

[54] SAFETY BLINKER BELT

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[58] Field of Search..... 340/134, 331, 321

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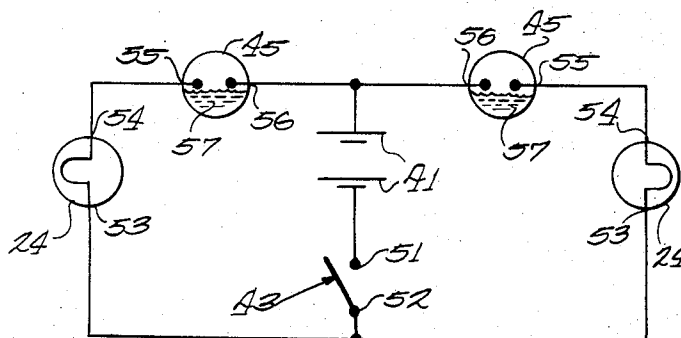
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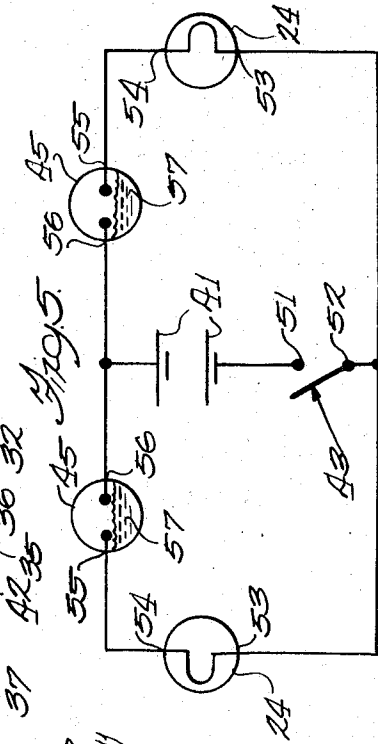
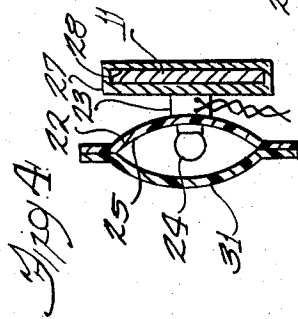
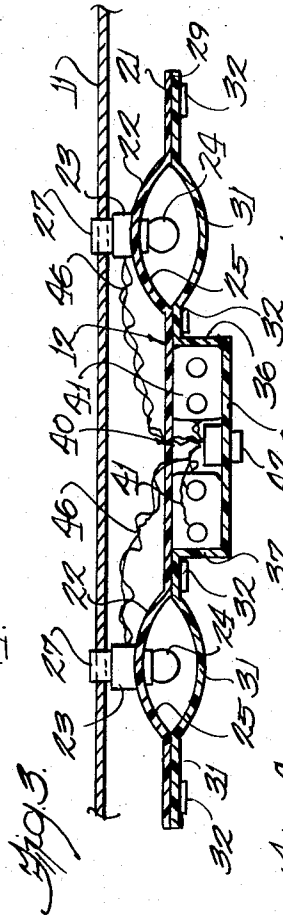
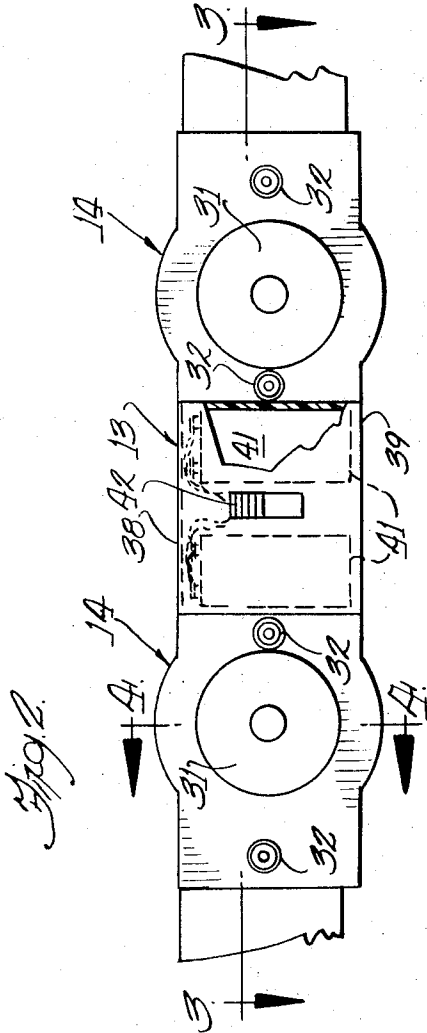
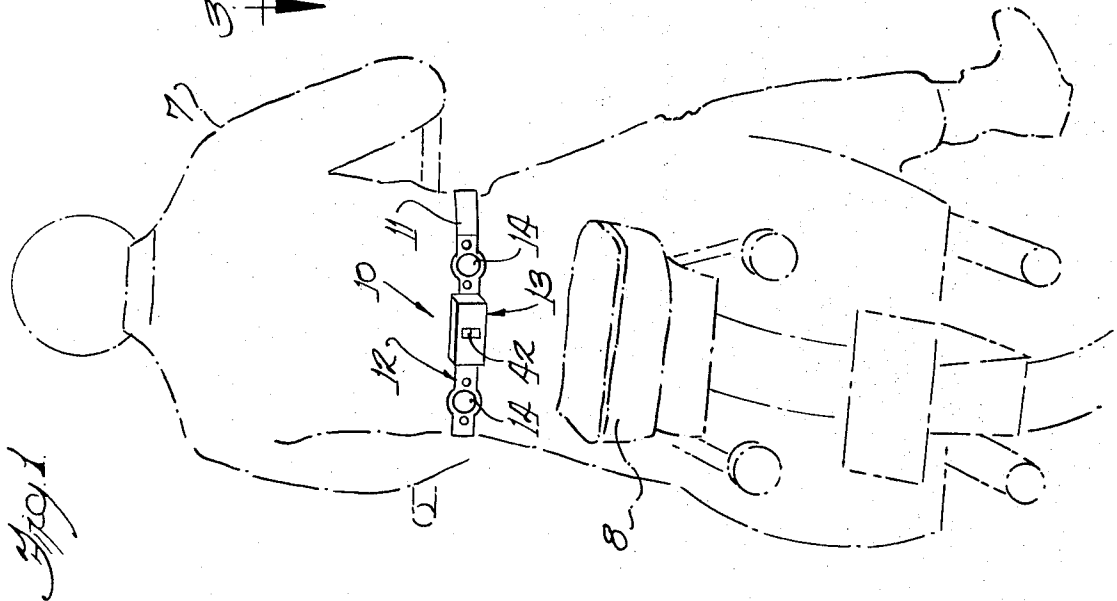
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# ABSTRACT

A belt intended to be worn about the waist of a cyclist and the like and including lighted reflectors positioned behind the cyclist's waist adapted to blink in random sequence under the control of electrical switches connected to the lights and sensing the movements of the body of the cyclist so as to provide a randomly flashing signal to traffic rearwardly of the cyclist.

3 Claims, 5 Drawing Figures





## SAFETY BLINKER BELT

## BACKGROUND OF THE INVENTION

## 1. Field of the Invention

This invention relates generally to safety devices and more particularly to a novel safety blinker belt intended to be worn by a cyclist for signaling rearward traffic as to the presence of the cyclist to avoid the possibility of such traffic striking the cyclist due to not seeing the cyclist in or adjacent the lane of traffic.

## 2. Description of the Prior Art

The popularity of bicycle riding and motorcycle riding has increased notably during recent years both since such means of transportation provides a form of entertainment and a convenient means of getting about between locations. Further, bicycle riding has increased in popularity as being a non-polluting means of transportation. Many persons riding bicycles do so during night time hours or during other times of poor visibility, and although the majority of bicycles and motorcycles make use of headlights and tail reflectors and/or tail lights, these are often not fully efficient for their function of warning surrounding traffic of the presence of the cyclist. This obviously creates the possibility of an accident so that a device serving to minimize such possibility of traffic accidentally encountering a cyclist due to not seeing the cyclist would be well received in the art.

Prior art devices are known having a belt with reflectors supported thereon to be disposed in the back of a person wearing the belt, such devices designed primarily for individuals walking along a roadway so as to be visible by reflected headlights on the reflectors from oncoming traffic. While such devices may be used by cyclists they would not be truly effective as to obtaining the attention of the traffic on the roadway to make the traffic aware of the presence of the cyclist.

Other devices are known in the form of a belt intended to be worn about an individual's waist and on which there are lights disposed across the back thereof to eliminate a portion of the person's body to indicate the presence thereof to oncoming traffic. However, as such illumination is of a constant type it is not attractive of the attention of oncoming traffic such that a cyclist may still be struck by a vehicle whose driver is not fully aware of the presence of the cyclist.

## SUMMARY OF THE INVENTION

The present invention recognizes the dangers of cyclists riding along or adjacent to roadways as to making their presence known to oncoming traffic, and provides a novel solution thereto which overcomes the deficiencies and disadvantages of presently available devices by providing a novel safety blinker belt intended to be worn about the waist of the cyclist and containing a battery source of power connected to a pair of spaced apart lights which include sensing type electrical switches in the wiring with such switches sensing the movement of the individual's body and operating the lights in a random blinking manner in conjunction with such movement such that the lights will be randomly flashed to make the presence of the cyclist known to oncoming traffic, it being well known that flashing lights attract the attention of a vehicle driver rapidly when such flash in a random manner as the driver slows to determine the nature of the flashing prior to encountering or passing the same.

It is a feature of the present invention to provide a convenient warning device intended to be worn about the waist of a cyclist and operative in a manner to warn oncoming traffic of the presence of the cyclist.

A further feature of the present invention provides a safety blinker belt which is intended to be worn by a cyclist as a waist encircling belt and which is comfortable to be worn and which flashes a warning to oncoming traffic making the presence of the cyclist clearly visible thereto.

Among the further features and advantages of the present invention is the provision of a safety blinker belt which is relatively simple in its construction and which therefore may be readily manufactured at a relatively low cost and by simple manufacturing methods; one which is possessed of few parts and which therefore is unlikely to get out of order; one which is rugged and durable and which therefore may be guaranteed by the manufacturer to withstand many years of intended usage; one which is aesthetically pleasing and refined in appearance; one which is easy to use and reliable and efficient in operation; and one which, otherwise, is well adapted to perform the services required of it.

Other features and advantages of this invention will be apparent during the course of the following description.

## BRIEF DESCRIPTION OF THE DRAWINGS

In the accompanying drawings forming a part of this specification, and in which like reference characters are employed to designate like parts throughout the same:

FIG. 1 is a rear perspective view of a cyclist wearing the belt of the present invention about his waist;

FIG. 2 is a fragmentary front elevational view of the belt;

FIG. 3 is a cross-sectional view taken along line 3—3 of FIG. 2;

FIG. 4 is a cross-sectional view taken along Line 4—4 of FIG. 2; and

FIG. 5 is an electrical schematic diagram illustrating the electrical wiring of the present invention.

## DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring now to the drawings in detail there is illustrated a preferred form of a safety blinker belt constructed in accordance with the principles of the present invention and designated generally in its entirety by the reference numeral 10 and which is comprised of a flexible strap 11 defining a belt to be worn about the waist of a cyclist 7 riding a bicycle or motorcycle 8 and on which there is mounted a rigid panel 12 supporting a battery housing 13 with a pair of lights 14 each mounted on an opposite end of the battery housing in a manner to be visible rearwardly of the cyclist 7.

The panel 12 is formed of an elongated substantially flat plate member having dome like portions 22 formed therein and projecting in the direction of belt 11 and adapted to have electrical light sockets 23 affixed concentrically thereto and projecting therethrough to hold a battery operated bulb 24 therein in a position projecting forwardly of interior dome surface 25 which forms a reflector surrounding the associated lamp bulb 24. Affixed to the back of each socket 23 is a rectangularly shaped loop 27 having a rectangular slot 28 extending therethrough adapted for sliding reception of

belt 11 through the slots for retaining the panel to the belt. Mounted on the face surface 29 of plate member 21 are a pair of translucent plastic lens elements 31 each secured to the panel by suitable fastening means 32, such as screws, bolts and the like with each lens being of a dome shape and adapted to be placed concentric with the domes 22 and project outwardly of the panel in the opposite direction of the domes 22 about the lamp bulbs 24 so as to permit light to penetrate through each of the lens elements 31 to be visible to oncoming traffic rearwardly of the cyclist 7.

Disposed intermediate the lens elements 31 and mounted on the face surface 29 of the panel is battery housing 13 which is in the form of a rectangular hollow container having a front surface 35 and side surfaces 36 and 37 with closed top and bottom ends 38 and 39 so as to define a battery receiving compartment 40 therein adapted to receive a pair of dry cell type batteries 41. For ease of manufacturing the housing 13 is formed integrally with the lens elements 31.

A vertical slot 42 is formed centrally of housing face surface 35 and has projecting therethrough an actuating member 42 of an electrical slide switch which is slidable in such slot between an "on" and an "off" position, the switch being designated in FIG. 5 by reference numeral 43.

Disposed in each of the lamp sockets 23 is a conventional type mercury tube switch 45 disposed in general alignment with the longitudinal axis of plate member 21 and is electrically connected to its associated lamp bulb 24 by suitable electrical wires, the mercury switch of each socket also being connected by suitable electrical wires 46 to the switch 43 and batteries 41 such that movement of the belt by tilting movement of the person's body will jiggle the mercury fluid in the mercury switches 45 so as to make and break the electrical contact therebetween in a random manner so as to effect the random energization and de-energization of the lamp bulbs 24 such that the lamp bulbs flash in random sequence with such flashes being visible through lens elements 31 rearwardly of the cyclist 7 to thus attract the attention of oncoming traffic and warn such traffic of the presence of the cyclist.

As seen in FIG. 5 the batteries 41 are connected in electrical series relationship with one terminal of the interconnected batteries being connected to a stationary contact 51 of switch 43, the switch having a movable contact 52 which is connected to a terminal 53 of each lamp bulb 24. The opposite terminals 54 of each lamp bulb 24 are connected to a terminal 55 of an associated mercury switch 45, the opposite terminal 56 of each mercury switch being connected together and also connected to the remaining terminal of the interconnected batteries 41. Closing of switch 43 completes the electrical circuit to the lamp bulb 24 when the mercury solution 57 in the mercury switch 45 is in contact with both of the terminals 56 and 55, and when the solution is not in simultaneous contact with both of such terminals then the particular circuit to the associated lamp bulb is de-energized. In this manner each lamp bulb is controlled by its separate mercury switch 45 so as to provide a random pattern of energization and de-energization of the associated bulbs.

It is to be understood that the form of this invention herewith shown and described is to be taken as a preferred example of the same, and that this invention is not to be limited to the exact arrangement of parts

shown in the accompanying drawings or described in this specification as various changes in the details of construction as to shape, size, and arrangement of parts may be resorted to without departing from the spirit of the invention, the scope of the novel concepts thereof, or the scope of the sub-joined claims.

Having thus described the invention, what is claimed is:

1. A safety blinker belt intended to be worn about the waist of a cyclist or the like for warning oncoming traffic of the presence of the cyclist, the device comprising a body encircling strap adapted to be placed about the waist of a cyclist and secured thereto, a battery housing carried by said strap rearwardly thereof and adapted to contain an electrical dry cell type battery therein, light means disposed on each side of said battery housing and mounted to said belt, suitable electrical wiring means interconnecting said light means with said battery compartment to provide electrical energization thereof, an electrical switch mounted in said battery compartment and electrically interposed in said wiring and manually operable between an "on" and an "off" position for selectively energizing and de-energizing said light means from said battery, an electrical sensing switch means mounted adjacent each of said light means and electrically interposed in the particular electrical circuit for the energizing of the particular light means and operable to sense the movement of a person wearing the belt in a manner to randomly complete and open the electrical circuit to said associated light means in conjunction with such person's movements whereby a random blinking effect is provided to said light means.

2. The safety blinker belt device as set forth in claim 1 wherein said plate is of a substantially flat elongated rectangular configuration having a back surface and a front surface, said plate including dome portions formed therein and projecting outwardly of said back surface in the direction of said belt, each dome having mounted concentric thereof an electrical lamp socket mounted rearwardly of the dome and projecting therethrough to project slightly forwardly of the dome interior surface, a lamp bulb electrically connected in each socket and projecting forwardly of the face surface of each dome, each face surface of each dome defining a reflector circuit, each socket having affixed to the back projecting end thereof a strap loop defining an opening extending therethrough and adapted to receive the belt therethrough in a manner retaining said panel to said belt, a translucent dome shaped lens element associated with each of said panel domes and affixed to said front surface of said panel concentric with said domes and projecting outwardly of said panel in a direction opposite to said domes, and said battery housing being disposed intermediate said lens elements and affixed to said panel, said battery housing having a front surface with a vertical slot therein through which projects a manual actuating means for said electrical switch.

3. The safety blinker belt device as set forth in claim 2 wherein said means for controlling the random flashing of said light bulb comprises a pair of mercury operated switches, each switch disposed in one of said sockets of said lamp bulbs and electrically interconnected in the electrical circuit for said lamp bulb, said switches operable in conjunction with the tilting and moving motions of a person wearing the belt in a manner to make and break the electrical circuit to the lamp bulb to effect the blinking action thereof at random frequencies.

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