July 7, 1953 E. L. BERNINGER ET AL 2,644,853

CASING FOR AN ELECTRICAL CLOCK MOVEMENT HAVING A CORD STORAGE COMPARTMENT

Filed May 21, 1949 2 Sheets-Sheet 1

Fig. 1.

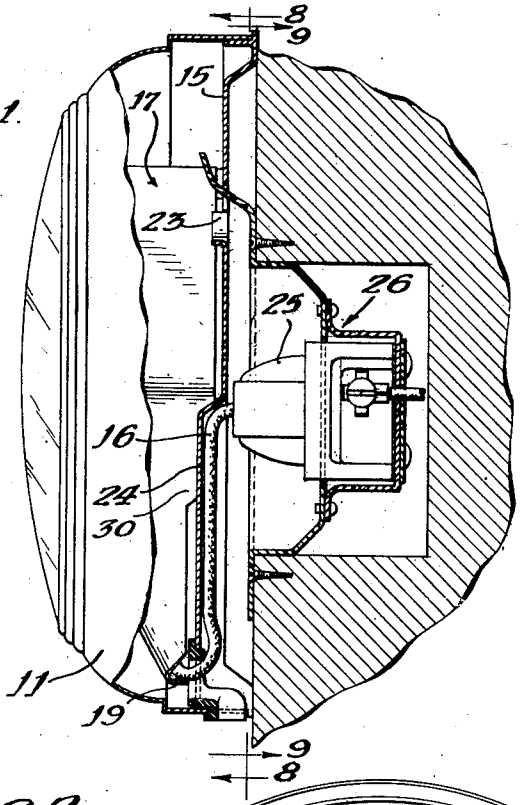


Fig. 3.

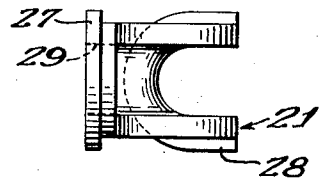


Fig. 4.

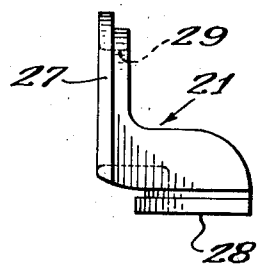
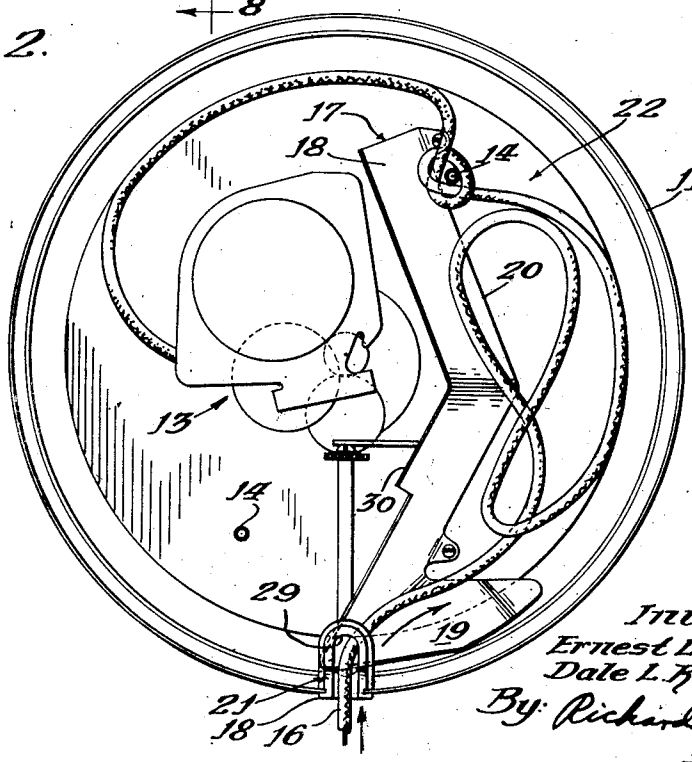


Fig. 2.



Inventors:
Ernest L. Berninger
Dale L. Richards
By: Richard E. Burn
Attorney.

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Fig. 5.

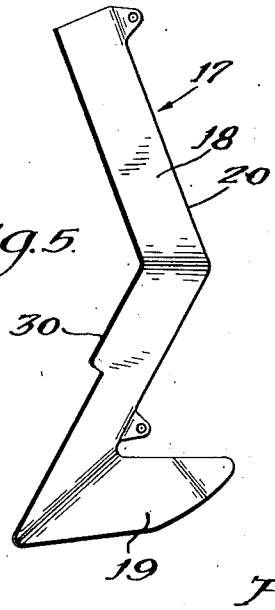


Fig. 6.

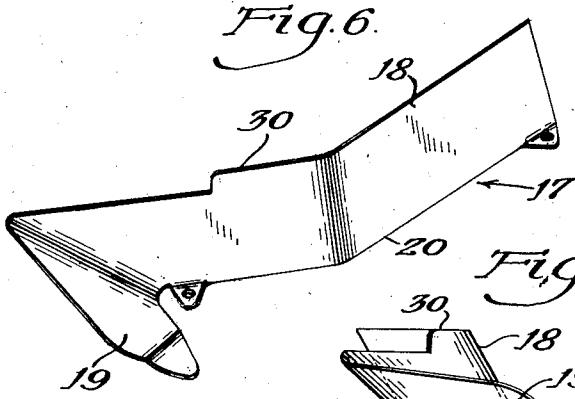


Fig. 7.

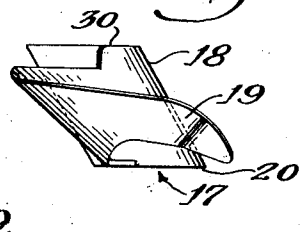


Fig. 9.

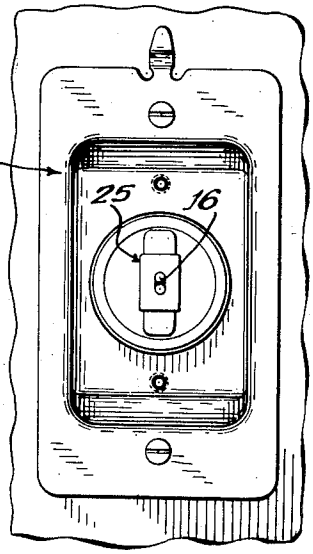


Fig. 8.

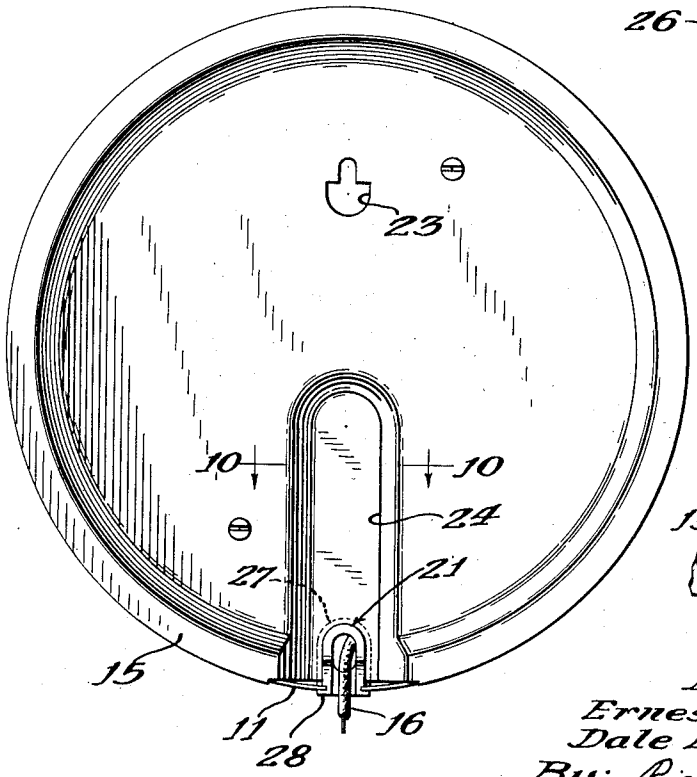
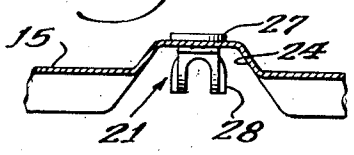


Fig. 10.



Inventors:
Ernest L. Berninger
Dale L. Richards
By: Richard E. Burn
Attorney.

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UNITED STATES PATENT OFFICE

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CASING FOR AN ELECTRICAL CLOCK MOVEMENT HAVING A CORD STORAGE COMPARTMENT

Ernest L. Berninger, Peru, and Dale L. Richards, La Salle, Ill., assignors to General Time Corporation, New York, N. Y., a corporation of Delaware

Application May 21, 1949, Serial No. 94,636

5 Claims. (Cl. 174—52)

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The present invention relates to an electric clock and in particular to an electric clock wherein any desired portion of the electric cord may be contained inside of the clock case.

The purpose of this invention is to provide a clock in which the purchaser need only pull from the clock case the length of cord necessary to reach an electric outlet while the remainder of the cord remains in the clock case. By means of this invention unsightly dangling cords are eliminated without the necessity of cutting said cord.

For many years electric clocks have been packed by manufacturers with a cord about five and one-half feet long folded in a skein and packed alongside of or under said clock. When the purchaser mounts said clock on a wall or table the cord is usually longer than necessary to reach the electrical outlet. The purchaser is then faced with the choice of leaving the cord dangling where it may be accidentally pulled out of the electrical outlet or he must cut the cord to the desired length and secure a new plug to the cord. It is not usually possible to move the plug that is furnished with the clock cord because it is molded on the cord and cannot be detached except by cutting said cord. Furthermore, if the purchaser wishes to mount the clock on a special clock outlet where the clock is placed directly over said outlet it is always necessary to cut the cord and mount a new plug so that the excess cord will not show.

An object of this invention is to provide an electric clock that may be sold to the consumer with the cord contained entirely in the clock case with only the plug protruding.

It is another object of this invention to provide an electric clock wherein the consumer may pull out as much of the cord as he desires from said clock case and later return a portion of said cord to the clock case without the use of tools and without detaching any portion of said clock.

A further object of this invention is to provide an electric clock that will be of simple and economical construction and will save packing space since the cord is inside of the clock case when said clock is packaged.

Another object is to provide means whereby the cord may be contained in the clock case without interfering with the clock movement.

With these and other objects in view, the invention embodies a clock having a compartment in the clock case in which the electric cord is contained separated from the clock movement and cord guides whereby said cord may be pulled from the clock case or returned to the clock case by merely pulling or pushing on the cord.

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In a preferred embodiment the invention will be described in a wall clock although it is also useful for table and mantle clocks.

Fig. 1 is an elevational view partially in cross-section showing a clock mounted on a standard clock receptacle on a wall.

Fig. 2 is an elevational view of the back of the clock with the back cover removed and showing a portion of the cord inside of said clock.

Fig. 3 is a top elevational view of the grommet through which the cord enters the clock case.

Fig. 4 is a side elevational view of said grommet.

Fig. 5 is a front elevational view of the cord guide removed from the clock case.

Fig. 6 is a perspective view of said cord guide.

Fig. 7 is a bottom elevational view of said cord guide.

Fig. 8 is an elevational view of the back of the clock case taken on line 8—8 of Fig. 1.

Fig. 9 is a front elevational view of one type of standard clock receptacle taken on the line 9—9 of Fig. 1.

Fig. 10 is a cross-sectional view of the back cover of the clock case taken on the line 10—10 of Fig. 8.

Referring now to the drawings wherein, like reference characters denote corresponding parts, the improved clock of this invention includes a clock case 11 to which is secured a plate 12. Mounted on the front of said plate are the dial and hands (not shown) and on the back of said plate is mounted a synchronous motor clock movement 13. The clock movement is conventional and, therefore, will not be described in detail. Secured to said plate 12 are two pillars 14 to which a back cover 15 is fastened by screws. The electrical cord 16 is connected to the coil of the synchronous motor and may be knotted about one of the pillars 14 so that no strain can be placed on the electrical connection.

Also mounted on the plate 12 is a cord guide 17 that separates the clock casing into a movement compartment and a cord compartment. The cord guide 17, as shown in Figs. 2 and 5, may conveniently be formed of a single piece of metal bent to form a generally vertical arm 18 and a generally horizontal arm 19. As shown mounted in Fig. 2 the cord guide is bent to form a V, having its apex toward the right side and forming an angle of the order of 120 degrees. A second V is formed with arm 19 at the bottom of the clock to include an angle of about 50 degrees.

From the front to the back of the clock arm 18 slopes toward the center and arm 19 slopes away from the center. The front edge 20 of the arm 18, as shown in Fig. 7, is level and is mounted

flush with front plate 12. The extreme end of horizontal arm 19 has a reverse bend so that it touches the inside of clock case 11.

The back edge 30 of the arm 18 lies in close proximity to the back cover 15 when said cover is in place. A part of the arm 18 is cut away in order to provide space for the depressed portion 24 of the back plate which will be described later.

It will thus be seen, as shown in Fig. 2, that the cord guide 17, the right side of the clock case 11, the back cover 15, and the plate 12 enclose a cord compartment 22 from which the cord 16 cannot escape to interfere with the clock movement 13.

As also shown in Fig. 2, the front edge of the V formed by arms 18 and 19 is positioned directly behind a grommet 21 placed in an opening in the back cover 15. If a portion of the cord is pushed in the direction of the arrows of Fig. 2, it will move through grommet 21, contact the cord guide 17 and tend to move along arm 18 toward the top of the case. The portion of the cord already in the clock and that being pushed in tend to form a wide loop near the top of the case. As more cord is pushed in, another wide loop may be formed near the bottom of the case. The shape of the guide directs the cord into wide loops and kinking is prevented. Additional loops will be formed as long as cord is pushed through grommet 21. It is contemplated that the compartment 22 will be large enough to hold the entire cord doubled back and forth in this fashion so that only the plug 25 will remain on the outside of the case.

The back cover 15 is provided with a slot 23 that may be of the shape shown in order that the clock can be hung on a headed nail or a hook. The back cover may be a plane surface if the clock is to be used with an electrical receptacle positioned below the clock with the cord leading downward from grommet 21. However, if the clock is to be mounted on a clock receptacle 26, as shown in Fig. 1, it is preferable to provide the back cover with a depressed portion 24 in which a section of the cord will lie when doubled back toward the center of the clock. Clock receptacles of the type shown are manufactured by several electrical suppliers. By using such a receptacle the clock may be mounted flush with the wall since only a small portion of the plug projects from said receptacle. As was stated above, without the use of the present invention it is necessary to cut the cord to about four inches in order to use such a clock receptacle for otherwise the excess cord would hang below the clock. However, with the present invention the owner merely pulls sufficient cord from the clock case to reach the receptacle and the remainder is left inside of the clock case.

The grommet 21 is specially formed to co-act with the cord guide. It is made of insulating material and shaped to guide the cord into the cord guide 17 and also to make it possible to bring the cord straight down from the clock or double it back as shown in Fig. 1. The grommet is L-shaped with an oval opening 29 in the vertical arm 27 and a U-shaped opening in the horizontal arm 28. It is held in place in an opening in the back cover by the contact of said cover with a shoulder in the grommet. A slot is provided in the bottom of the clock case in which the horizontal arm of the grommet slides. It will be seen from examination of Figs. 1 and 2 that the cord may be bent either up or down without contacting any sharp edge of the clock case or the clock back. There is sufficient friction between the cord and the grommet 21 and the cord and the guide 17 so that said cord will not fall through the grommet by its own weight. However, a slight pull is sufficient to pull the cord from the clock.

When assembled at the factory, the assembler may either loop the cord back and forth and place it in the cord compartment before the back cover 15 is mounted or, if more convenient, the assembler may mount the back cover with most of the cord outside of the clock and then push the cord into the clock by merely pushing in the direction of the arrow of Fig. 2. The clock is then packed in a box with only the plug showing outside of the clock. A smaller box can be used than was possible before since no space need be left in the box for the cord skein.

When the purchaser mounts the clock, he merely pulls as much cord as is desired from the case. If he pulls out too much he returns the excess to the case by pushing on the cord in the direction of the arrow. No tools are necessary and no part of the clock need be removed for this operation. The customer can mount the clock where he pleases without any unsightly dangling cord and without any further operation on the cord.

It will be understood that the clock described is merely a preferred embodiment and that modifications may be made in the design and arrangement of the parts without departing from the spirit of the invention.

What is claimed is:

1. In a device having an electrical clock movement with an electric cord connected thereto the combination comprising a case having an opening through which said cord passes and having a front plate and a back plate, a separating member positioned in said case and extending from the front plate to the back plate for separating said case into a movement compartment and a substantially closed cord compartment, said member having stationary means to guide said cord into loops in said cord compartment when said cord is manually pushed into said opening.

2. In a device having an electrical clock movement with an electrical cord attached thereto, the combination comprising a case having a front plate and a back plate with an opening through which said cord passes; and a cord guide having one arm extending from the front plate to the back plate and dividing said case into a movement compartment and a cord compartment, and having a second arm extending at an acute angle with said first arm to form a valley which slopes from the back plate toward the front plate, said guide being positioned with the head of said valley behind the opening in the back plate so that the electric cord is directed toward the front plate and into said cord compartment when said cord is pushed through said opening.

3. In a device having an electrical clock movement with an electrical cord attached thereto, the combination comprising a case, a movement supporting plate secured to said case, a back enclosing the rear of said case and having an opening through which said cord passes, a cord guide having one arm extending substantially across said case to divide it into a movement portion and a cord portion and having a second arm extending at an angle from said first arm to form a valley behind said opening to guide said cord into the cord portion of said case.

4. In a device having an electrical clock movement with an electrical cord attached thereto, the combination comprising a case, a front plate for said case, a back enclosing the rear of said case and having an opening through which said cord passes; a guide member having an arm extending across said case to one side of the center thereof with one edge adjacent the front plate and the other edge adjacent the back, thereby forming a substantially enclosed cord compartment bounded by the case, front plate, the back and said guide member; said guide member having a second arm extending at an acute angle with said first arm to form a valley, said valley being positioned adjacent said cord opening so that said cord is guided along said valley and into said cord compartment when it is pushed through said opening.

5. In a device having an electrical clock movement with an electrical cord attached thereto, the combination including a case having an opening for said cord, a front plate, a back plate, a stationary cord guide dividing said case into a movement portion and a cord portion, said guide having an arm extending across said case, said arm being bent near its mid point to form a V

with the apex pointing away from the case center; and having a second arm joined to said first arm to form a valley that slopes toward said front plate and toward the apex of said V, said guide being positioned with said valley behind said cord opening so that a cord pushed through said opening and into said case follows down said valley toward said front plate and is formed into a series of loops in said cord portion.

ERNEST L. BERNINGER.
DALE L. RICHARDS.

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