L. F. VINER.

CLOCK.

APPLICATION FILED DEC. 31, 1913.

1,135,228. Patented Apr. 13, 1915.

Fig. 5.

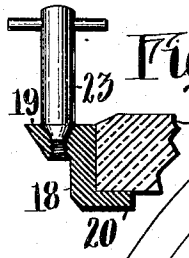


Fig. 1.

Fig. 3.

Fig. 4.

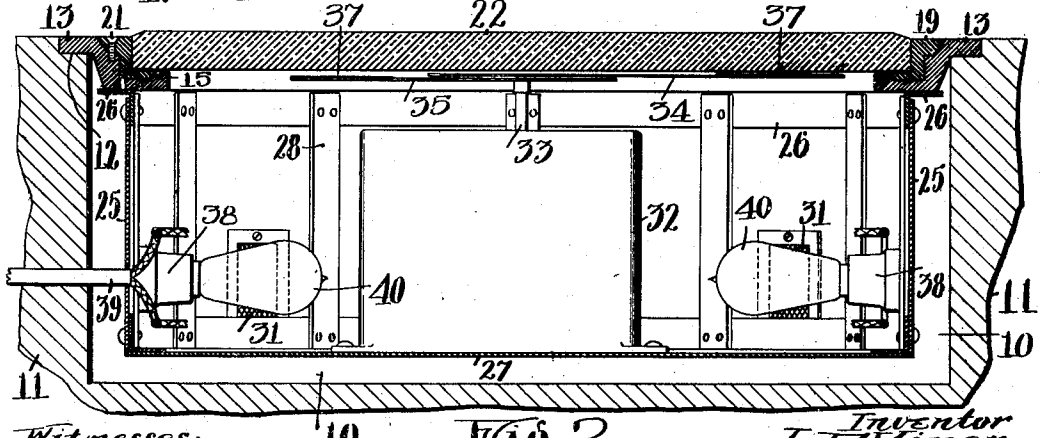


Fig. 2.

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CLOCK.

1,135,228. Specification of Letters Patent. Patented Apr. 13, 1915.

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To all whom it may concern:

Be it known that I, LEVERETT F. VINER, a citizen of the United States, residing at Worcester, in the county of Worcester and State of Massachusetts, have invented a new and useful Clock, of which the following is a specification.

This invention relates to a clock novelty and the principal objects thereof are to provide a simple and practicable form of clock which can be set into a floor in such a way as to constitute a part of the floor and be visible to persons walking over it and in its vicinity; to provide means whereby the clock face can be lighted up from the interior in such a way as to show the time accurately and clearly to persons located in the vicinity of the clock and standing on the floor in which it is placed; to provide a construction of clock for this and similar purposes in which the outer plate can be removed conveniently in order to provide access to the interior; to provide a construction in which the plate usually employed for the purpose of receiving the dial is entirely eliminated so as to simplify the arrangement and permit easy access to its interior; and to provide for ventilation and drainage. It is to be understood also that while the principal purpose of the clock is to be located in and constitute a part of a floor or the like, yet some of the principles involved herein can be applied to a clock permanently located in a vertical wall or the like.

Further objects and advantages of the invention will appear hereinafter.

Reference is to be had to the accompanying drawings in which—

Figure 1 is a plan of a clock constructed in accordance with this invention with parts broken away to show interior construction; Fig. 2 is a central vertical sectional view of the same; Fig. 3 is a sectional view of a portion of the supporting ring on enlarged scale; Fig. 4 is a fragmentary perspective view of part of the casing; and Fig. 5 is a sectional view of a part of the lifting ring and the dial plate.

In the form shown herein, the invention is designed to be set into an opening 10 in a floor 11, sidewalk or the like. For this purpose the opening is provided with a circumferential recess at the top in which is located a circular ring 13 having a flange at the top setting in said recess and a horizontal inwardly extending flange 14 at the bottom, upturned at its inner end to form an upwardly extending flange 15. The top of this flange is provided with a packing 16 in the form of a piece of felt or the like. The lower circular space between this flange 15 and the body of the ring is provided with one or more perforations 17 for the drainage of moisture entering from the top.

The ring 13 is permanently located in the floor as indicated in Fig. 2, and it supports a second removable ring 18 having an outwardly extending flange 19 at the top for fitting the ring 13 and an inwardly extending flange 20 at the bottom in horizontal position fitting in the space behind the flange 15. This removable ring is designed to be temporarily secured in place by screws 21 or the like. On this ring is supported a plate 22 of transparent or translucent material, preferably glass. The plate normally rests on the packing 16 but can be lifted out of the ring 13 by lifting out the ring 18. This is accomplished by taking out two of the opposite screws 21, loosening the others, and screwing in a pair of handles 23 having screw-threaded ends corresponding with the screws 21, but not long enough to enter the ring 13. It will be obvious that in this way the ring 18 and plate 22 can be lifted out to expose the interior of the device.

The plate 22 has been described as translucent or transparent, and it is preferably formed of transparent material rendered translucent by frosting or grinding the upper surface. This can be done when the plate is manufactured or if the plate is put down in a perfectly transparent condition the wear which it receives will ordinarily have the same effect. On the bottom of this plate preferably is located a clock dial formed by opaque numerals and with any desired divisions.

Inside the opening 10 and below the ring 13 is a casing, the sides of which are formed by one or more curved outside plates 25 connected with the ring 13 by an angle iron 26. The outside plate supports the bottom plate 27 by corner angle irons, and a series of vertical strips 28 are used to connect the

bottom and top angle irons and strengthen the casing. This casing is provided with a series of openings 29 each having a covering of cloth 30 and a screen 31. These are used for ventilation and to prevent too high heating of the device without admitting dust.

At the center of the bottom plate is a clock mechanism 32 which may be of any desired kind, the details not being shown. It is preferred, however, to have an electric clock operated through wires extending therefrom. This clock is provided with the usual hand shafts 33 and with a pair of hands 34 and 35 respectively. These hands preferably are made of opaque material, but at the ends they are provided with skeleton frames 36, each of which carries a pointer 37 consisting of a sheet of colored celluloid or glass fixed to the skeleton frame by rivets or the like. In practice I prefer to have these celluloid pointers red in color and in that case the remainder of each hand looks black to the observer. These hands are caused by the clock mechanism to revolve directly under the dial.

The casing is provided, preferably under each of the twelve numerals of the dial, with an electric lamp 40 arranged in a circle and supported in sockets 38 carried by the casing and having mains 39 for supplying power.

The use of the mechanism will be understood readily from what has been said. The clock is operated either by electricity or other motive power and the lights are turned on whenever desired. When illuminated the hands appear in the same way as in an ordinary clock to the observer from above. They rotate directly under the dial and by having the colored pointers their position is seen more readily and they tend to attract more attention.

By having the dial on the back of the plate 22 the usual dial between the usual transparent plate and the works is done away with and access to the interior is facilitated. Also by having the front of the plate 22 frosted the public can not see that there is any clock or other mechanism under the plate when the lights are turned off. Consequently if it is out of order it will appear simply as a circular glass slab, and no false impression of the time need be given to the public as is often done by ordinary clocks when they get out of order.

The device is designed particularly to be placed in the floors of public places where it will be seen by a great number of persons and will be in constant use. It is of special advantage to place it at the entrance of a hotel or the like as people departing for trains and the like are almost forced to know the time of their departure therefrom. It is found in practice that on account of the novel nature of the arrangement it attracts universal attention and conveys important information constantly. As it can be used in sidewalks and pavements as well as floors, it is to be understood that such use is contemplated when I use the word floor.

Although I have illustrated and described only a single form of the invention, I am aware of the fact that many modifications can be made therein by any person skilled in the art without departing from the scope of the invention as expressed in the claims. Therefore, I do not wish to be limited to all the details of construction herein shown and described, but

What I do claim is:—

1. As an article of manufacture, a clock having a horizontal top plate of translucent material having a dial on the bottom and adapted to be set into a recess in a horizontal surface and provided with means accessible from the top of said plate and located beyond its periphery for lifting it out of the recess, and a pair of clock hands under said plate and independent thereof, whereby when the plate is lifted off the hands will be left in the recess.

2. The combination of a ring adapted to be set into a floor or the like, said ring having a horizontal inner flange at the bottom upturned at its inner edge and having a packing on the top of said edge, a glass dial plate resting on said packing, and a second ring extending below the edge of the glass dial plate and located on said flange outside the upturned edge thereof, said second ring being removable from the first ring with the dial plate.

3. The combination with a horizontal ring set into a floor and having an internal flange, of a second ring removably mounted on said flange, a glass plate carried by, and removable with, the second ring and having a clock dial on the bottom thereof, and clock mechanism below the dial.

4. The combination with a ring set permanently in a floor and having an internal flange, of a second ring removably supported on said flange, means for securing the second ring to the first ring, a glass plate mounted on the second ring and removable therewith and having a clock dial thereon, the second ring being provided with means by which it, with the plate, can be lifted out of the first ring from above.

5. The combination with a ring adapted to be set into a floor, said ring having a horizontal inner flange at the bottom upturned at its inner edge and having drainage passages therethrough, and a glass plate carried on said upturned flange, and removable therefrom, said plate having a clock dial thereon.

6. In a device of the character described, the combination of a clock dial adapted to

be set in a floor, a series of electric lamps located under the clock dial, and a pair of hands located between the lamps and clock dial, each of said hands being mainly of opaque material and having a pointer thereon of colored transparent material.

In testimony whereof I have hereunto set my hand, in the presence of two subscribing witnesses.

LEVERETT F. VINER.

Witnesses:
ALBERT E. FAY,
C. FORREST WESSON.