

Jan. 2, 1951

W. F. THOMPSON

2,536,237

CLOCK

Filed April 8, 1947

2 Sheets-Sheet 1

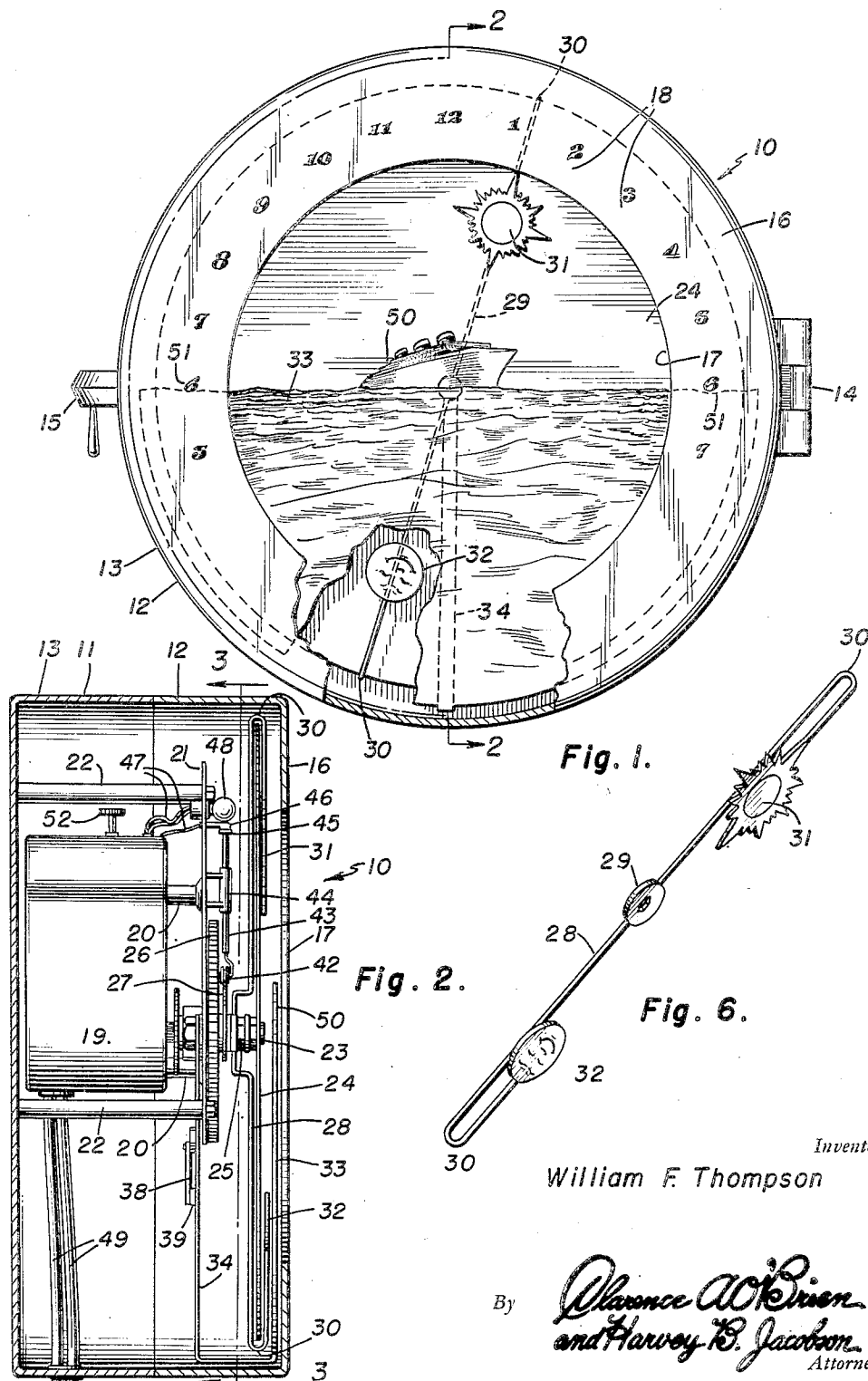


Fig. 1.

Fig. 2.

Fig. 6.

Inventor

William F. Thompson

By

Clarence A. O'Brien
and Harvey E. Jacobson
Attorneys

Jan. 2, 1951

W. F. THOMPSON
CLOCK

2,536,237

Filed April 8, 1947

2 Sheets-Sheet 2

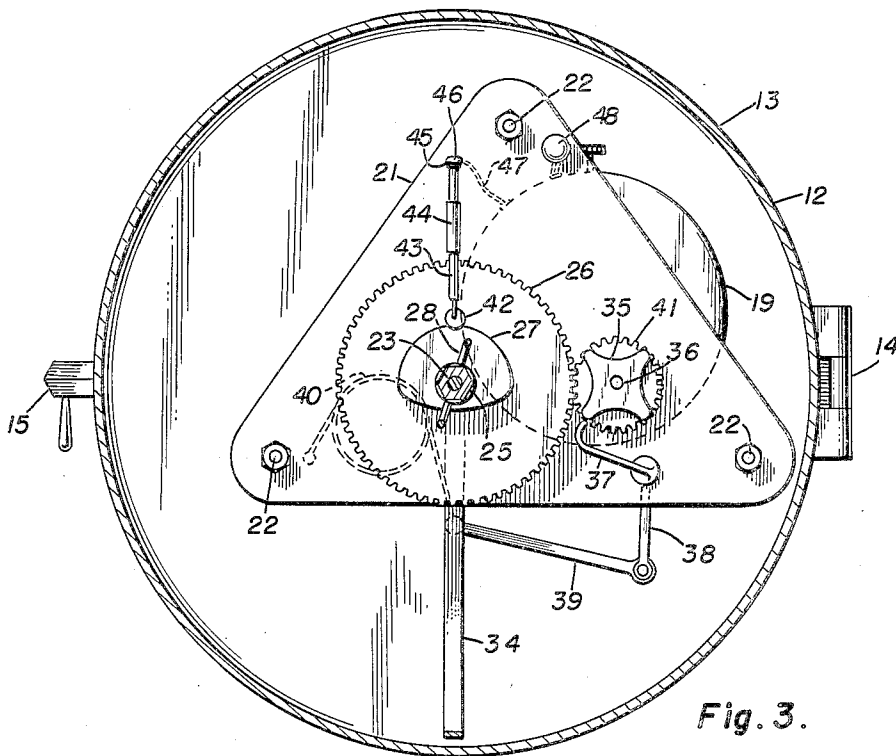


Fig. 3.

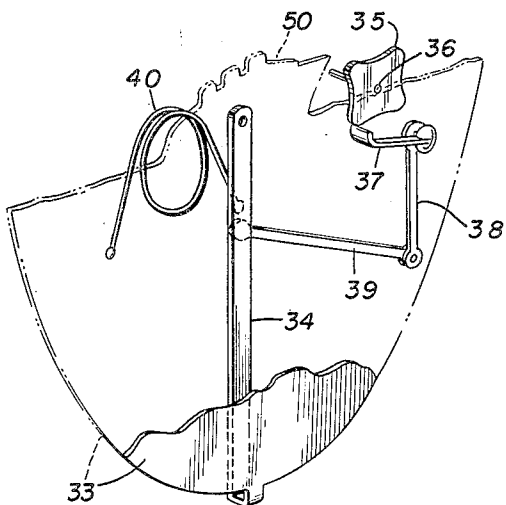


Fig. 4.

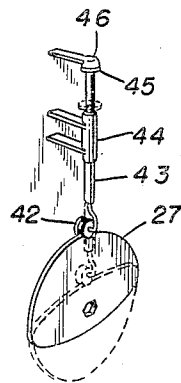


Fig. 5.

Inventor

William F. Thompson

By

Almonce A. O'Brien
and Harvey E. Jacobson
Attorneys

UNITED STATES PATENT OFFICE

2,536,237

CLOCK

William F. Thompson, Philadelphia, Pa.

Application April 8, 1947, Serial No. 740,047

1 Claim. (Cl. 58—126)

1

This invention relates to new and useful improvements and structural refinements in clocks, more specifically, electric wall clocks, and the principal object of the invention is to provide a device of the character herein described wherein an indicator hand equipped at the opposite ends thereof with day and night indicating characters is movable with respect to a substantially semi-circular time indicating dial, whereby the ante-meridian and post-meridian hours of the day may be readily identified.

A further object of the invention is to provide a clock which is exceptionally novel and pleasing in appearance since, in effect, it simulates a porthole of a ship and provides representations of scenery such as may be visible through said porthole.

Another object of the invention is to provide a clock which may be automatically illuminated during the hours of darkness.

An additional object of the invention is to provide a clock which is simple in construction and which will readily lend itself to economical manufacture.

With the above more important objects in view and such other objects as may become apparent as this specification proceeds, the invention consists essentially of the construction and arrangement of parts as shown in the accompanying drawings in which:

Figure 1 is a front elevational view of the invention, the same being shown partially broken away to reveal its construction;

Figure 2 is a cross-sectional view, taken substantially in the plane of the line 2—2 in Figure 1;

Figure 3 is a cross-sectional view, taken substantially in the plane of the line 3—3 in Figure 2;

Figure 4 is a front perspective view of an oscillating center plate used in the invention and of means for oscillating the same;

Figure 5 is a perspective view of an electric switch and cam, and;

Figure 6 is a perspective view of an indicator hand used in the invention.

Like characters of reference are used to designate like parts in the specification and throughout the several views.

Referring now to the accompanying drawings in detail, the invention consists of a clock designated generally by the reference character 10, the same embodying in its construction a pair of half sections 11, 12 coacting to form a disc-like housing 13 which is preferably adapted for mounting upon a wall in any suitable manner.

The housing 13 simulates the appearance of a porthole of a ship, for the furtherance of which effort it may be provided with a suitable hinge 14 and with a securing handle assembly 15. In effect, the hinge 14 and the handle assembly 15

2

may be employed for attaching the housing sections 11, 12 together in such manner that they may be "opened" when access to the interior of the housing is to be had.

The front surface of the housing section 12 provides what may be called a face plate 16, this in turn, being formed with a circular opening 17. The upper half of the plate 16 is inscribed adjacent the edge of the opening 17 with suitable time marking graduations as is indicated in Figure 1, the graduations constituting what may be referred to as a semi-circular dial 18. The arrangement of this dial will be hereinafter more fully described.

A suitable electric motor 19 is provided in the housing 13, this motor being secured as indicated at 20 to a mounting plate 21 which, in turn, is rigidly secured to the housing section 11 as at 22.

The mounting plate 21 is equipped with a center bolt 23 and the latter carries a stationary back plate 24 having a substantially circular configuration. This plate is disposed behind the opening 17 and is spaced with respect to the face plate 16, as is best shown in Figure 2.

The aforementioned center bolt 23 carries a rotatable sleeve 25 having a substantially hexagonal cross-sectional configuration, which sleeve, in turn, is provided with a gear 26, a cam 27 and with an indicator hand 28.

In other words, rotation of the sleeve 25 will result in a simultaneous rotation of the parts 26, 27, 28. The indicator hand 28 is provided substantially at the center thereof with an enlarged boss 29 whereby the mounting of the hand upon the sleeve 25 is facilitated, while the end portions of the hand are angulated inwardly around the marginal edges of the back plate 24, as indicated at 30. A day indicating character and a night indicating character are secured to the inwardly angulated end portions of the hand 28, these characters being represented by a sun-shaped figure 31 and a moon-shaped figure 32 respectively.

A substantially semi-circular, oscillating center plate 33 is positioned between the aforementioned plates 17, 24, the plate 33 being supported and oscillated by an arm 34 which is formed integrally with the plate, as is best shown in Figures 2 and 4. It will be noted that the plate 33 and the arm 34 are mutually spaced and the free extremity of the arm is freely pivoted on the aforementioned center bolt 23.

The arm 34 together with the plate 33 are oscillated by means of a cam 35 secured to a shaft 36, the cam 35 being engaged by a crank-like follower arm 37 which, in turn, actuates a further crank or arm 38. The latter is operatively connected to the aforementioned arm 34 by means of a link 39, and it will be found that rotation of the cam 35 will produce an oscillating movement of the plate 33. A suitable

spring 40, anchored at the extremities thereof to the plate 21 and to the arm 34, is employed for maintaining the follower 37 in engagement with the cam 35, as will be readily understood.

The shaft 36 is driven through the medium of suitable gearing (not shown) by the motor 19 and the shaft (36) also carries a gear 41 which meshes with the aforementioned gear 26. Accordingly, rotation of the motor 19 will not only produce an oscillating movement of the plate 33, but will also result in a rotating movement of the indicator hand 29.

The aforementioned cam 27 is engaged by a follower 42 mounted upon a pin 43 which is slidable in a tubular guide 44 secured to the plate 21. The pin 43 also carries a contact 45 which is engagable with a further contact 46 secured to the plate 21, the contacts 45, 46 constituting an electrical switch which is in circuit through the medium of suitable conductors 47 with an electric lamp 48. It may be also added at this point that the motor 19 receives its supply of electric current through suitable conductors 49, and the conductors 47 are, of course, in circuit with the motor, more specifically, with the conductors 49, whereby supply of current to the lamp 48 through the switch contacts 45, 46 is provided.

The front surface of the plate 33 is painted as shown in Figure 1 to represent the scenes such as would be "visible" through the porthole opening 17 and to further enhance the realistic effect, the upper edge portion of the plate 33 may be provided with a projection 50 which, when painted, would represent a ship on the sea.

Furthermore, appropriate backgrounds for the ship are provided by the plate 24 which represent the sky.

Accordingly, when the invention is placed in use, the "sky" representation upon the plate 24 will, of course, remain stationary, while an oscillating movement of the sea and ship represented by the plate 33 and projection 50 will be provided by the cam 35 in the manner already described.

Therefore, when the invention is used as shown in Figure 1, the "rocking" movement of the sea and ship will present unusual and novel visual effect, as will be readily appreciated.

Simultaneously, rotary motion will be imparted to the indicator hand 29, whereby the sun 31 and the moon 32 will be brought selectively and exclusively into position adjacent the dial 18. That is to say, when the sun 31 is disposed adjacent the dial, the moon 32 will be "hidden" below the "sea," more specifically, behind the plate 33. A similar remark may, of course, be applied to the sun when the moon is disposed adjacent the dial. Accordingly, rotation of the hand 29 will create the appearance of a "rising and setting sun" and of a "rising and setting moon," this being considered with respect to the "horizon" represented by the upper edge of the plate 33.

The aforementioned dial 18 includes a pair of diametrically opposed graduations 51 which represent corresponding ante-meridian and post-meridian hours of the day, preferably 6:00 A. M. and 6:00 P. M., substantially as shown. The portion on the dial between the graduations is divided into intervals marking the successive hours (and minutes, if desired) of the day, the hour of 12:00 (noon or midnight) being disposed at the "zenith" of the dial.

It may be assumed that the sun 31 rises on the left hand side of the clock and after emerging above the upper edge of the plate 33, the relative

position of the sun will progressively indicate the time of the day with respect to the graduations on the dial 18. As shown in Figure 1, the hour of the day is approximately 1:15 P. M. In due course, the sun 31 will "set" on the right hand side of the dial and simultaneously, the moon 32 will "rise" on the left hand side, in order to indicate the time at night.

It will be also noted that the configuration and position of the cam 27 is such that the points 45, 46 are in contact while the moon 32 is present adjacent the dial 18, whereby the clock will be illuminated automatically between the hours of 6:00 P. M. and 6:00 A. M., as will be understood.

It may be also explained that the hand knob 52 is employed for "setting" the indicator hand of the clock in the conventional manner.

It is believed that the advantages and use of the invention will be clearly apparent from the foregoing disclosure and accordingly, further description thereof at this point is deemed unnecessary.

While in the foregoing there has been shown and described the preferred embodiment of this invention it is to be understood that minor changes in the details of construction, combination and arrangement of parts may be resorted to without departing from the spirit and scope of the invention as claimed.

What I claim as my invention is:

In a clock, the combination of a housing affording a face plate provided with a circular opening, a frame in said housing, a motor carried by said frame and having a drive shaft, a driven shaft rotatably journaled in the frame coaxially with said opening and operatively connected to said drive shaft, an indicator hand secured to the driven shaft, an oscillatory limb pivotally mounted on the driven shaft rearwardly of said hand and having a forwardly extending free end portion, a semi-circular panel secured at its arcuate edge to the free end portion of said limb and disposed between said hand and said face plate concentrically with said opening, a cam secured to said drive shaft, a double arm crank pivoted to said frame and having a first arm in operative engagement with said cam, a link pivoted to the second arm of said crank and to an intermediate portion of said limb whereby said panel may be oscillated by rotation of said drive shaft, and resilient means for urging the first arm of said crank in engagement with said cam.

WILLIAM F. THOMPSON.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
391,271	Phelps	Oct. 16, 1888
508,467	Clark	Nov. 14, 1893
666,381	Gareau	Jan. 22, 1901
723,489	Rosenbusch	Mar. 24, 1903
1,216,556	Faiella	Feb. 20, 1917
1,517,174	Schmidt	Nov. 25, 1924
1,989,584	Biedenfeld	Jan. 29, 1935
2,091,205	Johnson	Aug. 24, 1937

FOREIGN PATENTS

Number	Country	Date
6,465	Switzerland	Feb. 7, 1893
40,797	Switzerland	July 22, 1907
84,473	Switzerland	July 17, 1919
743,618	France	Jan. 10, 1933