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E. PHILLIANS

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SLEEP PREVENTING ALARM

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Fig. 1

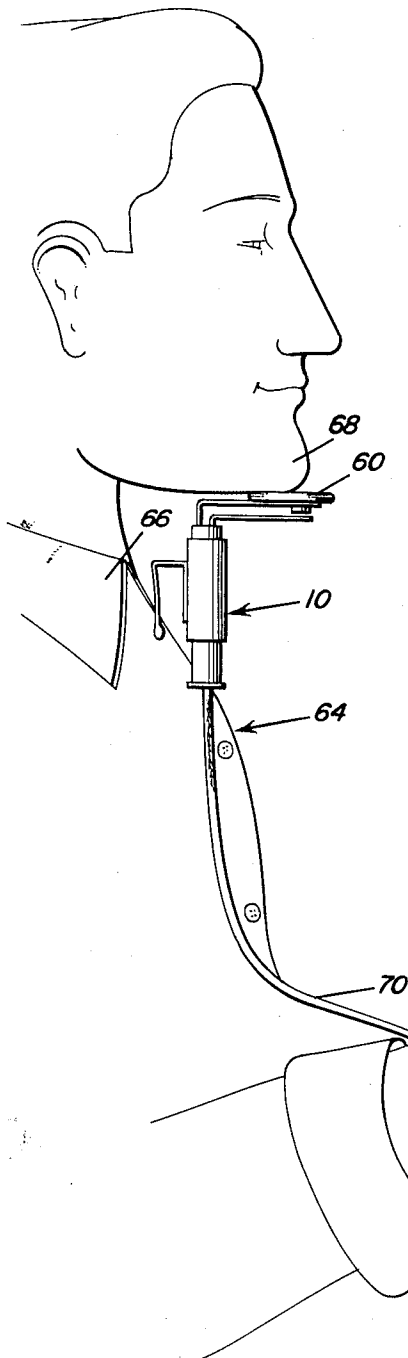


Fig. 2

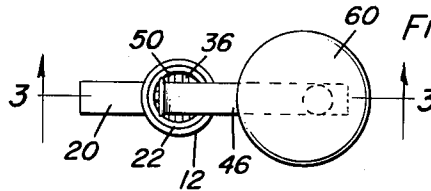
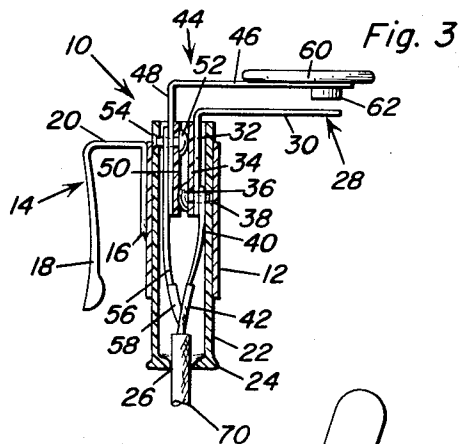


Fig. 3



Edward Phillians

INVENTOR.

BY *Clarence A. O'Brien*
and *Harvey B. Jacobson*
Attorneys

1

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SLEEP PREVENTING ALARM

Edward Phillians, 763 E. 3rd St., Apt. 1,
Salt Lake City, Utah

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This invention relates generally to alarm devices and more particularly to a sleep preventing alarm device specifically adapted to be utilized by vehicle operators to prevent them from falling asleep while driving.

We are continually being reminded of the significant toll on lives taken through highway accidents. In many instances, of course, the accidents are due to mechanical deficiencies of the vehicles but, more often the accidents are due to careless driving. Often, the operator of a vehicle will continue to drive despite feeling drowsy and due to a momentary lapse of alertness, will become involved in, perhaps, a fatal collision. The development of a device which would keep the driver alert and which would not hinder his normal driving would be beneficial and clearly would act as a safety precaution which would undoubtedly result in the saving of lives caused by vehicle accidents. Accordingly, it is the principal object of this invention to provide a novel alarm device adapted to be utilized by vehicle operators for maintaining said operators in an awake condition.

It is a further object of this invention to provide a novel alarm device which greatly adds to safety on the highways and further may be conveniently worn so as not to detract or impede normal driving.

It is a still further object of this invention to provide a novel alarm device which is simple in construction and may be manufactured at a minimum of cost.

In accordance with the above stated objects, below is particularly described the construction and utilization of the novel alarm device forming the subject matter of this application. Initially, the device includes an outside cylindrical sleeve having a hook thereon enabling the sleeve to be attached to the driver's clothing proximate his chin. Slidably received within the outside sleeve is an inner cylindrical sleeve. The relative positioning between the outside sleeve and the sleeve received therein may be adjusted due to the frictional engagement therebetween. A first fixed terminal is supported adjacent the top of the inner sleeve and a second resiliently movable terminal is also supported adjacent the top of the inner sleeve, above the fixed terminal. A chin contact disc is fixed to the movable terminal. Electrical conductors are connected to each of the first fixed terminal and second movable terminal and extend, preferably, to the horn circuit of the vehicle. It is contemplated that the electrical conductors be placed in parallel with the normally open switch in the conventional horn circuit, so that when the chin of the driver drops so as to contact the chin disc for closing the gap between the second movable terminal and the first fixed terminal, the normally open switch in the horn circuit will be shorted. Of course, the conventional horn circuit will then be actuated and the driver will be alerted. Therefore, it is seen that the driver of an automobile, upon becoming drowsy, will let his chin drop and eyes close. However, when his chin drops, the first and second terminals will close so as to actuate the horn or any audible alarm to awaken him. It will be seen hereinafter that the device may be constructed of a size so that it may be conveniently worn without impeding the normal driving habits.

These together with other objects and advantages which will become subsequently apparent reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accom-

2

panying drawings forming a part hereof, wherein like numerals refer to like parts throughout, and in which:

FIGURE 1 is an elevational view illustrating the device being utilized by a driver;

FIGURE 2 is an elevational plan view of the alarm device comprising this invention; and

FIGURE 3 is a sectional view taken along the plane 3—3 of FIGURE 2.

With continuing reference to the drawings, the numeral 10 generally represents the alarm device comprising this invention and including initially a cylindrical outside sleeve 12. It is preferably that the sleeve be of a light insulative material as plastic. Fixed to the sleeve 12 is a hook 14 comprising a first leg portion 16 and a second leg portion 18 connected by a bight portion 20.

Frictionally received within the sleeve 12 is an inner sleeve, also cylindrical, 22. The sleeve 22 is flanged as at 24 at the bottom end thereof. The flange 24 extends both inwardly and outwardly of the diameter of the inner sleeve 22. Accordingly, a small aperture 26 is defined therethrough.

A first fixed terminal 28 including a pair of perpendicular leg portions 30 and 32 is disposed adjacent the upper end of inner sleeve 22. The leg portion 32 extends into the sleeve 22 adjacent a first insulative member 34. A rivet 36 extends through the first insulative member 34 and depending leg 32, through the inner sleeve 22 and is retained outwardly thereof by enlarged portion 38. Received on the rivet 36 is electrical conductor 40 having an insulative coating 42.

A second terminal 44 is illustrated as having a first leg 46 and a second leg 48. The second leg 48 extends into the inner sleeve 22 between a second insulative member 50. A rivet 52 fastens the leg 48 between the second insulative member 50 and the inner sleeve 22. The enlarged portion 54 of rivet 52 secures the rivet in place. An electrical conductor 56 having an insulative coating 58 is connected to the rivet 52 as illustrated.

As will be particularly noted in FIGURE 2, the first and second insulative members 36 and 50 form chords of the circle defined by the inner sleeve 22.

A chin contact disc, which may be of insulative material, 60 is fixed to the terminal portion of leg 46 of second terminal 44. It is to be noted that the leg 46 is somewhat resilient so that the leg 46 may bend relative to the leg 48. A depending conductive projection 62 is electrically in contact with the leg 46. It will be noted in FIGURE 3 that the second terminal 44 overlies the first terminal 28. Keeping in mind that the leg 46 of the second terminal 44 is resilient, it will be noted that pressure on the chin contact disc 60 will move the leg 46 downwardly so that projection 62 will contact leg 30 of the first terminal 28. Inasmuch as the terminals 44 and 28 and the rivets 52 and 36 are all electrically conductive, it will be noted that a closed circuit will be formed from conductor 56 through terminal 44 through projection 62 through terminal 28 to conductor 40.

In the utilization of this invention, a driver 64 may hook the alarm device 10 to an article of clothing 66 as is illustrated in FIGURE 1. Of course, the chin disc 60 should be positioned so that it lies immediately beneath the chin 68 of driver 64. The electrical conductors 56 and 40 passing through the aperture 26 and flange 24 are contained within insulative sleeve 70 which extends toward the steering column 72. Electrical conductors 56 and 40 may terminate in male prongs 74 and 76 which are received in a female receptacle in the column 72. The conventional horn circuit of the vehicle, or for that matter any audible alarm may be utilized in conjunction with the device. Assuming, that the conventional horn circuit is utilized, the male prongs 74 and 76 are electrically connected in parallel with the normally open switch in the

3

conventional horn circuit. Accordingly, when the driver 64 becomes drowsy, his chin 68 will fall and contact chin contact 60 so as to close the circuit between male prongs 74 and 76 to short the normally open switch in the horn circuit. Apparently, then, the horn will be actuated and the driver 64 will be awakened and accordingly an accident may be avoided. In closing, it is to be noted that the sleeve 22 is adjustable in the sleeve 12 for allowing proper positioning of chin contact disc 60 relative to chain 68.

The foregoing is considered as illustrative only of the principles of the invention. Further, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction and operation shown and described, and accordingly, all suitable modifications and equivalents may be resorted to, falling within the scope of the invention as claimed.

What is claimed as new is as follows:

1. A switch for actuating a sleep preventing alarm, said switch comprising a vertically elongated housing, means for attaching said housing to the person of a user below the chin, a pair of L-shaped metallic members disposed in juxtaposed relation and including a pair of spaced adjacent arms extending into the upper end portion of said housing and a second pair of spaced adjacent arms projecting laterally from the housing, means electrically insulating the first pair of arms in the housing, one of the arms in the second pair being resiliently movable toward and away from the other arm to respectively close and open the switch, and a chin engaging pressure pad provided on the movable arm, said housing including a pair of slidably telescoped sections, one of said sections carry-

4

ing said pair of metallic members and the other section carrying said attaching means, whereby the position of said pressure pad relative to the attaching means may be adjusted.

2. The device as defined in claim 1 wherein said attaching means comprise an inverted hook secured to said other section.

3. A switch for actuating a sleep preventing alarm, said switch being adapted to be attached to the person of a user below the chin and comprising in combination, a vertically elongated housing including first and second slidably telescoped sections, an inverted hook provided on the first of said sections for attaching the housing to the person of a user below the chin, a switch unit carried by the second housing section and including a depressible switch element disposed at the upper end of the housing, and a chin engaging pressure pad provided on said depressible element in upwardly spaced relation from said hook, the upward spacing of said pressure pad from said hook being adjustable by sliding said housing sections relative to each other.

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