March 26, 1968 F. A. BROWNING 3,374,763

FLUID OPERATED FLASHER SIGNAL

Filed Feb. 24, 1965 2 Sheets-Sheet 1

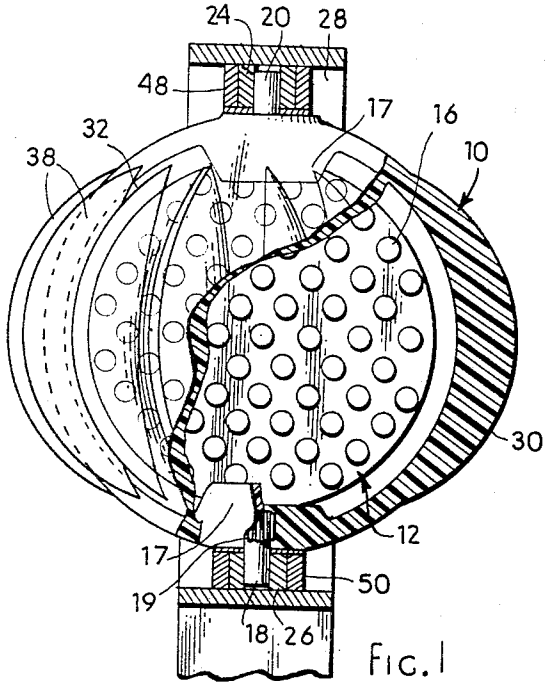


FIG. 1

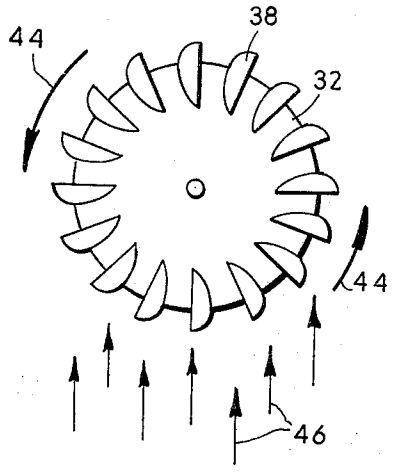


FIG. 3

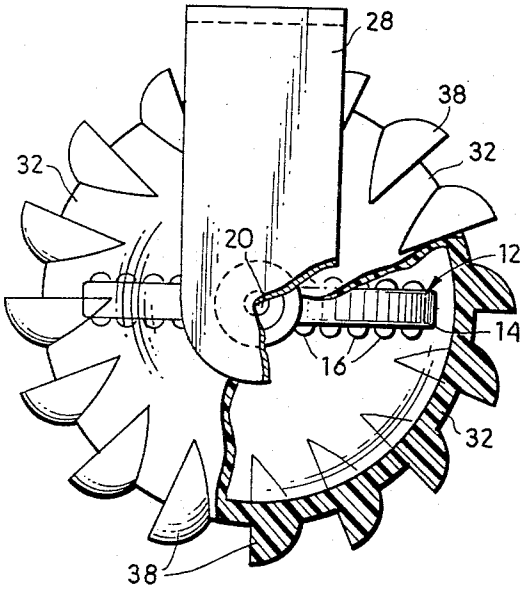


FIG. 2

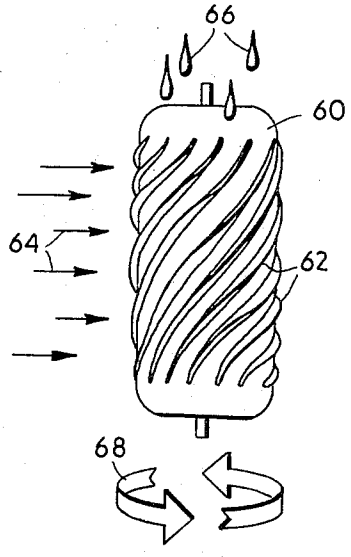


FIG. 4

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FLUID OPERATED FLASHER SIGNAL

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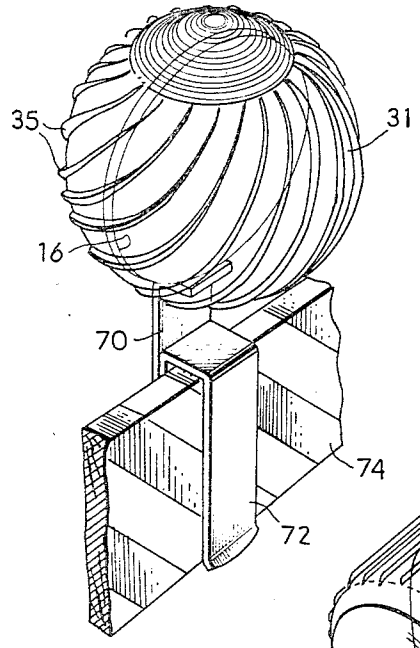


FIG. 5

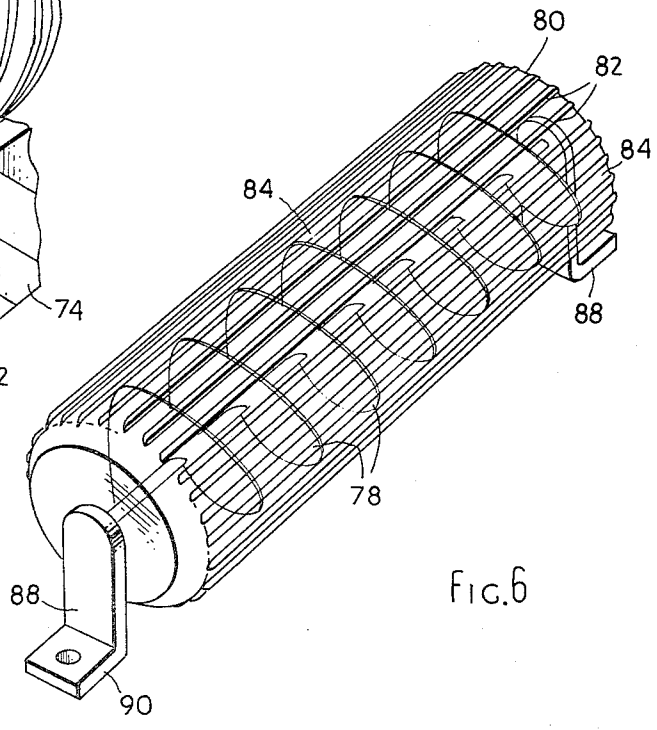


FIG. 6

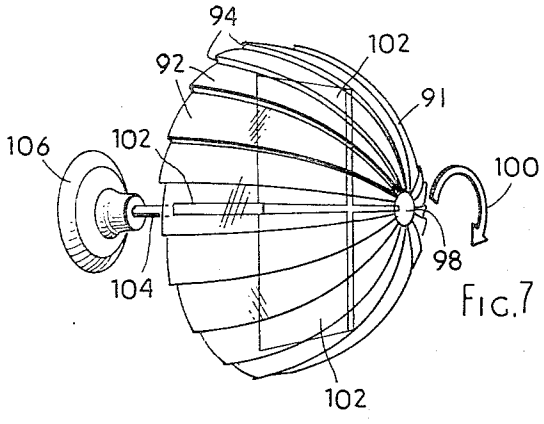


FIG. 7

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FLUID OPERATED FLASHER SIGNAL

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Filed Feb. 24, 1965, Ser. No. 434,887
2 Claims. (Cl. 116—63)

ABSTRACT OF THE DISCLOSURE

A flasher signal device is provided by a reflector element having a number of diffusor buttons mounted thereon and mounted within a rotating transparent globe causing a flasher effect signal when light comes into contact with the reflector element.

This invention relates to an improved reflector device, and more particularly to an improved reflector device which has a flasher effect having improved attention-arresting ability by producing a flashing light signal.

It has been the practice in the past to provide illuminating signs marking out certain specified locations, as for example, repair sites on the highway and the like, with reflector signals. Headlights of a motorist warn the oncoming motorist by catching some of the beams from the headlight and reflecting them to mark out the existence of certain dangerous sites on the highway.

These reflector type signs are effective under many conditions to catch the attention of the driver and to mark out the existence and purpose of the reflector signal. It has been found, however, that a flashing type signal will arrest the attention of a person because of the blinking action which tends to attract the viewer more readily and hold the attention once it is obtained. It has been the practice with self-illuminating signs to provide on-off signaling to take advantage of the psychological factor involved.

In the present invention it is intended to obtain a flashing-signal effect with a reflector type signal in order to obtain all of the psychological advantages of a self-illuminating flasher signal and to obtain a flasher effect without the necessity for a self-contained power source.

One of the objects of the present invention is to provide a flasher signal using a reflector type surface and a movable member which rotates the reflector surface and transmits rays of reflected light to produce the appearance of an on-off flashing signal.

It is a further object of the present invention to provide a reflector in combination with a movable member having light-transmitting abilities to produce a flashing effect, said movable member having portions which are movable by the elements such as wind, rain, etc., in order that the device will be a flashing device under naturally occurring conditions.

It is a still further object of the present invention to produce a flasher device which will produce an illusion of not only flashing but of movement as well, this effect being obtainable by sequencing the visual part of the reflector which is illuminated a portion at a time.

It is a still further object of the present invention to provide a self-supporting flasher signal which can be installed at the point of use on any suitable support means as for example, moving vehicles, bicycles, a sawhorse, a mounting wall, or the like, and which will produce its flashing signal effect under naturally occurring conditions, using wind, rain, etc., as the motive force for operating the signal.

It is an over-all object of the present invention to produce, with a reflector type signal, a flashing effect by combining therewith any one of several different movable elements which converts reflected lihgt to a flashing effect, and by movement of the element under the motive force

of naturally occurring elements such as wind, rain and the like.

Other objects and features of the present invention will become apparent from a consideration of the following description which proceeds with reference to the accompanying drawings, wherein a plurality of embodiments of the invention are illustrated by way of example. In the drawings:

FIGURE 1 is an elevation view of a flasher signal, a portion of the rotatable element being broken away to illustrate the interior reflecting surface;

FIGURE 2 is a top view of FIGURE 1 with a portion of the rotatable element broken away to illustrate the interior reflector surface;

FIGURE 3 is a schematic view showing how the rotatable member is caused to turn by wind, this being a force diagram to illustrate how the motive force is provided;

FIGURE 4 is an elevation view of a second movable element of cylindrical shape and is usable in place of the spherical element of FIGURE 1;

FIGURE 5 is a further embodiment of the invention illustrating the mounting for the reflector element on a sawhorse or the like;

FIGURE 6 illustrates a rotatable cylindrical element constituting a further embodiment of the invention in which the flasher signal creates an illusion of movement; and

FIGURE 7 is a turnable or rotatable element constituting a further embodiment of the invention in producing a flashing effect with a hemispherical flasher element and a different mounting member.

Referring now to the drawings, the flasher signal, designated generally by reference numeral **10**, includes a reflector element **12** comprised of a circular mounting plate or disc **14** with a number of spaced reflecting diffusor buttons **16** which are spaced over the opposite sides of the disc **14**, and which catch and reflect beams of light which shine upon the surfaces thereof. Reflecting buttons **16** are hemispherical and tend to reflect light beams from their surfaces in all directions. For example, the headlight beams of an oncoming car which are directed upon the reflecting buttons **16** will cause beams of light to reflect and in a number of different directions, including back to the sight of the driver of the vehicle. The transparent member **30** has shafts **18**, **20** at its opposite ends which are fixed within bearings **24**, **26**, the bearings **24**, **26** being in turn held by bearing housings **48** and **50** which are fastened to bracket **28**. The reflector element **12** is secured to the transparent movable member **30** by projections **17**. The shafts **18**, **20** have knurled ends **19** which lock the shafts **18**, **20** to movable member **30**, which in turn is fixed to the element **12** by projections **17**, these two parts **30** and **12** being thus co-rotated.

Surrounding the reflecting element **12**, the movable transparent member **30** is provided with spaced transparent vanes **38** and transparent portions **32** to form integral parts of the movable member **30**. Each transparent portion **32** includes a scoop or vane **38**, there being a number of said spaced vanes **38** which catch currents of air to cause the transparent element **30** to rotate on a vertical axis in the direction of the arrow **44** (FIGURE 3), the currents of air being illustrated schematically by arrows **46**. As the reflector **12** rotates, it causes light to alternately appear and disappear because beams of light from an approaching automobile, or other vehicle, are alternately transmitted as first the face, then the edge of reflector **12** is presented to the viewer causing a flasher effect signal.

Referring next to the embodiment of FIGURE 4, the vertical element can be replaced by a cylindrical rotatable transparent element **60** which substitutes for the spherical element **30** and includes in place of the sector

openings **32**, helical vanes **62** which serve in place of the vanes **38** so that when air currents **64** or rain drops **66** contact the helical vanes **62**, the transparent cylinder **60** is caused to rotate in the direction of the arrows **68**, bringing alternately the face and the edge of reflector **12** to the light source and thereby producing a light-flashing effect.

Referring next to FIGURE 5, a modified form of mounting can be provided in which the spherical element **31**, having helical vanes **35**, is mounted at the bottom thereof on a bracket **70** having a clip portion **72** which fits over a sawhorse **74**, the signal being thereby mounted at a suitable location to produce a light-flashing effect. In all other respects the flasher signal is the same as the signal in the embodiment of FIGURES 1 and 2.

Referring next to the embodiment of FIGURE 6, the reflecting surface need not be planar, but the reflecting elements can be located on a spiral flight **78**, and the rotatable element can be in the form of a transparent cylinder **80** with transparent portions **84** and having vanes **82** which catch wind and rain to rotate the flight **78** so that when the transparent cylinder element **80** is rotated, the various planes of the reflector elements move along the spiral flight **78** and are alternately visible along the length of the flight **78**. Thus, as the transparent cylinder **80** and flight **78** rotate, reflective planes are visible successively moving along the longitudinal axis of the flight **78**, thereby creating the illusion of movement. Not only is there a flasher effect, but also an effect of light movement as well, and both of these have a psychological effect of arresting attention and maintaining the attention of the viewer so that he will be compelled to observe in the direction of the moving flasher.

The cylinder **80** can be mounted on bearings (not shown) at its opposite ends through brackets **88** which are fastened by flanges **90** to a suitable mounting surface.

Referring next to the embodiment of FIGURE 7, there is shown a hemispherical rotatable transparent element **91** which substitutes for the spherical element **30** of FIGURES 1 and 2, forming an umbrella-shaped rotatable element and including transparent spaced portions **92** and transparent vane ridges **94** which catch currents of air to effect rotation of the element about its axis of rotation **98** in the direction of the arrow **100**. At the interior of the hemispherical element is a reflector surface **102** in the shape of a cross which functions in the manner previously described, and the device as a whole is mounted through shaft **104** and suction cup **106** on a suitable mounting member (not shown). The rotatable element **91** is mounted on the transparent spaced portions **92** by an interference fit.

The embodiments described can be varied from the precise forms shown to suit design requirements. For example, the reflector elements **12** can be made to reflect either white, red, blue or other coloration light, depending upon design preference. Also, the movable flasher element can be made hemispherical, spherical or cylindrical. The rotatable element can be driven by wind, rain, or other means, the currents of air being either artificially or naturally occurring.

In use, the reflector will operate automatically and continuously and will produce a new and improved attention-obtaining signal by reason of the flasher effect. The psychological benefit of a flashing signal also has in some instances the effect of motion as well, better serving the purpose of obtaining attention and holding the attention of the viewer.

Although the present invention has been illustrated and described in connection with a few selected example embodiments, it will be understood that these are illustrative of the invention and are by no means restrictive thereof. It is reasonably to be expected that those skilled in this art can make numerous revisions and adaptations of the invention to suit individual design preferences, and it is intended that such revisions and adaptations will be included within the scope of the following claims as equivalents of the invention.

I claim:

1. A flasher signal device comprising in combination, a reflector element having a number of spaced reflecting diffusor buttons mounted thereon, a transparent spherical member spaced from and enveloping said reflector element, securing means connecting said transparent member to said reflector element, bracket means including a pair of vertically spaced stub shafts and including means on said transparent member for receiving said shaft for rotatably mounting said transparent member, said transparent member having integral spaced vanes extending radially from said transparent member to catch currents of air to cause the transparent member to rotate so that light rays are intermittently deflected by said vanes thus causing a flasher effect signal.

2. A flasher signal device as set forth in claim **1** wherein said vanes are scoop-shaped.

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LOUIS J. CAPOZI, *Primary Examiner.*

UNITED STATES PATENT OFFICE

CERTIFICATE OF CORRECTION

Patent No. 3,374,763 March 26, 1968

Francis A. Browning

It is certified that error appears in the above identified patent and that said Letters Patent are hereby corrected as shown below:

Column 1, line 71, for "lihgt" read -- light --; column 4, line 46, for "1,162,164" read -- 1,682,164 --.

Signed and sealed this 22nd day of July 1969.

(SEAL)
Attest:

Edward M. Fletcher, Jr.
Attesting Officer

WILLIAM E. SCHUYLER, JR.
Commissioner of Patents