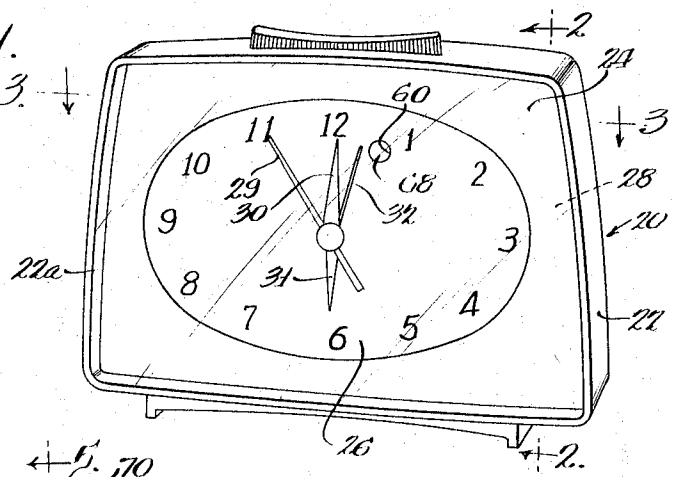
Dec. 20, 1966 J. J. MAHON 3,292,360

ALARM SET INDICATOR

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Fig. 1.



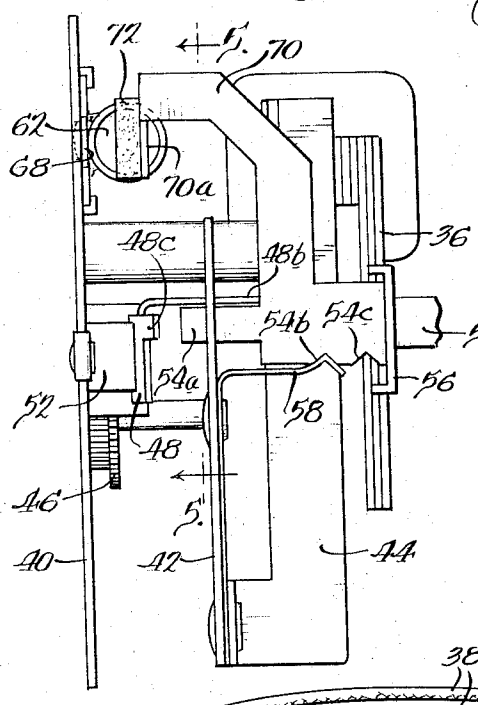
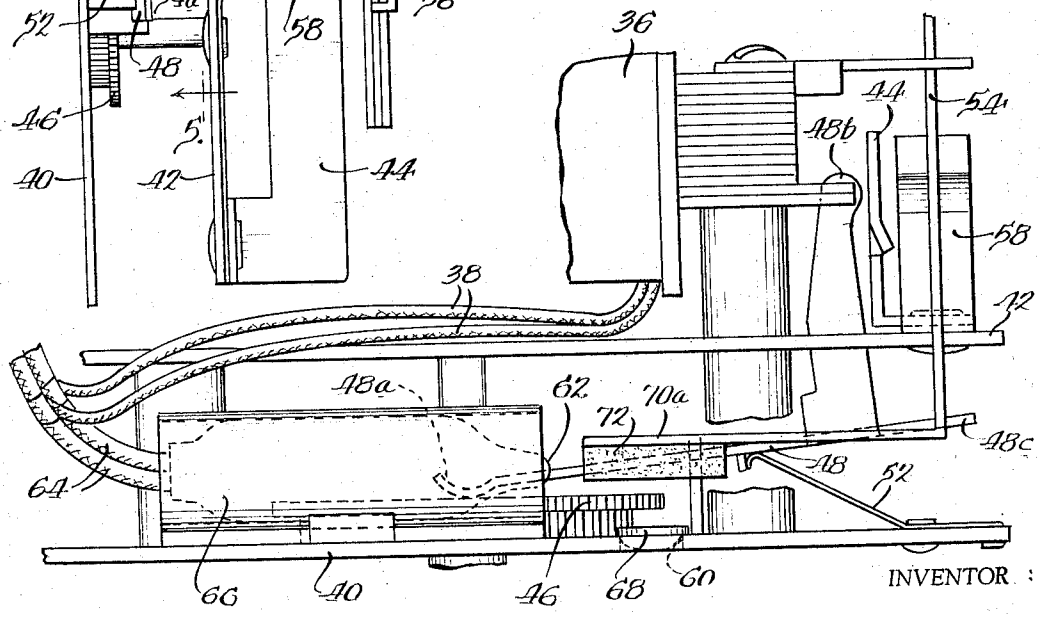


Fig. 2.

Fig. 3.



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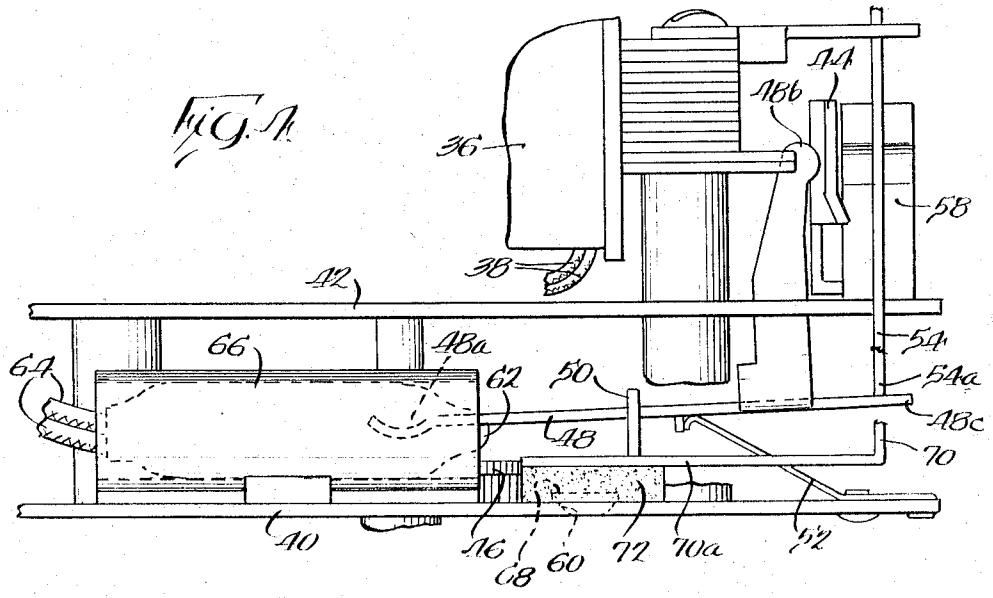


FIG. 4.

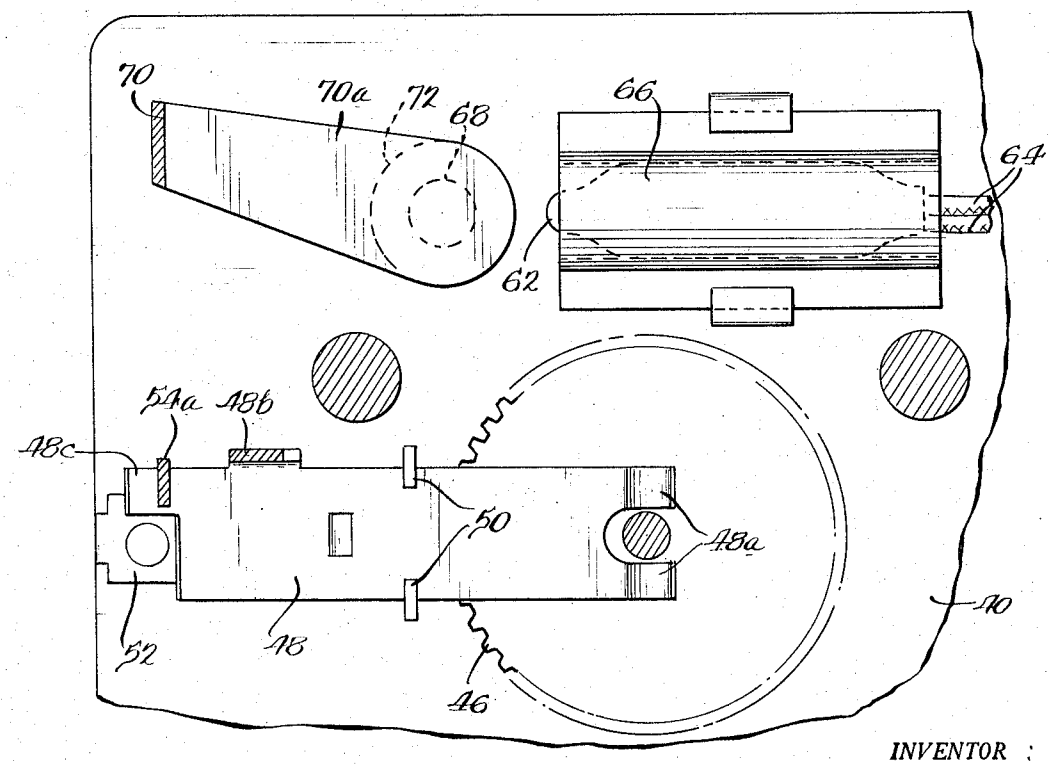


FIG. 5.

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Fig. 6.

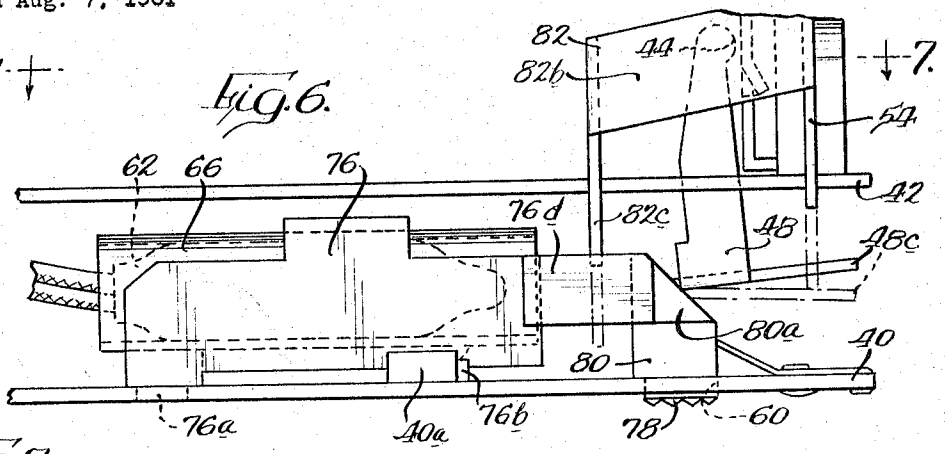


Fig. 7.

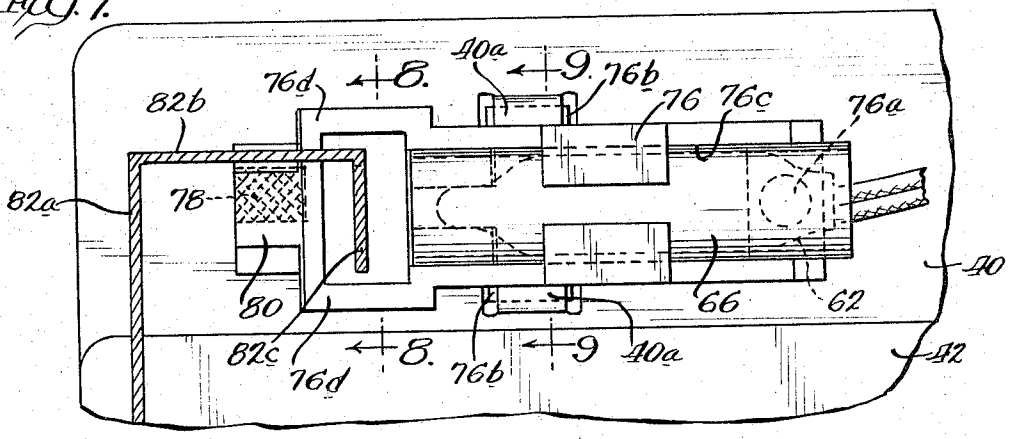


Fig. 8.

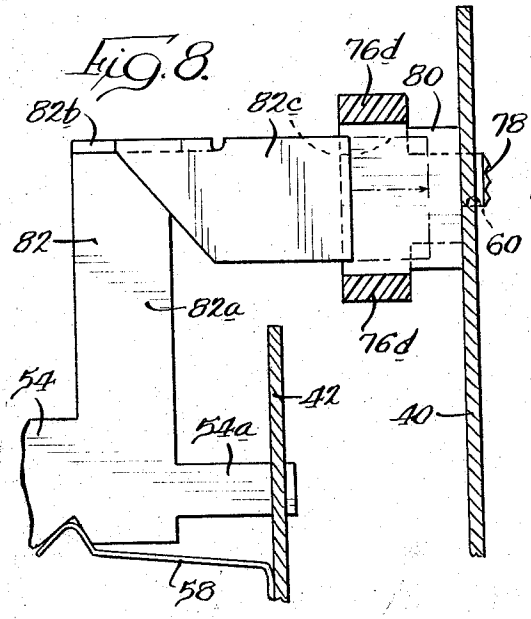
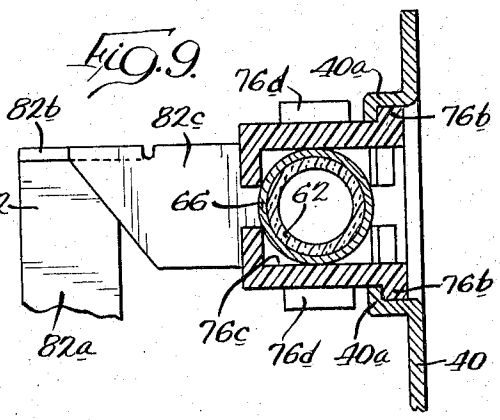


Fig. 9.



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Fig. 10.

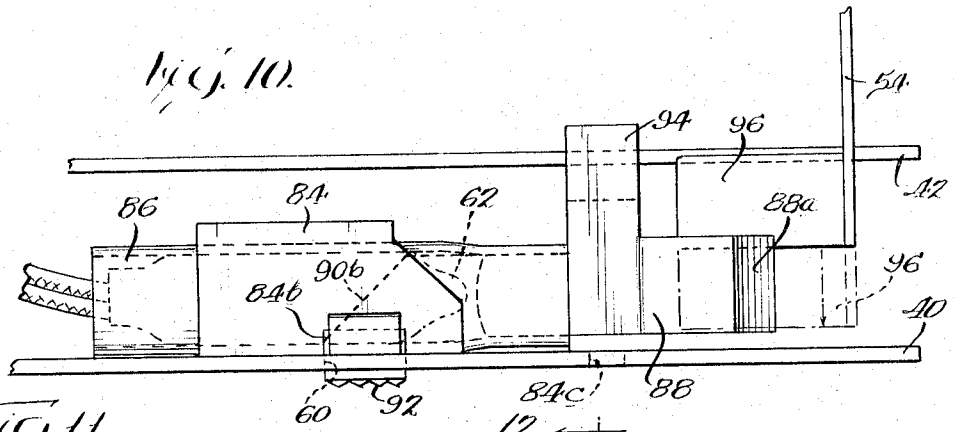


Fig. 11.

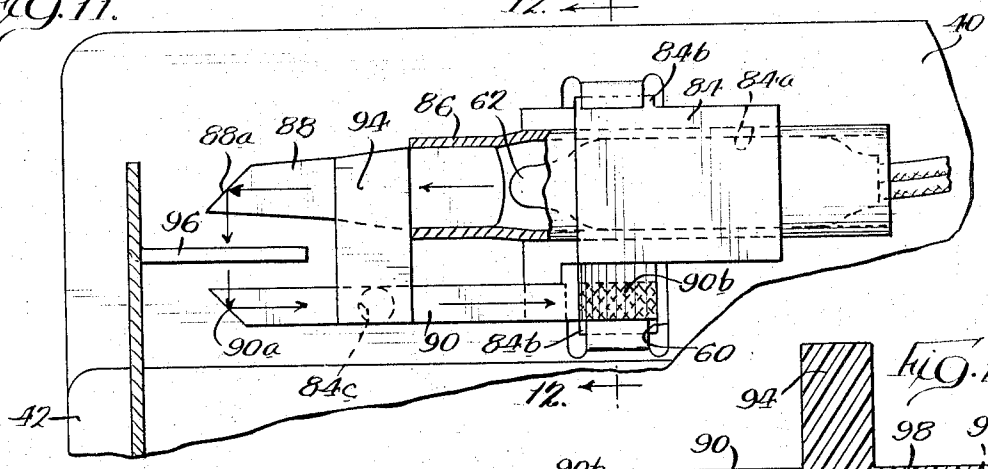


Fig. 13.

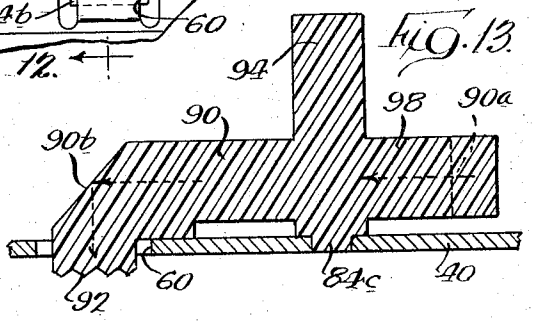


Fig. 12.

Fig. 14.

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United States Patent Office

3,292,360

Patented Dec. 20, 1966

3,292,360

ALARM SET INDICATOR

Joseph J. Mahon, Villa Park, Ill., assignor to Sunbeam Corporation, Chicago, Ill., a corporation of Illinois

Filed Aug. 7, 1961, Ser. No. 129,637
9 Claims. (Cl. 58—22.7)

This invention relates generally to alarm clocks, and more particularly, to a means for indicating whether or not the alarm shutoff is in the position to permit sounding of the alarm or to restrain sounding of the alarm.

The alarm clock as it is known today characteristically includes several controls. One of these is a manually rotatable shaft which permits adjustment of the time at which the alarm will sound. The other is the so-called alarm shutoff which is movable between two positions. In one position the shutoff is effective to prevent sounding of the alarm at the preselected time for which it has been set. In the other position or the alarm "on" position, the shutoff will permit the alarm to sound at the preselected time.

Under normal conditions, the user of the clock has set the alarm to sound at a predetermined time, i.e. at the time he wishes to arise. Upon retiring the user of the clock moves the alarm shutoff to the alarm "on" position which renders the alarm mechanism effective to sound the alarm at the preselected time. When the preselected time arrives and the alarm sounds, the user who has been awakened moves the shutoff to the alarm "off" or restraining position. The above steps associated with the use of an alarm clock become very routine and present little problem. There are occasions, however, when a person retires and forgets to move the alarm set to the alarm "on" position. The result is, of course, that the alarm mechanism will be restrained from sounding at the desired time. Many people who are forgetful become concerned after they retire as to whether or not they have moved the alarm set indicator to the alarm "on" position before retiring. Such individuals frequently find it necessary, in order to relieve their minds, to arise and investigate the position of the alarm shutoff control to determine whether or not it was properly set. It would be desirable if means could be provided to make it immediately obvious to the user of the clock whether or not the alarm shutoff control had been properly set prior to his retiring. Inasmuch as such investigation of the position of the alarm shutoff normally takes place in a darkened room, it would be desirable to have means to indicate the position of the alarm shutoff control to the user in a darkened room.

It is, therefore, an object of the present invention to provide a new and improved alarm clock.

It is a further object of the invention to provide an improved alarm clock having means to indicate to the user the position of the alarm shutoff control.

It is an additional object of the present invention to provide an electric alarm clock having an illuminated indicator to inform the user of the clock as to the position of the alarm shutoff control.

Further objects and advantages of the present invention will become apparent as the following description proceeds and the features of novelty which characterize the invention will be pointed out with particularity in the claims annexed to and forming a part of this specification.

For a better understanding of the present invention, reference may be had to the accompanying drawings in which:

FIG. 1 is a front perspective view of an improved alarm clock constructed in accordance with the present invention;

FIG. 2 is an enlarged sectional view taken along line 2—2 of FIG. 1 showing the clock motor and movement with the housing thereof cut away;

FIG. 3 is an enlarged plan view of the motor and movement shown in FIG. 2 with portions of the motor cut away to show the illuminated alarm set indicating means;

FIG. 4 is an enlarged fragmentary plan view similar to FIG. 3 showing the alarm shutoff control in the alarm restraining position;

FIG. 5 is an enlarged fragmentary view of the clock movement taken along line 5—5 of FIG. 2;

FIG. 6 is a top plan view of another embodiment of our alarm set indicating means;

FIG. 7 is a rear elevational view taken along line 7—7 of FIG. 6;

FIG. 8 is an enlarged sectional view taken along line 8—8 of FIG. 7;

FIG. 9 is an enlarged sectional view taken along line 9—9 of FIG. 7;

FIG. 10 is a top plan view of a third embodiment of our alarm set indicating means;

FIG. 11 is a rear elevational view of the alarm set indicating means shown in FIG. 10;

FIG. 12 is a sectional view taken along line 12—12 of FIG. 11;

FIG. 13 is a sectional view taken along line 13—13 of FIG. 12; and

FIG. 14 is a rear plan view of another embodiment of our alarm set indicating means.

Briefly, the invention comprises an electric alarm clock including a light source positioned within the housing or casing of an alarm clock with an opening being provided through which the light may be observed and a light shutter associated with the alarm shutoff control of the alarm clock. The shutter is positioned to either permit passage of light through the opening or obstruct light from passing through the opening depending on the position of the alarm shutoff. Such an arrangement permits the user of the clock to determine at a glance whether the alarm shutoff has been moved to one position or the other. By employing a continuously illuminated bulb within the clock housing and a shutter which consists of little more than an extension on the alarm shutoff lever, a very simple and inexpensive mechanism is provided which performs a very useful function.

Referring now to the drawings, there is illustrated in FIG. 1 an alarm clock generally designated by the reference numeral **20**. The clock comprises a generally cup-shaped casing **22** which has a front opening **22***a* through which the working parts of the clock are assembled to the casing. Mounted within the opening **22***a* is the clock face **24** which is inscribed with a suitable dial **26** including the conventional hour indicia. A transparent crystal **28** is superimposed over the clock face **24**. The clock **20** also includes time driven second, minute and hour hands designated by reference numerals **29**, **30** and **31**, respectively. In addition, there is an alarm hand **32** which indicates the hour at which the alarm mechanism is set to sound.

The clock casing **22** and the clock face **24** may be considered to form a clock housing or enclosure within which alarm motor and movement are mounted. While the particular form of the motor and movement are not significant, the details shown in the instant application are similar to the motor and movement disclosed and claimed in a patent application by Chartier and Wickenberg, Electric Clock, Serial No. 688,467, filed October 7, 1957, and assigned to the same assignee as the instant application. As is described in the above-mentioned application, the motor includes a field or stator **36** which is connected by leads **38** to a suitable source of alternating current. The motor and movement are carried by a front supporting

plate 40 and a rear supporting plate 42. The clock face 24 is mounted directly on the forward side of the front supporting plate 40.

To produce the audible alarm signal, it is conventional to mount a vibrator or reed-like member 44 adjacent the motor field 36. The reed-like member 44 is an end supported member made of a magnetic material and positioned with the free end thereof within the alternating field produced by the motor field. As a consequence, the vibrator 44 is continuously subjected to magnetic forces which tend to vibrate it and produce an audible signal.

In order that the vibrator 44 may be restrained or maintained quiet except when the alarm signal is intended to sound, there is a time controlled alarm mechanism which serves to restrain the vibrator 44. As may best be seen in FIG. 5, this alarm mechanism includes an axially movable alarm gear 46 which moves forwardly when the time arrives for the alarm to sound. The movement of the alarm gear is related to the restraining or release of the vibrator 44 by means of a pivotally mounted alarm lever 48. The alarm lever 48 is pivotally supported on a forked projection 50 which extends rearwardly from the front supporting plate 40. The alarm lever 48 is substantially L-shaped in configuration having a bifurcated end portion 48*a* in engagement with the alarm gear 46 and a leg 48*b* extending rearwardly and movable into and out of engagement with the vibrator 44. A spring 52 mounted on the front supporting plate 40 biases the alarm lever 48 continuously into engagement with the alarm gear 46. Thus, as the alarm gear 46 moves to its forward position, as shown in FIG. 3, the leg 48*b* of the alarm lever 48 moves out of engagement with the vibrator 44 and permits vibration thereof under the influence of the magnetic field produced by the field member 36. When the alarm gear 46 is in its normal position rearwardly of the alarm position shown in FIG. 3, the alarm lever 48 is rotated clockwise, as shown in FIG. 3 until the leg 48*b* moves into engagement with the vibrator 44 and restrains it from vibration.

Since there are obviously occasions upon which it is desirable to continuously restrain the alarm vibrator and not permit it to produce an audible signal even at the time for which the alarm mechanism is set to sound, there is provided an alarm shutoff member 54. As may best be seen in FIGS. 2 and 3, the alarm shutoff member 54 is mounted for movement substantially perpendicular to the front and rear supporting plates 40 and 42, respectively. The front end 54*a* of the alarm shutoff lever is slidably supported in the rear supporting plate 42 and is adapted to engage, upon forward movement thereof, the alarm lever 48. As may be seen in FIGS. 2, 3, 4 and 5, the alarm lever 48 is formed with a sidewardly extending projection 48*c* which is engaged by the alarm shutoff 54. The rearwardly projecting end of the alarm shutoff 54 is slidably received in a slotted bracket 56. The alarm shutoff 54 is movable between a rearward alarm position in which it is ineffective in restraining the alarm mechanism and a forward or alarm shutoff position in which it engages the alarm lever 48 and thereby restrains the vibrator 44 from producing an audible signal. To latch the alarm shutoff lever in either the forward or rearward position, a detent spring 58 is provided which engages notches 54*b* and 54*c* on the alarm lever. The structure of the motor, the alarm mechanism and the alarm shutoff described briefly above is considered conventional and is described in detail in the above-mentioned Chartier and Wickenberg application.

My invention is extremely simple and involves the addition of very few parts to the above-described mechanism to provide means for signalling the user of the clock with a light indicating whether or not the alarm mechanism has been set. The alarm shutoff 54 is modified somewhat to the extent that it is provided with a light shutter which is movable with the shutoff to permit or to prevent transmission of light from the clock housing. The light shutter takes various forms in the different embodiments disclosed in the drawings. In some of the embodiments it involves a closure for an opening in the front of the housing and in others it involves merely a barrier which is inserted in a suitable position to prevent transmission of light to the above-mentioned opening.

Referring to FIG. 1, there is provided an opening 60 at any suitable place on the face of the clock. Mounted within the clock housing immediately behind the face there is a light bulb 62. The light bulb 62 is connected in parallel with the field 36 by means of leads 64 which are therefore connected to field leads 38 and to a suitable power cord.

In that the casing 22 of the clock is frequently made of a light translucent plastic material, it has been found to be desirable to enclose the light bulb 62 within a cylindrical shield 66 which shield is made of an opaque material. The shield 66 may be glued to the back of the front supporting plate 40 and serve to mount the bulb thereon. The cylindrical shield 66 is positioned to direct the light issuing from one end toward the opening 62. In order that the light directed across the opening 60 may be visible from in front of the dial, a small lens 68 may be glued in place in the opening 60. In one embodiment, the lens 68 was made of a red plastic material to provide an easily visible indication.

The shutoff member 54 is formed with a light shutter 70 which consists of an integral projection extending upwardly and forwardly from the center portion thereof, as may best be seen in FIG. 2. The light shutter 70 is essentially L-shaped when viewed from the front having the forward end thereof 70*a* formed at right angles to the remainder of the alarm shutoff. The portion 70*a* extends parallel to the plane of the front supporting plate 40 and has secured to its forward face a cushion or gasket 72. When the alarm shutoff 54 is moved forwardly to the alarm restraining position, the light shutter 70 moves forwardly with the cushion member 72 engaging the portion of the plate surrounding the opening 60 therein, as is best shown in FIG. 4. With the cushion 72 covering the lens 68 and engaging the portions of the front supporting plate 40 surrounding the opening 60, none of the light emanating from the light bulb 62 is visible from the front of the clock. Thus, the user of the clock knows immediately that the alarm shutoff is in the restraining position when the lens 68 is not illuminated. On the other hand, when the alarm shutoff 54 is moved rearwardly to the alarm set or nonrestraining position, as is best shown in FIGS. 2 and 3, the light shutter 70 and its cushion 72 are positioned rearwardly of the opening 60 and the lens 68 permitting light from bulb 62 to impinge upon the lens 68, and therefore, be visible through the opening 60.

It should be appreciated that the opening 60 and its cooperating lens 68 might be placed in various positions on the face of the clock. The light shutter 70 may be readily modified to extend into covering relation to openings placed in a reasonable area on the front supporting plate 40. There may be occasions, however, in which the position of the movement mechanism or the location of the alarm shutoff 54 may restrict the area in which the opening 60 may be placed. Since the styling of clocks varies considerably, it may be desirable to position the openings 60 in an area of the face of the clock remote from the location of the alarm shutoff. I have, therefore, devised means for transmitting the light to and from the area of the alarm shutoff 54. The additional embodiments to be described below involve the transmission of the light from the light bulb through transparent light conduits. The use of such conduits has not only increased the flexibility as far as the placement of the openings 60 is concerned, but has also permitted integrating the lens through which the light is transmitted with the supporting means for the bulb.

In FIGS. 6 through 9 of the drawings there is illustrated

a second embodiment of my invention which is similar in principle to the embodiment described above but includes improved structure for supporting the light bulb **62** and the lens through which the light is transmitted. To simplify the showing of the second embodiment, the motor and movement have been eliminated from these views leaving only the front and back plates **40**, **42**, the alarm lever **40**, the vibrator **44** and the alarm shutoff **54**. As in the first embodiment described above, the front supporting plate **40** is formed with an opening **60**. A light bulb **62** is mounted on the rear face of the plate **40** with a cylindrical opaque shield **66** extending along the length of the cylindrical bulb. The light bulb **62** and its enclosing shield **66** are supported by means of a molded plastic support or carrier **76** made of a transparent plastic such as Lucite. The carrier **76** is secured to the rear face of the front supporting plate **40** by means of a projection **76***a* which extends through a hole in the front supporting plate and a pair of tabs **76***b*. The front supporting plate **40** is provided with integrally formed projections **40***a* which are formed over the tabs **76***b* to retain the carrier **76** assembled thereto, as may best be seen in FIG. 9. A suitable cavity **76***c* is formed in carrier **76** to receive the bulb **62** and its shield **66**. Since the carrier **76** merely supports the light bulb **62** and performs no shielding function, the walls defining the cavity **76***c* are cut away over a considerable area.

Molded integrally as a part of the carrier **76** are a lens **78** and light conduit **80**. As may best be seen in FIGS. 6 and 7 the light conduit **80** is connected to the remainder of the carrier **76** by means of wall members **76***d* which serve no purpose other than to support the conduit **80** with respect to the remainder of the carrier **76** which is secured to the supporting plate **40**. As is evident from an inspection of FIGS. 6 and 7 the light transmitted from the end of the cylindrical shield **66** remote from the bulb leads is directed toward the light conduit **80**. To redirect the light forwardly with respect to the face of the clock, the conduit **80** is formed with an angled reflecting surface **80***a*. Thus, the light transmitted from the bulb **62** moves parallel to the supporting plate **40** as it enters the light conduit **80**. The light then reflects against the 45 degree angled surface **80***a* and is reflected forwardly, perpendicular to the supporting plate **40**. The light passes through the light conduit **80** leaving the conduit at the lens **78** which extends through opening **60** in the plate **40**. The face of the lens **78** is serrated to produce a dispersion of the light emanating therefrom so that it is more easily visible.

In the embodiment of the invention shown in FIGS. 6 through 9, transmission of light from the bulb **62** to the light conduit **80** is selectively prevented by means of a shutter or barrier **82** which is formed integrally with the alarm shutoff **54**. The barrier or shutter **82** includes two mutually perpendicular legs **82***a* and **82***b* which extend away from the alarm shutoff **54**. On the end of the leg **82***b* most remote from the shutoff lever for the alarm shutoff **54**, there is forwardly projecting plate member **82***c* which is movable with the alarm shutoff **54**. In FIGS. 6 and 8 the plate member **82***c* is shown in solid lines in its nonobstructing position when it is ineffective in preventing light from passing from the bulb **62** to the light conduit **80**. With the plate in the nonobstructing position, the alarm shutoff **54** is, of course, in the alarm position wherein the alarm is permitted to sound at the selected hour. In FIGS. 6 and 8 there are dotted line showings of the plate member **82***c* in its obstructing position wherein it prevents the transmission of light from the bulb **62** to the light conduit **80**. When the alarm shutoff **54** is pushed forward to its alarm restraining position, the plate member **82***c* moves to the dotted line position shown in FIGS. 6 and 8 and prevents any light from being transmitted to the lens **78**. It should be noted that the shield **66** surrounds the bulb **62** sufficiently so that no light emanating from the bulb enters the Lucite carrier **76** except that which is permitted to enter the light conduit **80**. The spacing and disposition of the wall members **76***d* is such that the transmitted light does not enter therein for transmission to the light conduit **80**. It should be understood that the shield **66** could be eliminated and a tubular Lucite carrier provided with the inside thereof covered with an opaque paint.

In FIGS. 10 through 13 there is shown a third embodiment of the invention in which another form of bulb carrier or support is employed to vary the position of the opening **60** through which the signal light is transmitted. In FIGS. 10 through 13 the opening **60** is positioned below the light bulb **62**. Such an arrangement may be desirable in instances where the lens through which the signal light emanates is to be centered with respect to the face of the clock. This embodiment demonstrates that, through the use of a light conduit, the openings **60** may be positioned at almost any desired location on the face of the clock. An integral plastic bulb carrier **84** includes a recess **84***a* within which the bulb **62** is received. The bulb **62** is enclosed by an elongated shield **86** which extends beyond the end of the bulb remote from the lead connection. The shield **86** is made of a flexible woven plastic tubing so that it may conform to the shape of the light bulb **62** and the portion of the light conduit **80** to which it connects.

The carrier **84** is formed of a clear plastic material such as Lucite having a light conduit **88** positioned immediately adjacent the end of the light bulb **62**. The flexible shield **86** is received over the end of the conduit **88** adjacent the bulb **62** as is best shown in FIGS. 11 and 12. The end of the light conduit **88** remote from the bulb is provided with an angled reflecting surface **88***a* which reflects impinging light at 90 degrees to the longitudinal axis of the light conduit. To illustrate the path of light emanating from the bulb **62** through the conduit **88**, arrows have been employed in FIG. 11.

Spaced immediately below the light conduit **88** is a second light conduit **90** which conducts the light in the opposite direction from the light passing through the conduit **88**. The end of the light conduit **90** adjacent the end of the conduit **88** is formed with an angled reflecting surface **90***a* which reflects the impinging light through an angle of 90°. Thus, light reflecting from surface **88***a* passes downwardly into light conduit **90** where it is reflected against surface **90***a* and transmitted horizontally through the conduit **90**. At the other end of the conduit **90**, there is a second angled reflecting surface **90***b* positioned at a 45° angle to the front supporting plate **40** as may best be seen in FIG. 13. Light reflecting against the angled surface **90***b* passes forwardly through the light conduit **90** and is transmitted through a serrated lens **92**.

The bulb carrier **84** is retained on the front supporting plate **40** by means of integral tabs on the plate **40** and projecting portions **84***b* in the same manner as in the embodiment shown in FIGS. 6 through 9. In addition, the portion of the light conduit **90** extending through the opening **60** and a projection **84***c* extending through an opening in plate **40** locate the carrier **84** and prevent its twisting with respect to the front supporting plate **40**. The end of light conduit **90** which terminates in the serrated lens **92** is integrally joined to the wall portions of carrier **84** which define the recess **84***a*. The other end of the light conduit **90** is structurally connected to the light conduit **88** by an integrally molded wall portion **94**. The wall portion **94** is formed with right angles such that no light is conducted from conduit **88** into conduit **90** through the wall portion **94**.

To selectively obstruct the passage of light from the light conduit **88** to the light conduit **90**, a shutter or barrier **96** is provided which extends from the alarm shutoff **54**. Thus the shutter **96** is moved into and out of obstructing relationship with the light rays passing

from the bulb **62** to the lens **92** in the same manner as was described above in connection with the embodiment of FIGS. 6 through 9.

The embodiment pictured in FIG. 14 is similar to the embodiment of FIGS. 10 through 13 except that a single light conduit is employed and the barrier is inserted between the bulb and the light conduit. An integrally molded transparent plastic bulb carrier **98** is secured to the front supporting plate **40** in the same manner as the second and third embodiments described above with plastic projections extending through holes in the plate **40** and tabs on the plate securing the carrier thereto.

The carrier **98** is formed with a recess **98***a* within which the bulb **62** and its light shield **100** are received. Adjacent the end of the bulb **62** there is an L-shaped light conduit **102** which is an integral part of the bulb carrier **98**. The light conduit **102** is positioned with one leg positioned below and extending parallel to the axis of bulb **62** and the other leg extending vertically. The upper end of the vertical leg of conduit **102** is positioned opposite the inshielded end of the bulb **62** wherein it may receive light emanating from the bulb **62**. Closely spaced adjacent the upper end of light conduit **102**, there is an angled reflecting surface **102***a* which receives light entering the conduit horizontally and reflects it downwardly through the conduit **102**. Spaced below the reflecting surface **102***a* is a second angled reflecting surface **102***b* which receives the light passing vertically downwardly and reflects it in a horizontal direction through conduit **102**. A third angled reflecting surface **102***c* reflects the horizontally traveling light forwardly through a serrated lens **104** in which the light conduit **102** terminates. The portion of conduit **102** carrying lens **104** extends through an opening **60** in the plate **40**. The angled reflecting surface **102***c* and the serrated lens **104** are orientated in the same relative positions and cooperate in the same manner as the surface **90***b* and the lens **92** shown in FIG. 13.

The alarm shutoff of the embodiment is formed with an extension **106** which acts as a shutter or barrier to prevent light from passing from the bulb **62** to the end of the light conduit **102** when the alarm shutoff is in the shutoff position. As in the case of the other embodiments, when the alarm shutoff is moved to the alarm "on" position, the shutter **106** is moved rearwardly away from the front supporting plate **40** to a position in which light is permitted to pass from the bulb **62** out of the end of the cylindrical shield **100** into the light conduit **102**. Arrows are used in FIG. 14 to show the path of light rays as they are reflected from the angled surfaces **102***a* and **102***b* in passing through the light conduit **102**. It should be understood that the light conduit **102** is connected to and molded integrally with the portion of the bulb carrier **98** which defines the bulb receiving recess **98***a*.

While there has been shown and described several embodiments of the invention, it will be obvious to those skilled in the art that changes and modifications may be made without departing from the invention, and that it is intended by the appended claims to cover all such changes and modifications as fall within the true spirit and scope of the invention.

What is claimed as new and desired to be secured by Letters Patent of the United States is:

1. In an electric alarm clock, an alarm movement, a motor driving said movement, a housing for said motor and movement, an audible vibrator positioned adjacent said motor field and restrained by said alarm movement until release at a predetermined time, a manual alarm shutoff movable between an alarm shutoff position in which it restrains said vibrator and an alarm position in which it releases said vibrator for control by said movement, an electric light bulb mounted in said housing, an electric power supply cord connected to said motor and to said light bulb, said housing having an opening through which light from said bulb passes, shutter means connected to said alarm shutoff and movable therewith to prevent passage of said light through said opening when said alarm shutoff is in the alarm shutoff position.

2. An electric alarm clock including an alarm movement, a motor drivingly connected to said movement, a housing enclosing said motor and movement, an audible vibrator positioned adjacent said motor field and restrained by said alarm movement until release at a predetermined time, a manual shutoff slidably supported by said movement and movable between an alarm shutoff position in which it restrains said vibrator and an alarm position in which it releases said vibrator for control by said movement, an electric light bulb mounted in said housing, an electric power supply cord connected to said motor and to said light bulb, said housing having an opening through which light from said bulb passes, a light shutter connected to said manual shutoff and movable therewith to prevent passage of light through said opening when said manual shutoff is in the alarm shutoff position.

3. The electric alarm clock as set forth in claim **2** wherein said light shutter is formed integrally with said manual shutoff to close said opening when said manual shutoff is in the alarm shutoff position.

4. The electric alarm clock of claim **2** wherein said light shutter is positioned to close said opening when said manual shutoff is in said alarm shutoff position, said light shutter being positioned away from said opening when said manual shutoff is in said alarm position.

5. The electric alarm clock of claim **2** in which said light shutter is formed integrally with said manual shutoff and projects in a plane normal to the direction of movement of said shutoff, said light shutter moving against the portion of the housing defining said opening to close said opening when said manual shutoff is in said alarm shutoff position, said light shutter being spaced from said opening when said manual shutoff is in said alarm position.

6. An electric alarm clock including an alarm movement, a motor drivingly connected to said movement, a housing enclosing said motor and movement, an audible vibrator positioned adjacent said motor field and restrained by said alarm movement until release at a predetermined time, a manual alarm shutoff slidably supported by said movement and movable between an alarm shutoff position in which it restrains said vibrator and an alarm position in which it releases said vibrator for control by said movement, an electric light bulb mounted in said housing, an electric power supply cord connected to said motor and to said light bulb, said housing having an opening through which light from said bulb passes, shielding means enclosing said light bulb and directing the light therefrom to said opening, a light shutter connected to said alarm shutoff and movable therewith to prevent transmission of light from said bulb through said opening when said alarm shutoff is in the alarm shutoff position.

7. An electric alarm clock comprising a cup-shaped translucent casing having a forwardly facing opening therein, a clock motor and movement mounted in said casing, an opaque clock face mounted in the opening of said casing, an alarm mechanism driven by said movement, a manually actuatable alarm shutoff movable between a position restraining operation of said alarm mechanism and a position permitting operation of said alarm mechanism, a constantly illuminated light bulb mounted in said casing, an opening in said dial through which light from said bulb passes, shielding means enclosing said light bulb and directing light to said opening, and a light shutter connected to said alarm shutoff and movable therewith to obstruct light passing from said bulb to said opening when said alarm shutoff is in said restraining position.

8. An alarm clock comprising a motor driven alarm

movement mounted in a cup-shaped housing of translucent material, said movement having a supporting plate closing a forwardly facing opening of said cup-shaped housing, a clock dial carried by said supporting plate, an alarm shutoff slidably supported in said housing for movement perpendicular to the plane of said supporting plate, aligned openings formed in said plate and said dial, a light bulb carried by said supporting plate, an electric power supply cord connected to said bulb and to said motor, shielding means partially enclosing said bulb and directing the light therefrom to said openings, and a light shutter formed integrally with said alarm shut-off and selectively movable to prevent transmission of light from said bulb through said openings.

9. In an alarm clock a dial, a light source positioned behind said dial and lighted at all times the clock is operating, a member positioned behind said dial to provide for the passage of light emitted by said light source, a reflective surface positioned behind a portion of said dial to reflect light through said portion of said dial so that a light spot appears on said dial when the clock is in a darkened surrounding, an alarm mechanism including an alarm shut-off lever, said shut-off lever being movable between alarm off and alarm set positions, a control member supported by said shut-off lever for movement therewith, said shut-off lever moving said control member to a light-blocking position between said light source and said portion of said dial when said shut-off lever is moved to the alarm off position, and said shut-off lever moving said control member from its light-blocking position when said shut-off lever is moved to the alarm set position so that a light spot will appear on said dial.

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