COIN-OPERATED CLOCK ALARM

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Filed: Feb. 28, 1974

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ABSTRACT

The coin-operated clock comprises a synchronous electric motor connected to a single source of power and a control subcircuit connected in parallel to such source of power to the synchronous motor. The control subcircuit is powered from a transformer and a full-wave rectifier, the control subcircuit having connected in parallel a first series of a coin-operated switch and a relay and a second series including an alarm shut-off switch being a reverse-push-button, a timer switch functionally associated with the clock motor, and an alarm, the contact of the relay being connected between said alarm shut-off switch and the timer switch and having a connection between the contact terminal connected between the coin-operated switch and the coil connection of the relay.

1 Claim, 1 Drawing Figure
COIN-OPERATED CLOCK ALARM

FIELD OF INVENTION:
The present invention relates to clocks and more particularly to coin-operated clock alarms.

BACKGROUND OF THE INVENTION:
It is the primary object of this invention to provide a coin-operated-clock alarm for hotel rooms and other places where a coin-operated-timing device may be useful.

It is a further object of this invention that the coin-operated clock alarm be adaptable to a plurality of housings and other electrical packaging for respective uses of this device.

These and other objects shall become apparent from the description following, it being understood that modifications may be made without affecting the teachings of the invention here set out.

DESCRIPTION OF THE DRAWINGS:
FIG. 1 is an electrical schematic of the present coin-operated clock alarm of this invention shown with a coin chut with coin positions, shown in broken lines superimposed over a typical switch for illustrative purposes.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT:
Referring to the drawing, the coin operated clock alarm of this invention is shown to advantage and generally identified by the numeral 10. The alarm 10, described herein, may be disclosed in one of a variety of housings and electrical packaging while maintaining its essential character. The present clock alarm 10 may be enclosed in another conventional electric clock case which may include clock faces, control boxes, or other electrical mechanical devices as the circumstances warrant.

The clock alarm 10 comprises a motor 11 and a control subcircuit 12. The motor 11 is a synchronous electric motor of the type associated with clocks and timing devices. The control subcircuit 12 is powered by a transformer 13 and a full-wave rectifier 14. From the outputs of the rectifier 14, there are provided a pair of parallelly connected series of components. The first series of the subcircuit 12 includes a coin-operated switch 15 and a relay 16. The coin-operated switch 15 is of the type associated with coin-operated vending apparatus, such as electric powered rides and the like. The switch 15 is essentially a momentary contact switch actuated by force applied by a coin chute 15'. The relay 16 is operable as a retain closure of the subcircuit 12 after insertion of a coin momentarily contacting the switch 15. The second series includes an alarm shut-off switch 17, a timer switch 18, and an alarm-sounder 19. The alarm shut-off switch 17 is a reverse push-button switch which is normally closed. The shut-off switch 17 is used to deactivate the alarm 10 after the alarm has sounded. The contact 16' of the relay 16 is connected between the switches 17 and 18, and is closed by a bypass 12', of the subcircuit 12, connected distally between the switch 15 and the timer switch 18. In this manner, activation of the switch 15, in response to a coin, activates the relay 16 to maintain the subcircuit closed. The timer switch 18 is of the type associated with the electric timing devices with a dial electric control face for selecting the time interval between time start and the alarm, and is operable to break the subcircuit 12 and operation of the mechanism on the motor 11. Such a mechanism may be selected from any of a variety of electric timer switches of the prior art. The alarm 19 may be selected from a variety of sounders including a bell or indicator lights. It is to be understood that the alarm sounder 19 may also be used to control other apparatus without the central primary purpose of the clock alarm 10 as a timing device.

In operation the timer switch 18 may be set to a pre-selected time and a coin may be inserted into the coin operated switch 15 as set out above to momentarily close the circuit 10 and to activate the relay 16. The relay 16 activates the synchronous motor 11 which will actuate the timer switch 18, and maintains a closed circuit. When the time has expired the timer switch 18 is then operable to sound the alarm sounder 19. The alarm sounder 19 is silenced by depressing the shut-off switch 17 to break the control subcircuit 12 and to deactivate the relay 16 and hence the subcircuit 12.

Having thus described in detail a preferred apparatus which embodies the concepts and principles of the invention and which accomplishes the various objects, purposes and aims thereof, it is to be appreciated and will be apparent to those skilled in the art that many physical changes could be made in the apparatus without altering the inventive concepts and principles embodied therein. Hence, it is intended that the scope of the invention be limited only to the extent indicated in the appended claims.

I claim:
1. A coin-operated clock comprising: a synchronous electric motor connected to a remote source of power; and a control subcircuit being connected to said remote source of power through a transformer and a full-wave rectifier, said control subcircuit having connected in parallel a first series circuit including a coin-operated switch and a relay which has an electrically actuated contactor, a second series circuit including a reverse push button alarm shut-off switch, a timer switch in communication with said clock motor, and an alarm, the contactor of said relay being connected between said alarm shut-off and said timer switch and being inter-connected between the contactor terminal and said coin-operated switch and the coil connection of said relay to be operable, when a coin is present to activate said relay, to connect said timer, said alarm shut-off switch, and said alarm to allow setting.

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