

C. H. ANDERSON.
CLOCK.

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1,350,131.

Patented Aug. 17, 1920.

Fig. 1.

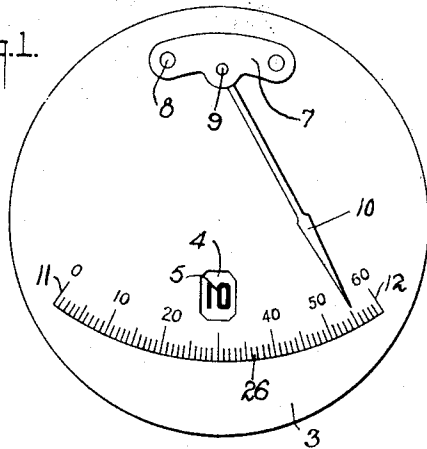


Fig. 2.

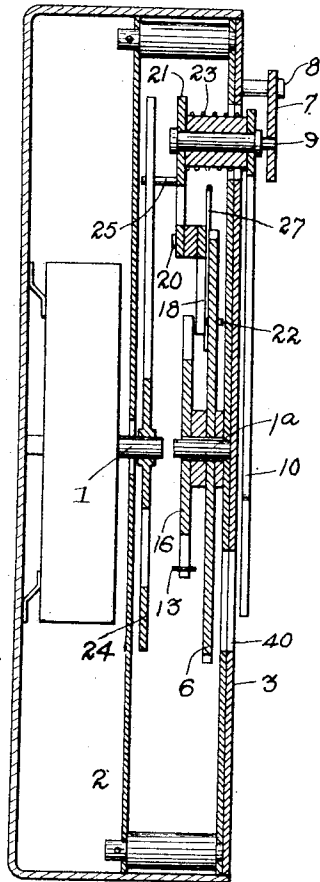


Fig. 3.

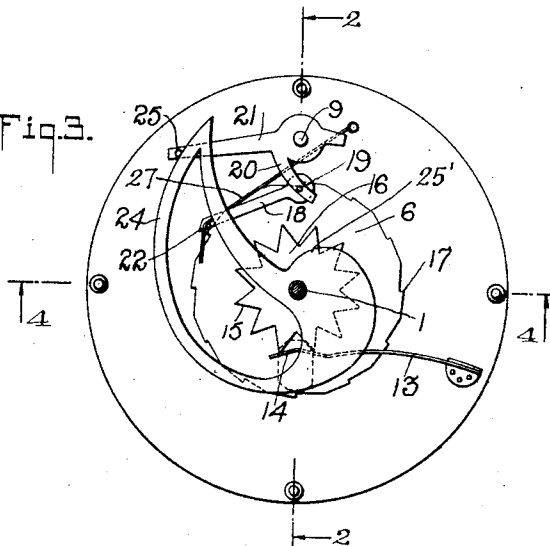
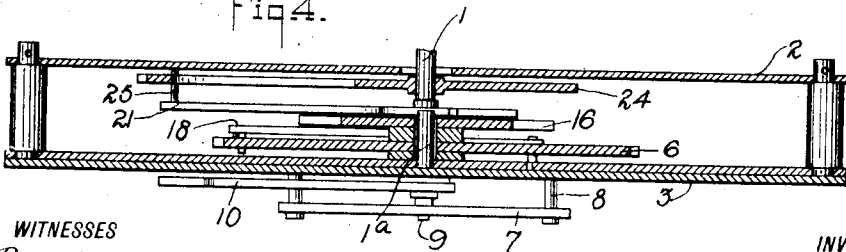


Fig. 4.



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CHESTER HENRY ANDERSON, OF LOS ANGELES, CALIFORNIA, ASSIGNOR OF ONE-FOURTH TO CORTLAND L. HILL, AND TWO-FOURTHS TO H. RICHARD KLEIN-BACH, BOTH OF LOS ANGELES, CALIFORNIA.

CLOCK.

1,350,131.

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To all whom it may concern:

Be it known that I, CHESTER H. ANDERSON, a citizen of the United States, and a resident of Los Angeles, in the county of Los Angeles and State of California, have invented a new and Improved Clock, of which the following is a full, clear, and exact description.

This invention relates to clocks, and has for an object to provide an improved construction wherein the time indicating means is arranged so that a number will indicate the hours and an oscillating pointer will indicate the minutes.

Another object of the invention is to provide a clock mechanism oscillating an arm or pointer and rotating a number dial, the arrangement being such that the mechanism may be connected to an ordinary minute hand shaft of an ordinary clock now in common use.

A still further object of the invention is to provide means which are capable of being connected to ordinary clock mechanisms now in common use, which will cause a minute hand or pointer to operate in proper time over a dial for indicating the minutes while moving numbers successively in front of an opening in the clock dial to indicate the hours.

In the accompanying drawing:

Figure 1 is a front view of a clock embodying the invention, the same illustrating the particular arrangement of dial.

Fig. 2 is a vertical sectional view through Fig. 3 on line 2—2.

Fig. 3 is a rear view of the mechanism for moving the pointer and the hour dial shown in Figs. 1 and 2.

Fig. 4 is a horizontal sectional view through Fig. 3 on line 4—4.

Referring to the accompanying drawing by numerals, 1 indicates the shaft of a clock which carries ordinarily the minute hand. The remaining part of the clock is not shown in the drawing, as the particular construction of the clock forms no part of the present invention, whereas the present invention is merely connected to the shaft 1. This shaft, as shown in Figs. 2 and 3, extends through a suitable aperture in the rear of casing 2, which casing is comparatively thin, and which is provided with a face plate or dial 3, which is constructed as shown in Fig.

1. This face plate or dial is provided with an opening 4 for showing the numbers 5 on the hour disk 6. In addition a bracket or fitting 7 is arranged in front of the dial and supported by suitable standards 8 extending into the casing 2, said fitting supporting one end of the shaft 9 to which the lever 21 is rigidly secured. A minute hand 10 swings back and forth between the zero mark 11 and the sixty mark 12. The hand or pointer 10 when swinging from zero to sixty moves at the regular rate of a minute hand of an ordinary clock, so that it will be one hour from the time the hand or pointer leaves the zero until it reaches the number sixty, but when moving back to zero it takes only a short time, as for instance the fraction of a second. This construction and arrangement permits any one to quickly see the time of day both in hours and minutes.

The mechanism for producing the result just described is shown in elevation in Fig. 3, wherein it will be seen that the hour disk 6 is loosely journaled on the shaft 1^a, but is held normally in a given position by spring 13 which is bent at 14. The bent portion 14 fits in between two of the teeth 15 of a toothed wheel 16 which is rigidly secured in any desired manner to the hour disk 6. The disk 6 is provided with a plurality of notches 17, there being twelve notches in order to indicate the different hours of the day. These notches are arranged on the periphery, in order to readily receive the hook end of arm 18, which arm is pivotally mounted at 19 on projection 20 of the operating lever 21. The operating lever 21 is rigidly secured to the shaft 9 and is being continually urged to swing toward the shaft 1 by spring 23 which is connected at one end to the lever 21 and at the other end to the stationary part of the casing 2. When the cam 24 slips off of the pin 25 carried by the lever 21 said lever will move under the action of spring 23 until it strikes the cam 24 approximately at the point 25' near shaft 1. This quick action under the impulse of spring 23 will cause the pointer or hand 10 to move back to zero on the graduations 26. At the same time the end hook of the arm 18 will engage in one of the teeth 17 and pull the hour disk 6 until it is moved sufficiently far to expose another number through opening 4. When this occurs the toothed wheel 16 will be

moved against the action of spring 13 and the bent portion 14 of the spring will snap between the next two teeth 15 for locking the disk 6 in its new position. As the shaft 1
5 to which the cam 24 is rigidly secured continually rotates the minute hand 10 will again begin to move over its course toward the end 12.

In connection with the arm 18 it will be
10 noted that the hook end thereof is preferably formed as a pin 22 which not only engages the notches 17, but also is engaged by a spring 27 so as to cause the pin to instantly snap into the notch 17 when per-
15 mitted to do so.

What I claim is:

1. A clock comprising a mechanism for rotating a shaft once in sixty minutes, a cam rigidly secured to said shaft and rotated
20 thereby, a dial having arc-shaped graduations thereon indicating the minutes of an hour, an opening adjacent said graduations, a pointer adapted to move over said graduations, a shaft rigidly secured to the pointer
25 and extending through the dial, a lever rigidly secured to said shaft, a pin extending from said lever and engaging the face of said cam whereby as the same is rotated said lever will be swung in one direction so that the
30 pointer will be gradually moved over said graduations, a spring acting on said lever for quickly swinging the lever and the pointer carried thereby back to the starting point at the end of each sixty minutes, an hour dial
35 formed with numbers thereon from one to twelve and arranged so that one of the numerals may be seen through said opening, said hour dial being formed with twelve notches thereon, a pawl pivotally mounted

on said lever, a pin extending from said
40 pawl adapted to engage the notches in said hour dial, and a spring for maintaining said pin against said hour dial.

2. A clock comprising a shaft, mechanism
45 for rotating said shaft once in sixty minutes, a dial plate having an arc-shaped graduation and indications for indicating the minutes of an hour, said dial plate having an opening, a pointer adapted to move over
50 said graduations, an hour plate provided with notches on the periphery having numbers thereon from one to twelve, arranged so that one of the numbers may be seen through said opening, a shaft secured to said
55 pointer and extending through said dial plate, a lever arranged at the back of the dial plate rigidly secured to said dial shaft, said lever having an arm extending there-
60 from substantially at right angles thereto, a pin extending from said lever adjacent its outer end, a cam rigidly secured to said first mentioned shaft, said cam being positioned
65 so that the face thereof will engage the pin on said lever whereby the lever and pointer connected therewith will be moved across said dial by the cam, a spring secured to
70 said lever for quickly swinging the lever back to its starting point at the end of each sixty minutes, a pawl pivotally mounted on the outer end of said arm, a pin extending from
75 said pawl for engaging the notches in said hour plate, and a spring for causing said pawl to always engage the periphery of said hour plate and consequently move the hour plate one twelfth of a revolution each time the lever is returned to its starting point.

CHESTER HENRY ANDERSON.