of the months, such names showing through the right hand aperture in said dial closely adjacent the spaces of the said second disc, means carried by said second disc to actuate said third disc one space at each full revolution of the second disc, a fourth disc having spaces bearing numerals designating consecutive years to show through the central aperture in said dial, and means driven by said third disc to move said fourth disc one space at each full revolution of the third disc.

OTTO BECKER.