March 17, 1942. E. J. PRICE 2,276,339

COMBINED ALARM CLOCK AND LAMP

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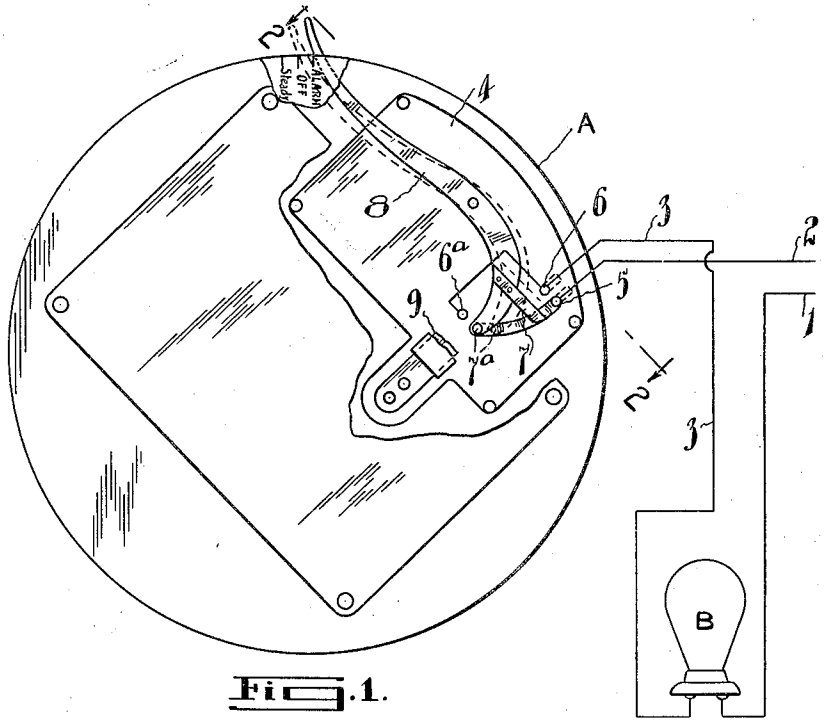


Fig. 1.

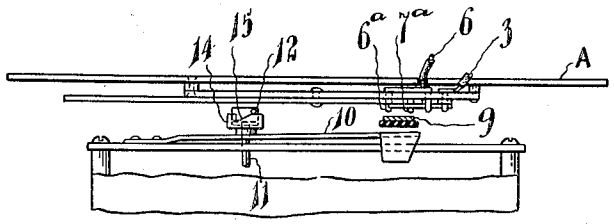


Fig. 2.

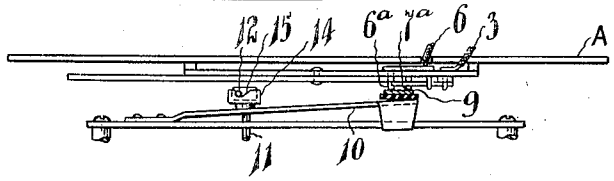


Fig. 3.

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COMBINED ALARM CLOCK AND LAMP

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7 Claims. (Cl. 58—19)

The object of this invention is to devise an electric light and alarm clock combination, by means of which the lamp will be illuminated at a predetermined time controlled by the setting off of the alarm mechanism of the clock, and with which the lamp will remain illuminated for a reasonable period of time, say approximately twenty to thirty minutes, when it will then be automatically shut off. A further object is to provide means for manually illuminating the lamp so that it may be used as a bed or reading lamp when desired without interfering with the alarm setting and for cutting out the lamp circuit when the alarm is to be operated in daylight hours.

I attain my object by means of the constructions hereinafter described and illustrated in the accompanying drawing in which

Fig. 1 is a rear view partly broken away of an alarm clock showing the lamp control mechanism;

Fig. 2 a plan view of the switch control mechanism of the clock; and

Fig. 3 a similar view showing the parts in circuit-closing position.

In the drawing like numerals of reference indicate corresponding parts in the different figures.

A indicates an alarm clock in the main of ordinary construction, while B indicates the light, which may be mounted on the clock itself or on a common support, or in any other suitable convenient position. 1 and 2 indicate the current supply lines, the line 1 being connected directly with the lamp, while the line 2 leads to special switch control means in the clock itself, from which switch control means a line 3 leads to the lamp to complete the circuit of the latter.

The switch mechanism is mounted upon a support 4 of insulating material supported within the clock casing. On this support are mounted a terminal 5 to which the line 2 is connected and a terminal 6 to which the line 3 is connected. These terminals are arranged relative to one another so that the circuit of the lamp may be closed by a contact 7 carried by a lever 8 pivoted on the support 4. This lever 8 is preferably formed of insulating material, and extends through the clock casing as shown so that it may be operated by hand.

The terminal 5 has preferably secured thereto an arc-shaped contact member with which the contact 7 has a slidable engagement. On the support 4 is also mounted a contact 6^a connected with the lamp line 3, and on the lever is mounted a contact 7^a, which engages the contact 5. These contacts, when the lever is in said full line position, are adapted to be simultaneously engaged by a spring contact finger 9 mounted on the support 4.

This spring contact finger 9 is actuated by a spring arm 10, shown particularly in Figs. 2 and 3. The movement of this spring arm 10 is controlled by the ordinary alarm mechanism of the clock. 11 is the usual alarm setting shaft having a radially directed pin 12 thereon, which shaft is driven by the clock mechanism so as to revolve once every twelve hours. Slidable on the shaft 11 is a collar or hub 14 in which is formed a segmental cut-out portion 15 which controls the alarm in the usual manner. The collar 14 is held from rotation by the spring arm 10.

When the pin 12 becomes alined with the straight side of the cut-out 15, the spring arm 10 forces the collar outwardly to operate the alarm mechanism (not shown) in the ordinary manner, and at the same time said spring arm bends the finger 9 into engagement with both contacts 6^a and 7^a, thus closing the circuit of the lamp to light the latter.

As the shaft continues to revolve, the pin 12 gradually forces the collar back to its original position as it climbs the inclined surface of the cut-out 15 and forces the spring arm 10 back, thus relieving pressure on the spring contact finger 9. It will usually take approximately twenty to thirty minutes to break the electric circuit of the lamp in this manner.

In case, however, it is desired to dispense with the lamp when the alarm operates, the lever 8 may be moved to an intermediate position as shown in dotted lines in Fig. 1, in which case the contact 7^a will be out of position for engagement by the spring finger 9 when it is actuated by the spring arm 10.

It will be seen also that if it is desired to shut off the lamp after the alarm has been given, this may be done by moving the lever 8 from the full-line position to the dotted position.

In the event that it is desired to employ the lamp for reading purposes, this may be done irrespective of whether the alarm has been set or not by moving the lever to engage the contact 7 with the contacts 5 and 6, and after the user is through with the lamp, it may be put out by moving the lever to the dotted position if it is desired that the lamp not be illuminated by the alarm, or to the full line position if it is desired that the alarm cause the illumination of the lamp.

From the above description it will be seen that

I have devised an alarm and light combination which will permit control and use of the light independent of and without interfering with the setting of the alarm mechanism.

It will be understood, of course, that the clock may be of the electrically operated or manually wound type.

The clock casing will be provided with a slot of sufficient length to permit the proper operation of the lever, and the casing will be provided with appropriate markings to indicate the various positions of the lever.

What I claim as my invention is:

1. In a device of the class described, a clock provided with an alarm mechanism; an electric lamp; a source of current; a support of insulating material mounted within the clock; a switch lever pivoted on said support; a contact on said support; a co-operating contact carried by said lever; an electric circuit including the source of current, the lamp and said contacts; and a spring finger mounted on said support and adapted to be moved by the alarm mechanism of the clock to simultaneously engage both contacts when the lever is in circuit closing position.

2. In a device of the class described, a clock provided with an alarm mechanism; an electric lamp; a source of current; a support of insulating material mounted within the clock; a switch lever pivoted on said support; a contact on said support; a co-operating contact carried by said lever; an electric circuit including the source of current, the lamp and said contacts; a spring finger mounted on said support and adapted to be moved by the alarm mechanism of the clock to simultaneously engage both contacts when the lever is in circuit closing position; a second pair of contacts on said support; a second circuit including said source of current, the lamp and the second pair of contacts, said lever being adapted to occupy either a position closing the first circuit or a position closing the second circuit.

3. In a device of the class described, a clock provided with an alarm mechanism; an electric lamp; a source of current; a support of insulating material mounted within the clock; a switch lever pivoted on said support; a contact on said support; a co-operating contact carried by said lever; an electric circuit including the source of current, the lamp and said contacts; a spring finger mounted on said support and adapted to be moved by the alarm mechanism of the clock to simultaneously engage both contacts when the lever is in circuit closing position; a second pair of contacts on said support; a second circuit including said source of current, the lamp and the second pair of contacts, said lever being adapted to occupy either a position closing the first circuit, a non-circuit closing position, or a position closing the second circuit.

4. In a device of the class described, a clock provided with an alarm mechanism; an electric lamp; a source of current; a support of insulating material mounted within the clock; a switch lever pivoted on said support; a contact on said support; a co-operating contact carried by said lever; an electric circuit including the source of current, the lamp and said contacts; a spring finger mounted on said support and adapted to be moved by the alarm mechanism of the clock to simultaneously engage both contacts when the lever is in circuit closing position; a second pair of contacts on said support, one of said contacts being formed as a bar with which the contact on the lever has a sliding engagement; a second circuit including said source of current, the lamp and the second pair of contacts; said lever being adapted to occupy either a position closing the first circuit, a non-circuit closing position or a position closing the second circuit.

5. In a device of the class described, clock mechanism including a rotatable shaft; an electric appliance; a source of current; a support of insulating material mounted within the clock; a switch lever pivoted on said support; a contact on said support; a co-operating contact carried pliance, the source of current, and said contacts; by the lever; an electric circuit including the appliance, a spring contact mounted on said support; and means controlled by said shaft for operating said spring contact to simultaneously engage both contacts when the lever is in circuit closing position.

6. In a device of the class described, clock mechanism including a rotatable shaft; an electric appliance; a source of current; a support of insulating material mounted within the clock; a switch lever pivoted on said support; a contact on said support; a co-operating contact carried by the lever; an electric circuit including the appliance, the source of current, and said contacts; a spring contact mounted on said support; means controlled by said shaft for operating said spring contact to simultaneously engage both contacts when the lever is in circuit closing position; said means comprising a pin extending radially from said shaft; a collar controlling the movement of said spring finger, said collar being rotatable on and slidable longitudinally of said shaft, said collar having a recess into which said pin may enter to permit sliding movement of the collar on the shaft, said recess having a sloping rear side having relation to the travel of the pin; and a spring normally tending to move said collar against the pin.

7. In a device of the class described, clock mechanism including a rotatable shaft; an electric appliance; a source of current; a support of insulating material mounted within the clock; a switch lever pivoted on said support; a contact on said support; a co-operating contact carried by the lever; an electric circuit including the appliance, the source of current, and said contacts; a spring contact mounted on said support; means controlled by said shaft for operating said spring contact to simultaneously engage both contacts when the lever is in circuit closing position; said means comprising a pin extending radially from said shaft; a collar rotatable on and slidable longitudinally of said shaft, said collar having a recess into which said pin may enter to permit sliding movement of the collar on the shaft, said recess having a sloping rear side having relation to the travel of the pin; and a second spring finger mounted on said support engaging said collar to hold it from rotation and adapted to control the movement of the spring contact.

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