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SILENT ALARM CLOCK

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FIG.1

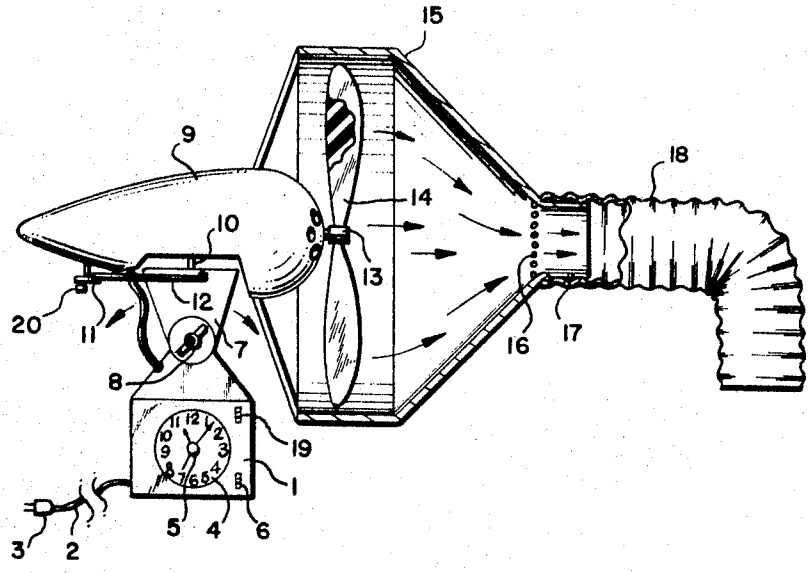
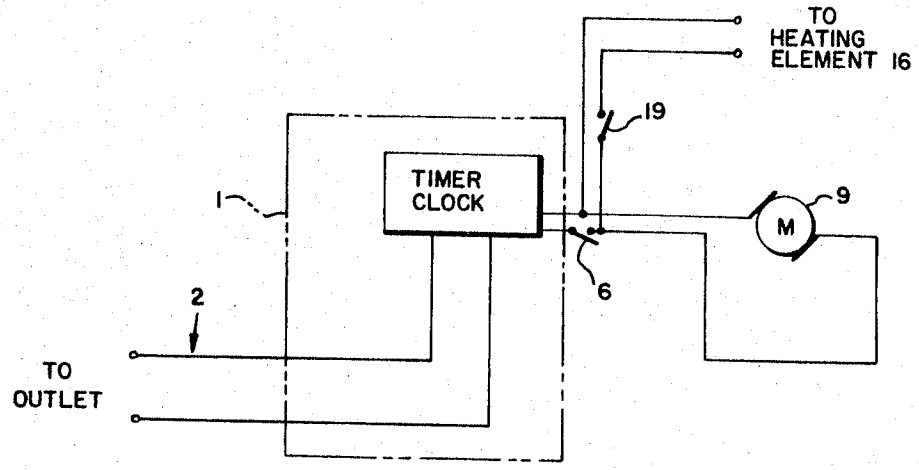


FIG.2



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SILENT ALARM CLOCK

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ABSTRACT OF THE DISCLOSURE

A silent alarm clock in which an oscillating fan is actuated at a set time by a timer to sweep an area with a stream of air. If the swept area includes a bed and a person sleeping therein, the person is awakened. The stream of air can readily be arranged so as not to awaken other persons sleeping in the same room.

This invention relates to alarm clocks, and particularly to an alarm clock which is noiseless and therefore capable of operating without awakening all sleepers within earshot.

An object of the invention is the provision of an alarm clock capable of awakening one selected sleeper among a plurality of persons in the same room.

Another object is the provision of an alarm clock which is as effective as the conventional ringing alarm, as simple and convenient, and not more drastic in its effects.

I have found that a gentle stream of air directed against the exposed skin awakens many sleepers, and that an intermittently applied stream of air can rouse from sleep even a person drugged by the reasonable amount of barbiturates. A sudden onrush of air is not more, and usually less shocking than the sudden ringing of a conventional alarm clock. There is some difference between individuals in their reaction to the temperature of the applied air stream. While some consider a stream of air at ambient temperature less pleasant than an air stream heated to about 100° F., others are more quickly aroused by warm air than by cold air for reasons not entirely understood at this time.

A silent alarm clock based on these findings may thus simply consist of a motor operated blower, a control timer operatively connected to the motor for actuating the same at the desired time, and a nozzle for discharging a stream of air from the blower in a desired direction. This arrangement constitutes an effective alarm clock which can readily be made to be noiseless, and awakens only the person against whom the stream of discharged air is directed.

Other objects and features of this invention will be readily apparent from consideration of the following specification relating to the annexed drawing in which:

FIG. 1 shows an electrically operated silent alarm clock of the invention; and

FIG. 2 is a circuit diagram of the clock of FIG. 1.

The alarm clock shown in FIG. 1 includes a timer of a conventional type of which only a casing **1** and elements mounted on the outer surface of the casing are shown. The casing **1** encloses an electric clockwork (not seen in the drawing) which draws power from a wall outlet (not shown) through an electric line cord **2** and plug **3**, and turns the hour hand and minute hand on a twelve-hour clock dial **4**. A third hand on the dial is adjustable by means of a knob **5** for setting the time at which the clockwork closes a built-in switch (not shown) as is conventional. The switch connects the line cord **2** to two output circuits as better seen in FIG. 2, when a switch **6** on the timer casing **1** is closed.

A bracket **7** is mounted on the timer casing **1** by means of a bolt and wing-nut **8** for pivoting movement in a vertical plane, and carries an electric motor **9** which can swing in a horizontal plane, as shown in FIG. 1, on a pivot **10** on the bracket. A crank **11** driven by the motor **9** is connected to the bracket **7** by a linkage **12** so that the motor oscillates on its pivot **10** when energized. The main drive shaft **13** of the motor **9** carries a propeller **14** having rubber blades.

A shroud **15** mounted on the motor casing envelops the propeller and tapers conically in the direction of the air stream generated by the propeller. A grid-shaped electric heating element **16** is arranged in the air stream near the cylindrical discharge end **17** of the shroud **15**. A shape retaining, but flexible hose **18** is slipped over the discharge end **17**, the heating element **16** draws current from the timer through a switch **19** on the casing **1**.

In operating the device, the casing **1**, which supports all other elements of the silent alarm clock, is placed near the bed of the sleeper in such a manner that the discharge nozzle constituted by the shroud **15** and the hose **18** is directed toward the portion of the bed in which exposed skin of the sleeper will be reached by the discharged air stream.

The sweep of the air stream across the bed can be controlled within fairly wide limits by adjusting the shape of the hose **18** and the angular position of the bracket **7** on the casing **1**. The arc swept is longest when the hose **18** is straight and as far from the sleeper as is possible without undue attenuation of the air stream. The arc is shortest when the hose **18** is bent at right angles as illustrated. The bolt and wing nut **8** permit the motor **9** and the discharge nozzle to be tilted so that the air stream reaches the sleeper in the two extreme positions of the hose **18** referred to above.

The effective length of the arc swept determines the length of time during which the air stream impinges on the sleeper during each oscillation of the motor **9**. The frequency of oscillation is fixed, but oscillation of the motor may be stopped, if so desired, by loosening a set screw **20** on the crank **11** in a manner conventional in oscillating desk fans. The switch **19** may be set for discharge of air at ambient or elevated temperature.

Many modifications of the illustrated silent alarm clock will readily suggest themselves to those skilled in the art. The nozzle **15**, **18** may be oscillated in an obvious manner by the motor **9** without being mounted on the motor, and under such conditions, the motor itself may be fixedly mounted on or in the casing **1**. The tilting adjustment of the discharge nozzle may be achieved by means other than the illustrated bolt and wing nut **8**, and mounting the casing **1** on a tilting stand would be an obvious expedient achieving the same effect. The type of blower employed is not in itself relevant to the invention. A propeller having rubber blades is practically inaudible when operated at the relatively low speed permissible with a tapering nozzle, but the use of a centrifugal blower is obviously within the scope of this invention.

An electric motor **9** has been shown as the source of power for the propeller **14**, but spring operated fans are staple articles of commerce, and it is entirely within the skill of the clockmaker's art to connect a spring-driven fan to a spring-operated alarm clock for control thereby so that a silent alarm clock of the invention may be independent of a source of electric current.

It should be understood, therefore, that the foregoing disclosure relates only to an embodiment of the invention preferred at this time, and that it is intended to cover all changes and modifications of the example of the invention herein chosen for the purpose of the disclosure.

What I claim is:

1. A silent alarm clock comprising, in combination:

(a) blower means operable to generate a stream of air;

(b) motor means operatively connected to said blower means for operating the same;

(c) timer means operatively connected to said motor means for actuating said motor means at a predetermined time, said timer means including

(1) an electric clock work having a twelve hour dial, an hour hand, a minute hand, and a third hand on said dial, and adjusting means for setting said third hand and for thereby setting said predetermined time;

(d) nozzle means connected to said blower means for discharging said stream in a predetermined direction;

(e) oscillating means for cyclically varying the direction of discharge of said nozzle means in a first plane in response to operation of said blower means by said motor means; and

(f) adjusting means for adjusting said direction of discharge in a second plane transverse of said first plane.

2. An alarm clock as set forth in claim 1, further comprising heater means for heating the air of said stream.

3. An alarm clock as set forth in claim 1, wherein said motor means is electrically operated, and said timer means includes a timing switch in circuit with said motor means.

4. An alarm clock as set forth in claim 1, further comprising a support, said motor means, blower means, and nozzle means being mounted on said support for joint pivoting movement about an axis, said oscillating means being connected to said motor means and to said support for operation by said motor means and for jointly oscillating said motor means, said blower means, and said nozzle means about said axis.

5. An alarm clock as set forth in claim 1, wherein said nozzle means include a shape-retaining flexible conduit connected to said blower means for receiving the stream of air generated by the same, and having a discharge opening for discharging the received stream.

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