Jan. 23, 1940. R. G. TORRENS 2,187,761

SLEEP CONTROL ALARM

Filed May 11, 1937

Fig. 1.

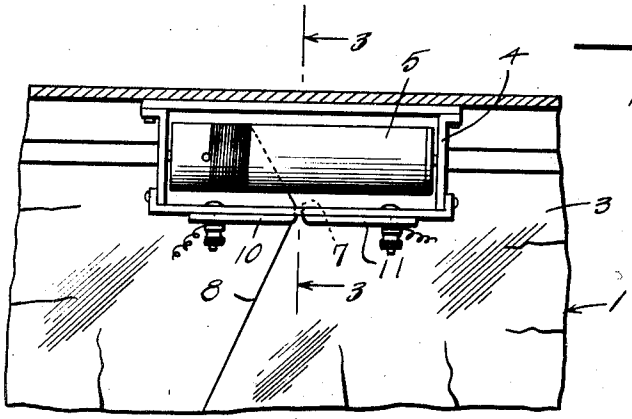
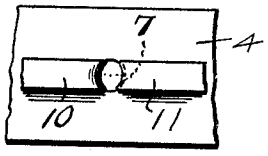


Fig. 4.



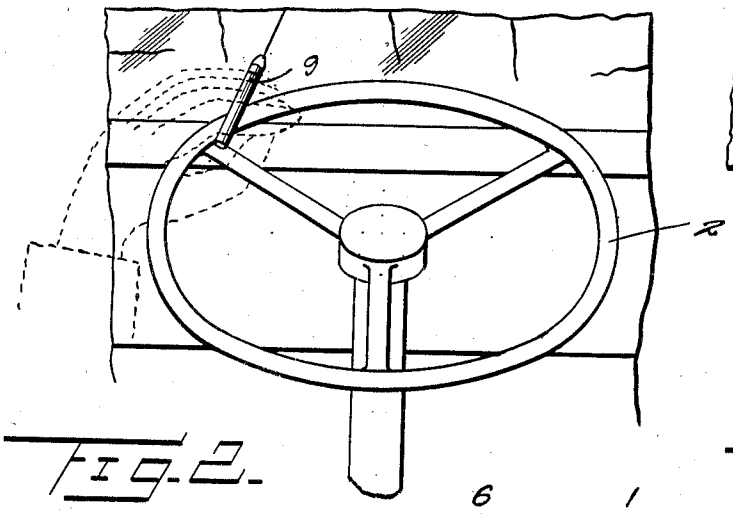


Fig. 2.

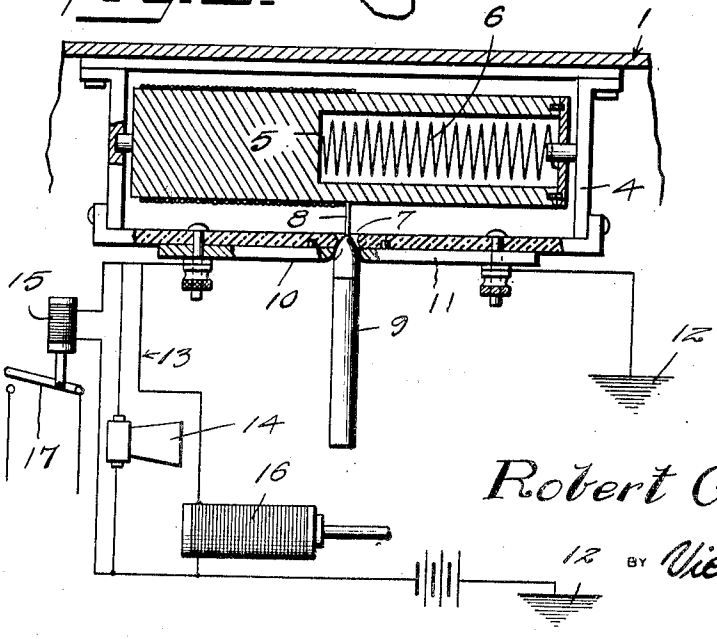
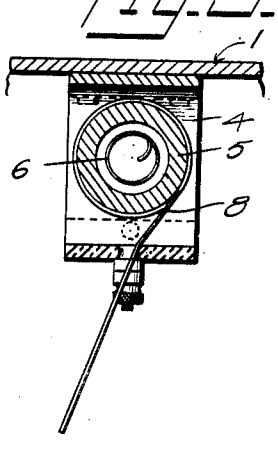


Fig. 3.



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SLEEP CONTROL ALARM

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2 Claims. (Cl. 200—153)

This invention relates to sleep alarms and has for the primary object the provision of a device of this character which is especially adapted for awakening the driver of a vehicle should the driver fall asleep while operating a vehicle and to automatically stop the vehicle and also may be employed for other purposes such as awakening a watchman or any other person should such a person fall asleep while on duty.

With these and other objects in view, this invention consists in certain novel features of construction, combination and arrangement of parts to be hereinafter more fully described and claimed.

For a complete understanding of my invention, reference is to be had to the following description and accompanying drawing, in which:

Figure 1 is a fragmentary view partly in section showing a portion of a motor equipped with a sleep control alarm constructed in accordance with my invention.

Figure 2 is a fragmentary sectional view showing a self-closing circuit breaker connected into an electric circuit.

Figure 3 is a transverse sectional view taken on the line 3—3 of Figure 1.

Figure 4 is a fragmentary front elevation showing spaced contacts to be bridged by a movable contact when released from a person's grasp.

Referring in detail to the drawing, the numeral 1 indicates a fragmentary portion of an automobile or similar vehicle, 2 the steering wheel thereof and 3 the windshield. A frame or bracket 4 is mounted on the windshield and rotatably supports a drum 5 having connected thereto a tension spring 6. The front wall of the bracket has an opening 7 through which a flexible element 8 passes and the latter is wound on and secured to the drum. Secured to the free end of the flexible element is a movable contact 9 approximately the size of an ordinary cigarette so that it may readily be held between the fingers of the driver of the vehicle, as shown in Figure 1. When the movable contact is held in the fingers of the operator, a portion of the flexible element 8 is unwound from the drum and the unwinding of the flexible element from said drum tensions the spring 6 so that when the contact element 9 is released the drum is rotated by the spring bringing the attached end of the contact into engagement with the walls of the opening 7. Fixed contacts 10 and 11 are mounted on the front wall of the bracket 4 and the opposing ends are spaced and located adjacent the opening 7 to be engaged by the contact 9 when assuming the position, as shown in Figure 2. Thus it will be seen that the contact when in this position will bridge the contacts 10 and 11. The contact 11 is electrically connected to an electrical ground 12 of the vehicle while the contact 10 is electrically connected to an electric circuit 13, the latter also being electrically grounded, as shown in Figure 2. Connected in the electric circuit 13 is an electric audible alarm 14 and solenoids 15 and 16. The solenoid 15 is connected to an ignition switch 17 of the vehicle while the solenoid 16 is adapted to be connected to the brake operating mechanism. The electric circuit 13 is broken when the contact 9 is disengaged from the contacts 10 and 11.

In operation, the driver of the vehicle holds the contact 9 between the fingers of one of the hands and should the driver fall asleep the fingers relax and release the contact 9 which immediately engages with the contacts 10 and 11 due to the rotation of the drum 5 by the spring 6. The electric circuit 13 then being closed actuates the alarm 14 and solenoids 15 and 16, the alarm acting to awaken the driver while the solenoid 15 acts to stop the engine of the vehicle and the solenoid 16 operates to apply the brakes of the vehicle to bring the latter to a stop. While I have specifically described this invention as adaptable to a vehicle it also can be employed for other purposes such as for awakening a watchman or similar person when on duty should such a person fall asleep.

What is claimed is:

1. A sleep alarm comprising a bracket having an insulated portion provided with an opening, a self-winding drum rotatably supported by the bracket, a non-conductive flexible element secured to and wound on said drum and extending through the opening, fixed contacts mounted on and paralleling the insulated portion of the bracket, said fixed contacts positioned at opposite sides of the opening with the flexible element extending therebetween, an electric circuit having said contacts connected thereto and normally broken by said contacts and including an alarm, an elongated contact having one end secured to the free end of the flexible element to be held by a person away from said fixed contacts and adapted to bridge the latter on the release thereof by relaxation of the person caused by sleep for closing said circuit and thereby bring about operation of the alarm.

2. A sleep control alarm comprising a bracket, spaced contacts for breaking an electric circuit of an electric alarm carried by said bracket, a

drum journaled on the bracket for rotation in either direction, means acting on said drum to rotate the latter in one direction, a non-conducting flexible element wound on said drum by the rotation of the latter in the last-named direction, and a contact bridging element secured to said flexible element and caused to engage the spaced contacts by the rotation of the drum in the last-named direction and adapted to be moved away from said contacts and held by a person for breaking the circuit until such time the person falls asleep and releases said bridging element due to relaxation by the person.

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