United States Patent

Whittier

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[54] **ALARM CLOCK**

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[51] **Int. Cl.**.....**G04b 23/00**

[58] **Field of Search**.....58/16–22, 26, 38, 58/39.5, 125 B, 126 A

[56] **References Cited**

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[57] **ABSTRACT**

A novel alarm clock incorporating a standard clock motor and gearing unit, the alarm clock utilizing four dials in substitution of the conventional four hands, each of the four dials being made of plexiglas, each of the dials being of a different size and of circular shape which are concentrically positioned so that indicia on all four dials can be read at the same time, the largest dial representing an alarm control, a next largest dial representing the time in hours, the next smaller dial representing the time in minutes, and the smallest dial representing time in seconds.

1 Claim, 2 Drawing Figures

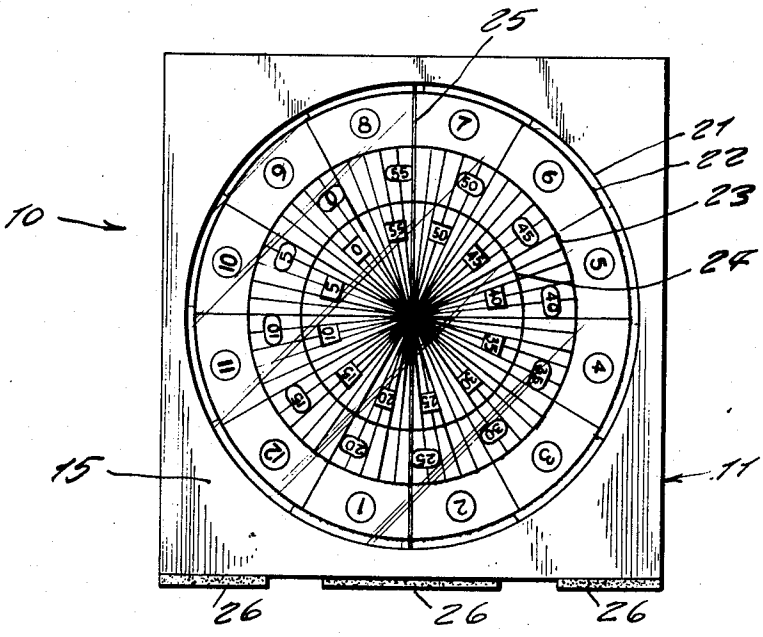


Fig. 1.

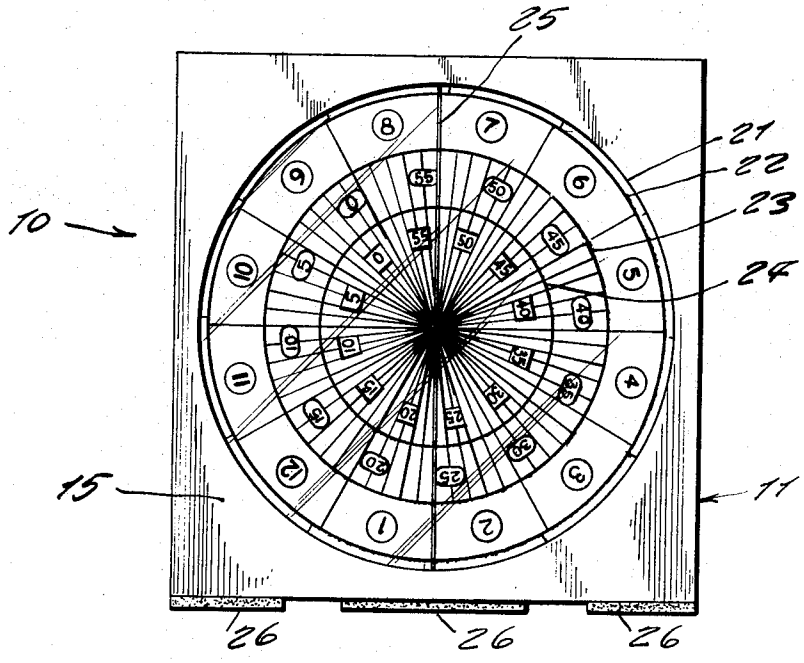
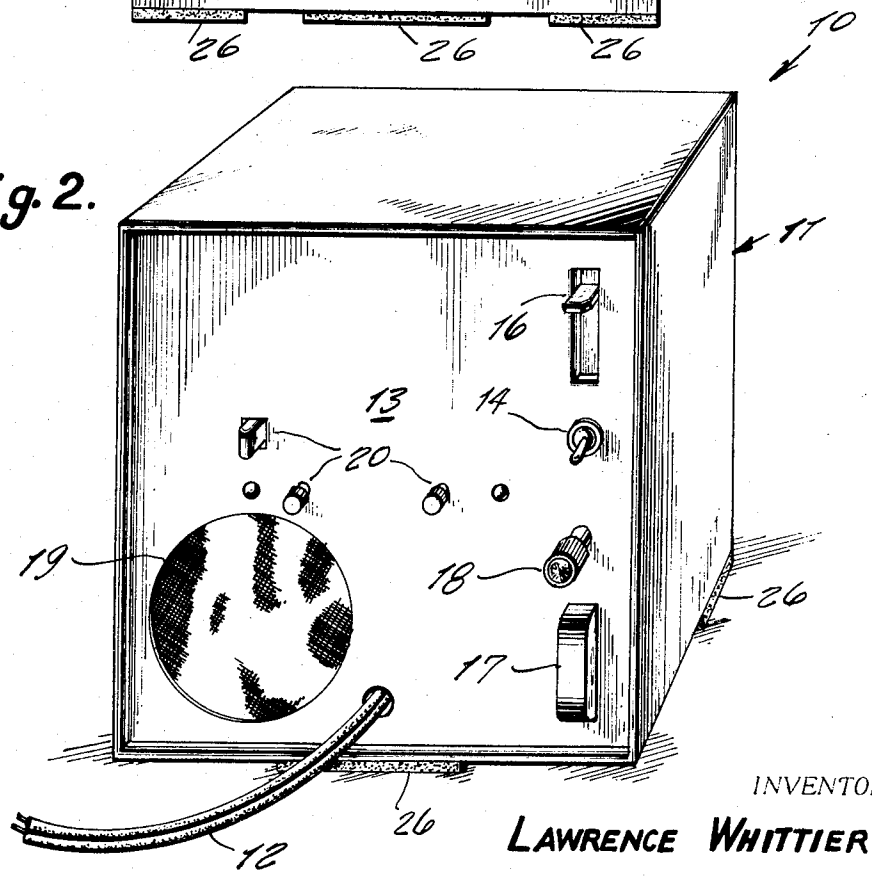


Fig. 2.



INVENTOR.
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ALARM CLOCK

This invention relates generally to time clocks. More specifically the present invention relates to alarm clocks.

A principal object of the present invention is to provide a novel alarm clock which presents a new type of clock face and which does not incorporate clock hands for indicating the time but wherein the same is accomplished by means of four concentrically positioned circular dials.

Another object of the present invention is to provide an alarm clock wherein one of the dials is used for positioning an alarm, another of the dials indicating the time of the hour, a third of the dials indicating the time in minutes and the last dial indicating the time in seconds.

Yet another object of the present invention is to provide an alarm clock which utilizes a standard clock motor and a standard gearing unit which can be associated with the present novel clock face.

Other objects of the present invention are to provide an alarm clock which is simple in design, inexpensive to manufacture, rugged in construction, easy to use and efficient in operation.

These and other objects will be readily evident upon a study of the following specification and the accompanying drawing wherein:

FIG. 1 is a front elevational view of the present invention, and

FIG. 2 is a perspective view of the present invention as viewed from the rear thereof.

Referring now to the drawing in detail, the reference numeral **10** represents an alarm clock according to the present invention wherein there is a clock case **11** within which there is enclosed a standard clock motor and a standard gearing unit, both of which are not shown.

An electric extension cord **12** extends rearwardly out of the case **11**, the extension cord at its outer end being provided with a male plug for insertion into a house electric outlet socket for purpose of providing power to the clock motor.

Upon the rear side **13** of the case **11**, various controls are provided such as an off-on switch **14** and various other controls for correctly setting the time indicated upon the clock face **15** upon the opposite side of the case **11**.

The switch **14** comprises a toggle switch for the time signal receiver. A micro on-off switch **16** is provided for the receiver or channel selector.

A pushbutton micro-switch **17** is provided for syncronizing the seconds disc with the time signal. A knob **18** provides the receiver volume control. A grill **19** on the rear side covers a speaker connected to an amplifier both of which are also not shown.

Standard time and alarm knobs **20** are also located on the rear side or rear panel **13** of the case.

As shown in FIG. 1 of the drawing, the clock face **15** includes a plurality of four dials concentrically mounted for telling the time. Each of the dials is of circular shape and is made of plexiglas, the dials being of different size so that all four thereof can be read at any one time.

Each of the dials has a plurality of radially extending color areas, the arcuate length of the color areas being additionally each identified by numerical indicia.

Thus there is an alarm dial **21**, an hour dial **22**, a minute dial **23**, and a seconds dial **24**. There is also a vertical cross hair **25** with which the colored areas and indicia of the dials may be aligned in order to tell the time.

An important feature of the present invention comprises that instead of four movable hands and one stationary clock face, in the present invention there is one stationary hand and four movable faces.

In operative use, the time is read from the top of the clock dials downward along the white cross hair **25**.

The outer narrow disc **21** comprises the alarm setting. The next is the hour disc, then the minute disc and finally the second hand disc.

Two neonlights may be provided for causing the white cross hair and numbers to be visible at nighttime. Alternately a thin slit in the clock face behind the dials may serve to allow light from the neon lamps positioned there behind to show therethrough and serve as a cross hair for nighttime viewing particularly if the indicia is made visible.

The time signal receiver contained within the case is a one or three channel receiver receiving the CHU time signal in Canada or an equivalent time signal in the United States.

It may also be crystal tuned to the WWV broadcast from Fort Collins, Colorado or MUAU, Hawaii. This receiver allows the clock to be quickly set or to verify the time.

It produces an audio voice announcement and does not automatically set the clock.

While most clocks can only be set to the nearest minute, the present clock can be set to the closest second by depressing the micro switch pushbutton **17** when the clock seconds disc reads 0 seconds. This stops the power to the clock motor, thereby stopping the second disc. When the time signal beeps the exact minute, the switch is relaxed allowing the second disc to turn again.

If the second disc has been set this way, it is possible at a later time to detect a loss or gain in the cycles of the 60 cycle house power by comparing the syncronized seconds disc to the time signal and multiplying the number of seconds by 60 cycles.

Three silicone rubber foot pads **26** are mounted on the underside of the case so to prevent scratching the finish of a supporting surface, and which act as a shock absorber when setting the clock down, and which also serves to prevent sliding or rocking of the clock.

What I now claim is:

1. In an alarm clock containing the combination of a case, a motor, a gearing unit and an alarm, the improvement comprising:

four circular dials, wherein said four dials are concentrically positioned within said case, each of said four dials being of a different size, the largest of said dials comprising an alarm setting, the next largest dial comprising an hours indicator, the next larger dial comprising a minutes indicator, and the smallest of said dial representing a seconds indicator,

a vertical cross hair mounted in front of said dials, so that only the top half of said dials and siad cross hair are used for reading the alarm setting and the time is read from the top of said clock dials downward along said cross hair,

a large circular opening on the front of said case for allowing for viewing of said dials and said cross hair

A plate of glass mounted within the case in front of the dials and said cross hair for providing protection to said dials and said cross hair, and

Said combination further comprising three knobs extending from the rear of said case, wherein the first of said knobs is a push-pull lever for turning the alarm on or off, the second of said knobs is for setting the alarm dial indicating when the alarm is to sound, and the third of said knobs is for setting the time displayed on the hours and minutes dials but having no effect upon the seconds dial.

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