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ALARM TIMER

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Fig. 1

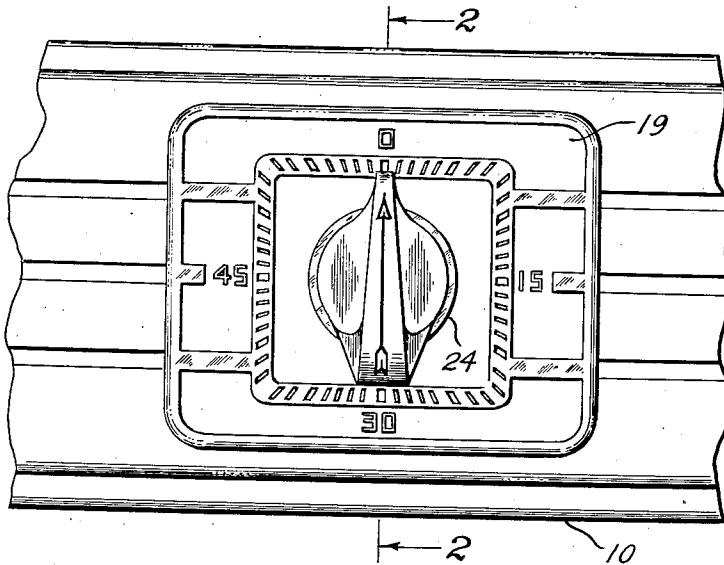
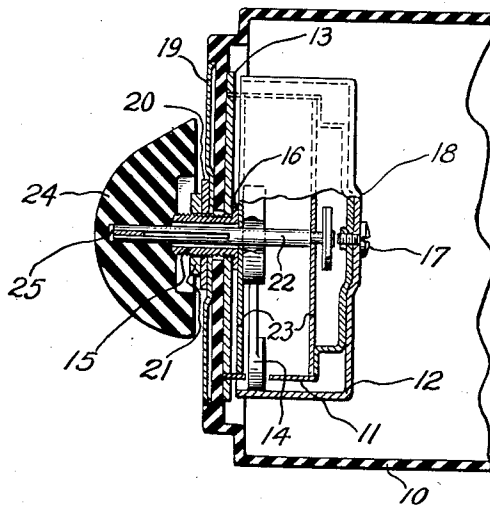


Fig. 2



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ALARM TIMER

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7 Claims. (Cl. 161—23)

This invention relates to clocks or timers and particularly to a clock adapted to operate an alarm such as the striking of a bell after a pre-determined but widely variable period of time which may be pre-set as desired.

An object of the present invention is to provide an improved assembly of clock-work, bell, indicator and setting member and their means of attachment to a housing such as a stove or other member to which the timing clock is to be attached.

A feature that enables the above object to be accomplished is that the clock-work, by means of which the alarm is operated, encloses and is surrounded by the bell and the striker or hammer released by the clock after any desired period of time strikes the bell upon its internal cylindrical surface by movement outward from the cylindrical wall of the clock-work enclosure.

Other objects that are advantageous are that the bell is held in position upon the clock-work enclosure by securing means at the axis and at the rear surface of the clock and that the clock is held securely to its housing by means of a hollow screw or sleeve threaded on its outer surface and rigidly secured to the front plate of the clock.

And finally it is an object of the invention to position the winding and setting rod for the timing mechanism to extend axially through the mounting sleeve, and to frictionally mount a knob or handle on this rod at its forward end.

With the above and other objects in view the invention includes the features of construction and operation set forth in the following specification and illustrated in the accompanying drawing.

In the accompanying drawing annexed hereto and forming a part of this specification, I have shown the invention embodied in a type commonly now used as an oven timer but it will be understood that the invention can be otherwise embodied and that the drawing is not to be construed as defining or limiting the scope of the invention, the claims appended to this specification being relied upon for that purpose.

In the drawing:

Fig. 1 is a front elevation of a complete assembly of an alarm timer forming the present invention mounted within or upon a housing; and

Fig. 2 is a transverse sectional view taken upon the plane of line 2—2 in Fig. 1.

In the above mentioned drawing there has been shown but one embodiment of the inven-

tion which is now deemed preferable, but it is to be understood that changes and modifications may be made within the scope of the appended claims without departing from the spirit of the invention.

Briefly and in its preferred aspect, the invention may include the following principal parts: First, a housing within which the alarm timer may be mounted; second, a clock-work enclosure having a threaded sleeve extending from one face which may enter an opening in the housing; third, a bell enclosing said clock-work and attached thereto at the axis of said clock and bell; fourth, a striker or hammer operatively mounted within the clock-work enclosure and extending laterally therefrom to strike the bell upon the inner wall of its enclosing cylindrical surface; fifth, a winding and setting member extending axially through the sleeve; and sixth, a knob or handle frictionally mounted upon the forward end of the winding and setting rod.

Referring more in detail to the figures of the drawing there is shown a housing 10 which may be of any type and to which the clock 11 and bell 12 may be attached. The clock-work (not shown) is enclosed within the cup shaped metal member 11 having a front plate 13 secured thereto and forming a complete enclosure for the operating parts (not shown) for controlling the delayed striking of the hammer 14. Rigidly secured to the clock enclosure 11 preferably by being soldered to the rear surface of its front plate 13 is a threaded sleeve 15. This sleeve 15 has a flange 16 at its inner end engaging within a central opening in the front plate 13 so that the sleeve 15 may readily be secured thereto.

To secure the clock enclosure 11 and the bell 12 together a screw 17 is provided extending centrally and axially through their walls as shown. To prevent the bell 12 from rotating upon the enclosure 11 about the screw 17, the walls of the enclosure 11 and bell 12 adjacent the openings for the screw 17 may be pressed or otherwise formed into any non-circular form as shown at 18.

In front of the housing 10 to which the clock 11 and bell 12 are attached may be placed the dial plate 19 having a central opening through which the sleeve 15 extends. A washer 20 and nut 21 on the sleeve enable the enclosure 11 to be firmly held in position against the inner wall of the housing 10.

Extending freely through the opening within the sleeve 15 is the actuating or winding member 22 for the delay timing mechanism (not

shown). This winding member 22 may be rotatably supported centrally within the enclosure 11 by means of intermediate plates 23 provided within the enclosure. Secured in position upon the member 22 at its forward end is a knob 24 by means of which the actuator rod 22 may be turned and which will indicate the setting relative to the dial 19. Preferably this knob may be forced over the outer end of the rod 22 which may be milled to provide a slot extending longitudinally as shown. A small transverse strip 25 moulded into the knob 24 fits within this slot 10 and retains the knob 24 frictionally in position on the rod and enables the knob 24 to rotate the actuating and setting rod 22 for the hammer 14.

In assembling the clock-work enclosure 11 and bell 12 it is only necessary to tighten one screw 17 and to mount the assembled clock 11 and bell 12 upon a housing it is only necessary to tighten nut 21 upon the threaded sleeve 15. The forward plate 13 of the clock is thereby held firmly against the rear wall of the housing 10 and the dial plate 19 is also retained in proper position. To complete the assembly it is only necessary to press the knob 24 over the end of the winding and setting rod 22 so that the transverse plate or strip 25 moulded or otherwise mounted in the knob 24 may fit the slotted portion of the rod 22.

I claim as my invention:

1. An alarm timer comprising in combination, a cup shaped member forming a clock-work enclosure, a bell supported thereon and surrounding said cup shaped member, a threaded sleeve extending from said enclosure whereby said timer may be mounted upon a housing, and winding means for said clock-work extending through said sleeve.

2. An alarm timer comprising in combination, a cup shaped member forming a clock-work enclosure, a bell supported thereon and surrounding said cup shaped member, a striker extending from said cup shaped member and adapted to strike said bell upon its inner surface, a threaded sleeve extending from said cup shaped member whereby said timer may be mounted upon a housing, and winding means for said clock-work extending through said sleeve.

3. An alarm timer comprising in combination, a cup shaped member forming a clock-work enclosure, a bell supported thereon and surrounding said cup shaped member, a striker extending from said cup shaped member and adapted to strike said bell upon its inner enclosing cylin-

drical surface, a threaded sleeve extending from said cup shaped member whereby said timer may be mounted upon a housing, and winding means for said clock-work extending through said sleeve.

4. An alarm timer comprising in combination, a cup shaped member forming a clock-work enclosure, a bell supported thereon and surrounding said cup shaped member, a threaded sleeve extending from said cup shaped member, whereby said timer may be mounted on a housing, a winding member for said clock extending through said sleeve, and a winding knob frictionally mounted on the outer end of said winding member.

5. An alarm timer comprising in combination, a cup shaped member forming a clock-work enclosure, a bell supported thereon and surrounding said cup shaped member, a threaded sleeve extending from one of the walls of said cup shaped member, securing means on said sleeve whereby said timer may be mounted on a housing, a slotted winding member for said clock-work extending through said sleeve, and a winding knob frictionally mounted thereon.

6. An alarm timer comprising in combination, a cup shaped member forming a clock-work enclosure, a bell supported thereon and surrounding said cup shaped member, a threaded sleeve extending from one of the walls of said cup shaped member, securing means on said sleeve whereby said timer may be mounted on a housing, a slotted winding member for said clock-work extending through said sleeve, a winding knob on said member, and a transverse bar within said knob adapted to engage the slotted portion of said rod and retain said knob in position thereon.

7. An alarm timer comprising in combination, a cup shaped member forming a clock-work enclosure, a bell supported thereon and surrounding said cup shaped member, a striker extending from said cup shaped member and adapted to strike said bell upon its inner enclosing cylindrical surface, a threaded sleeve extending from said cup shaped member, securing means on said sleeve whereby said timer may be mounted upon a housing, a winding and setting member for said clock extending centrally through said sleeve, and a winding knob slidable axially into frictional engagement with said member, said frictional engagement for said member forcing said member to rotate with said knob.

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