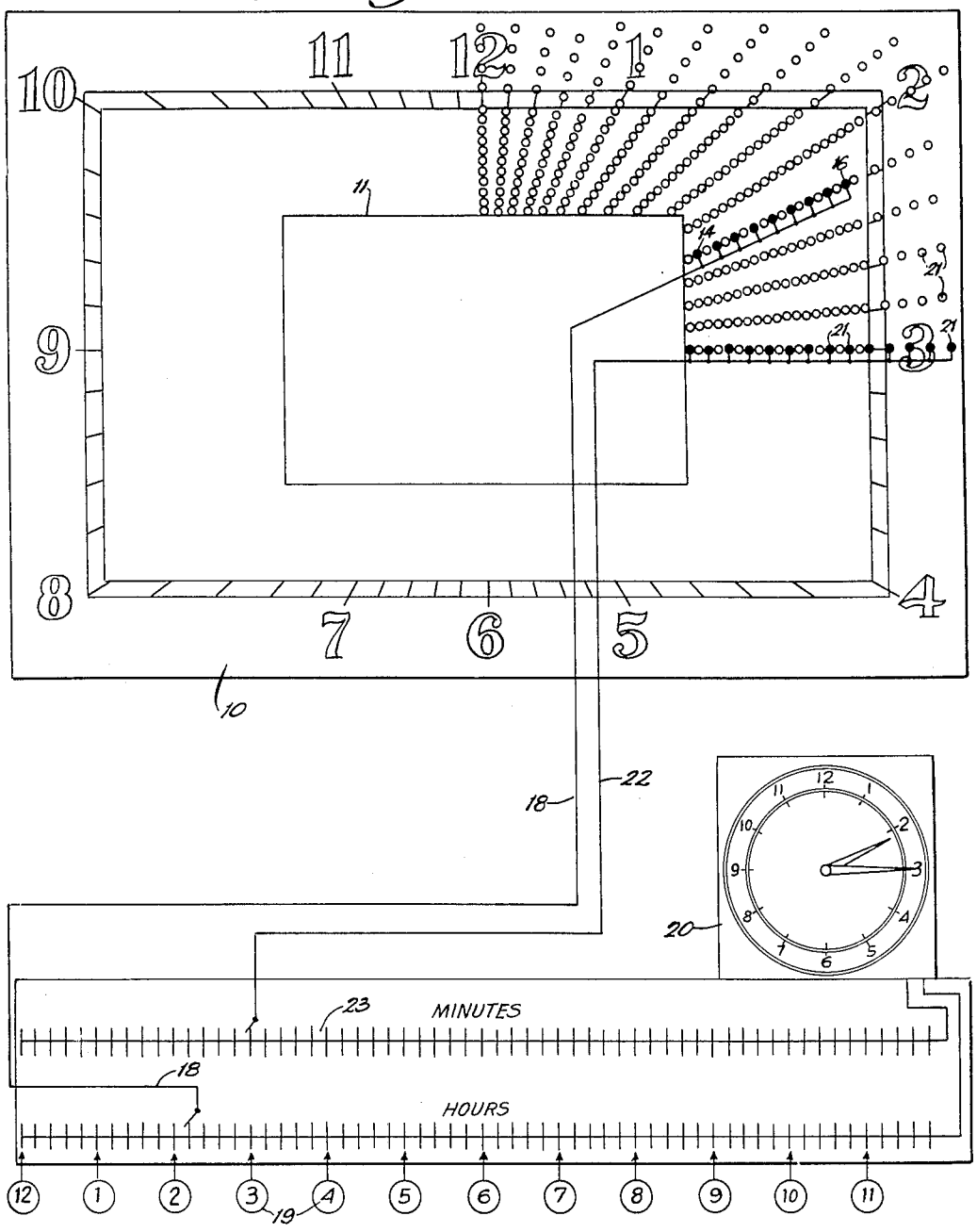
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ILLUMINATED CLOCK

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Fig. 1



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Fig. 2

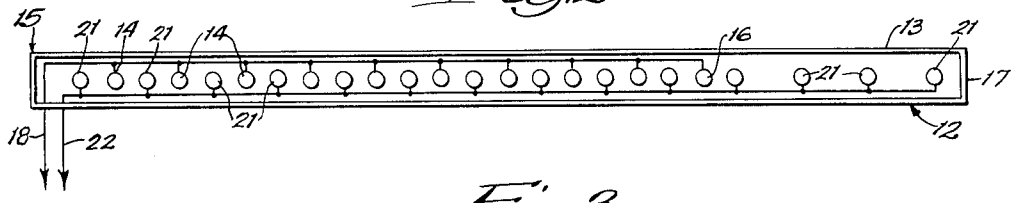
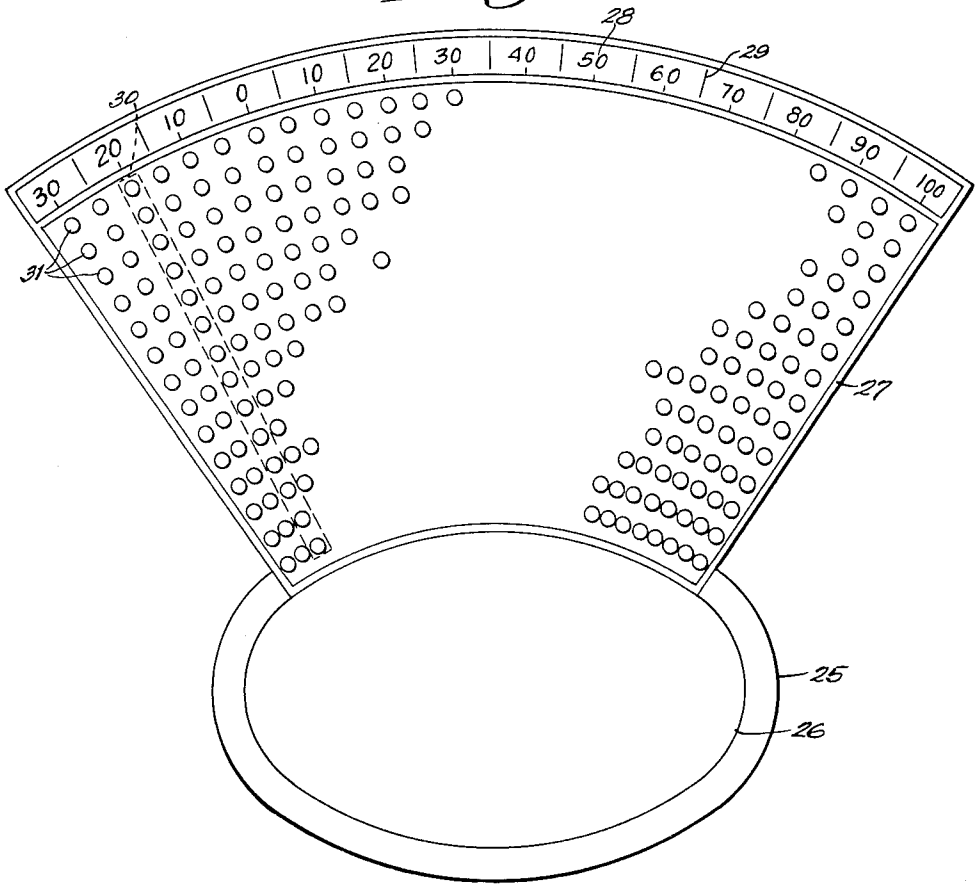


Fig. 3



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ILLUMINATED CLOCK

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Application July 21, 1953, Serial No. 369,480

1 Claim. (Cl. 58—50)

This invention relates to display devices and particularly to display devices which indicate changes responsive to the action of related mechanical devices, such as clocks, thermometers, and similar devices.

In display advertising, and particularly in large outdoor displays, the basic problem sought to be solved in each case is that of obtaining the attention of the public so that an advertising message may be communicated. Since it is impossible to effectuate communication without first obtaining the attention of the person, various devices have been used to attract and hold that attention. These devices include the use of vivid colors, the display of pleasing representations, and the display of mechanical devices such as clocks, thermometers, and the like, which continually answer one of the predominant questions in the mind of the public.

There are several limitations on the size of devices such as clocks or thermometers in the field of display advertising. One of these limitations involves the great weight of the large indicators or hands necessary. A clock hand constructed of the lightest materials available commensurate with resistance to erosion and weathering, even though of relatively short length, is quite heavy and must be counterbalanced. It is for this reason that truly large clocks are not used in the outdoor advertising field. The equipment and stressed construction necessary to support and move such heavy clock hands it far too burdensome and expensive in original cost and maintenance to warrant its use.

A further limitation on the use of outdoor thermometers and clocks is born of the desire to utilize the central portion of the instrument to convey at least a portion of the advertising message. Any plate or panel adapted for such use on a clock must be either mounted on the pivotal axis about which the clock's hands rotate, or it must be supported from points outside the diameter of the circle described by the tip of the longest hand employed. In thermometers of the curved scale type, such a panel must be mounted from below and may project only a short distance over the panel employed.

It is an object of this invention to provide indicator means useful in display devices such as clocks, thermometers, and the like, which indicator means will require no expensive, heavy machinery for moving the same.

Another object is to provide indicator means which are limited in length only by the limitations imposed by the space available rather than the weight of the indicator means.

A further object is to provide indicator means which will permit greater flexibility in the employment of the central portion of the clock or thermometer to convey a portion of the message.

Further objects and advantages of this invention will be apparent from the consideration of the following specification in connection with the accompanying drawings, in which:

Fig. 1 is a drawing partially in elevation and partially

in schematic indication showing a display clock constructed according to this invention.

Fig. 2 is a plan view of the basic indicator arm unit employed as the indicator arms of the clock of Fig. 1, and

Fig. 3 is a view in elevation showing the invention applied to a curved scale thermometer.

In the drawings, with particular reference to Figs. 1 and 2, there is shown a large clock face **10** having normal numerical and unitary indicia. The center panel **11** upon which a portion of the advertising message may be shown is indicated in rectangular shape. It should be understood that the panel **11** may be of any desired shape, geometrical, free-form, or representative of trade-mark devices. It should also be understood that the clock **10** may be of practically any size, such as 100 feet in diameter, or more.

As shown in one quarter of the clock **10**, and as constructed in all four quarters, a number of radially projecting indicator units **12**, such as that shown in Fig. 2 are formed on the face of the clock **10**. There is a unit **12** for each of the sixty minutes encompassed by the total sweep of the clock face.

The indicator unit **12**, shown particularly in diagrammatic form in Fig. 2, may be constructed with an outer box frame or channel **13**, and is equipped with a plurality of light bulbs, as shown. These bulbs are of the wattage necessary in each particular application of the device. The bulbs **14** extend from a point adjacent the inner end **15** of the unit **12** for a substantial distance and terminate with the bulb **16** short of the outer end **17** of the unit **12**. The bulbs **14**, **16** are wired as shown by the lead **18** to a mechanical repeater device of any well known type which will repeat the hours as shown schematically at **19** from a master clock **20**.

The bulbs **21** in the indicator **12** are positioned alternately with the bulbs **14** from a point adjacent the inner end **15** to a point adjacent the outer end **17**, as shown in Fig. 2. The bulbs **21**, extending the full length of the indicator **12**, are wired as shown by the lead **22** to the minute side **23** of the repeater to be controlled by the minute hand of the master clock **20**.

With this arrangement, the master clock **20**, preferably an electrically operated clock, will light, through the repeating elements **19** and **23**, various combinations of bulbs **14** and **21** in the indicators **12**. As shown in Fig. 1, the clock reads 2:15. The bulbs **21** opposite the indicia "3" are shown alight for the complete length of the indicator **12**. The bulbs **14** and **16** on the minute indicia No. 11 are shown alight a shorter distance to indicate the hour hand. The minute hand will advance one indicia at the end of each minute, while the hour hand will advance one indicia at the end of each twelve minutes.

Once each hour the minute hand and the hour hand will coincide on the same indicator **12**. This will result in the lighting of all of the bulbs in the particular indicator. Unusual brilliance for the shorter part of the indicator will show the hour hand, while the remainder of the indicator will be lit only to normal brilliance, thereby showing the minute hand.

It will be apparent from the showing of Fig. 1, and from a consideration of the structure heretofore described, that the length of the indicators may vary, as required by the shape of the face of the clock. This will make possible the construction of clocks having faces of shapes varying widely from the traditional circular or substantially square form. Oval, elliptical, or narrow rectangular shapes are possible.

In constructing this indicator for use with a thermometer, such as shown in Fig. 3, it is not necessary to utilize the double row of alternating bulbs shown in Fig. 2. As

shown in Fig. 3, the thermometer **25** has a central display panel **26** which may be utilized to display a portion of the advertising message. Panel **26**, similar to panel **11**, may be of any desired shape or size to facilitate the portrayal of the advertising desired. The scale portion **27** is formed with the usual numerical and unitary indicia **28** and **29**.

A plurality of indicator arms **30** are formed as shown including the spaced bulbs **31** extending substantially radially toward the circumferential outside edge. The bulbs **31** of a particular indicator arm **30** are wired for simultaneous operation under the control of a master thermostat, now shown. A suitable repeater device actuated by such a master thermostat is employed to translate the measurement of the master thermostat into the electrical signal necessary to illuminate one of the indicator arms **30**.

The thermometer may be constructed with any number of indicator arms **30**, commensurate with the size of the thermometer. As shown, in Fig. 3, there are indicator arms **30** at intervals of 5 degrees on the scale **27**. In thermometers of very large size, it may be found advisable to utilize indicator devices for each degree or each two degrees of change in temperature.

Having described my invention, what I desire to claim and protect by Letters Patent is:

In a clock, the combination comprising a face having hour and minute indicia, a plurality of minute-indicating lamps arranged in a plurality of radial rows alined with said minute indicia, said lamps being substantially equally spaced in said rows, each of said rows including a predetermined number of said lamps, means for sequentially illuminating said rows of lamps to simulate a moving minute hand, a plurality of hour-indicating lamps arranged in a plurality of rows superimposed upon and in substantially exact alinement with the inner portions of said rows of minute-indicating lamps with the hour-indicating lamps in each row thereof alternating in interspersed fashion with the minute-indicating lamps in the inner portion of the alined row thereof, each of said rows of said hour-indicating lamps having substantially fewer lamps than the alined superimposed row of minute-indicating lamps, said rows of minute-indicating lamps extending outwardly substantially beyond said rows of hour-indicating lamps, and means for sequentially illuminating said rows of hour-indicating lamps to simulate a moving hour hand, the illuminated row of hour-indicating lamps being distinctly visible even when alined with the illuminated row of minute-indicating lamps.

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