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D. U. JOHNSON

2,634,407

INTERMITTENTLY ACTUATED PORTABLE SIGNAL

Filed March 6, 1950

Fig. 1.

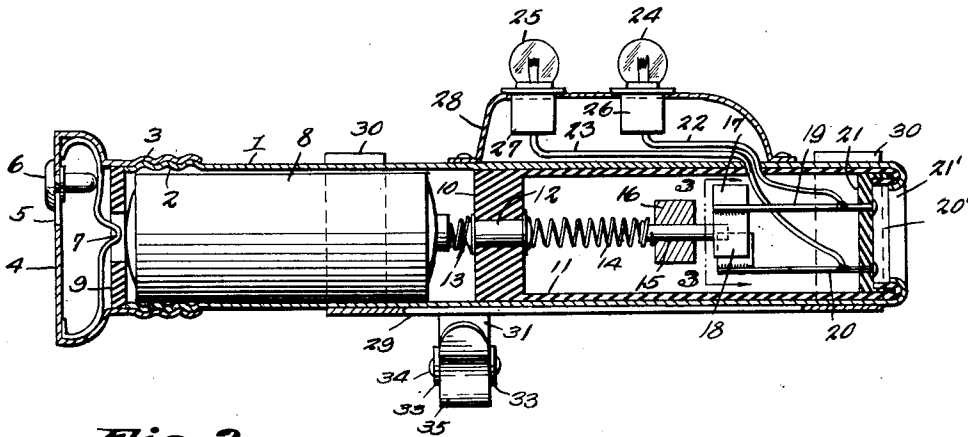


Fig. 2.

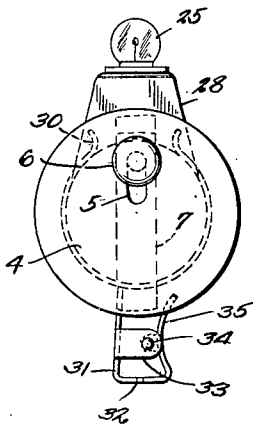


Fig. 3.

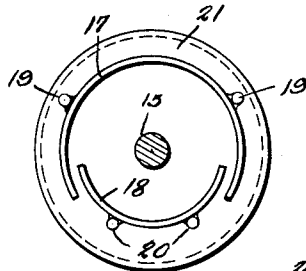


Fig. 5.

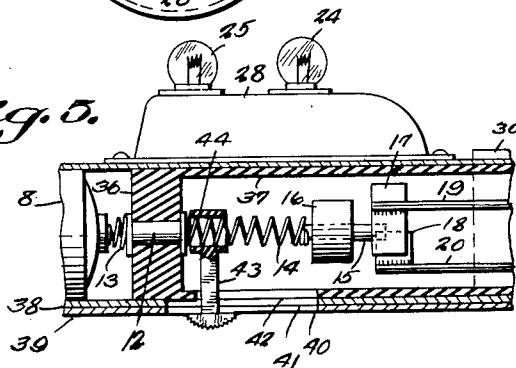
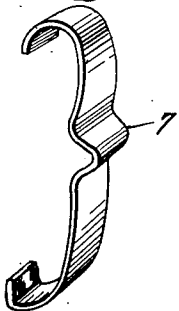


Fig. 4.



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INTERMITTENTLY ACTUATED PORTABLE
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1 Claim. (Cl. 340—321)

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This invention relates to a safety light. The invention is intended mainly to be worn by hunters on their caps or elsewhere upon their persons, but may have other uses as well.

It is common for a hunter to mistake another hunter for an animal, and continually, persons are killed or seriously injured as a result. It is the main object of the present invention to provide a device to be worn by a hunter either by day or by night, and which will eliminate or at least reduce greatly these unfortunate accidents.

With the foregoing and other objects in view which will appear as the description proceeds, the invention consists of certain novel details of construction and combinations of parts, hereinafter more fully described and pointed out in the claim, it being understood that changes may be made in the construction and arrangement of parts without departing from the spirit of the invention as claimed.

Referring to the drawing

Fig. 1 is a longitudinal section through a safety light formed in accordance with the invention.

Fig. 2 is a front elevational view.

Fig. 3 is an enlarged section substantially on line 3—3 of Fig. 1.

Fig. 4 is an enlarged detailed perspective view of a contact spring.

Fig. 5 is a fragmentary longitudinal section through a modified form.

Referring to the drawing in detail, an elongated cylindrical casing 1 is formed at one end with threads 2 engageable by the threaded neck 3 of a head 4 having the slot 5 in which is slidably mounted the button 6 adapted when shifted to one extreme position within the slot, to bias inwardly the contact spring 7 mounted within the head and having the center node that contacts one end of the battery 8 mounted within the forward portion of the outer casing 1.

A centrally apertured insulating disc 9 may be provided, this being interposed between the contact spring and battery 8.

Located immediately adjacent the inner end of the battery 8 within the outer casing 1 is the closed inner end 10 of a cylindrical inner casing 11 mounted within said outer casing, there being centrally mounted within said closed end 10 the conductive stud 12. A spiral spring 13 is interposed between said stud 12 and the inner end of the battery 8 to continuously press the battery 8 forwardly within the outer casing while maintaining at all times electrical contact between the inner end of the battery and said conductive stud.

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Attached at one end to the inner end of the conductive stud 12 is the compression spring 14 extending axially of the inner casing 11 and connected to and supporting at its other end the conductive prong 15 on which is mounted the weight 16.

The spring 14 is of such a strength as to normally support the weighted prong 15 in a central position within the inner casing, as seen in Fig. 1. However, assuming that the device is mounted upon the cap of a hunter, and that said hunter is walking or otherwise making normal movements, the spring 14 will in effect vibrate or oscillate up or down or sideways, giving similar movement to the conductive prong 15, so that said conductive prong will be continuously making or breaking contact with either a large arcuate contact bar 17 or a small arcuate contact bar 18 separated from the contact bar 17 as seen in Fig. 3. The contact bars 17 and 18 together constitute a contact element or means that completely surrounds and is spaced from the prong 15.

Supporting the contact bar 17 within the inner casing is a pair of conductive rods 19, while a pair of conductive rods 20 support the contact bar 18, both pairs of contact rods being mounted in the disc 21 of insulation material peripherally flanged so as to be gripped by the rear end flange 20' that is in turn grippingly engaged by the annular intumed flange or lip 21' of the outer casing 1.

Extending from one of the bars 19 is the lead 22, while extending from one of the other arms 20 is the conductive lead 23 these respectively extending into electrical contact with bulbs 24 and 25 that are respectively mounted within sockets 26 and 27 carried by a bulb housing 28 exteriorly mounted upon the outer casing 1 in a location where illumination of the bulbs will be clearly visible at a considerable distance to other hunters.

The bulbs 24 and 25 can be colored, if desired, and may or may not be of different colors. Or, the bulbs can be clear, but can be mounted in a colored housing.

The safety light formed as described above is adapted to be clipped to any portion of the hunter's clothing, such as his cap at the top thereof, from which position it could be seen in all directions, and to this end, a strip 29 extends longitudinally of the outer casing 1 and is formed at opposite ends with the spring clips 30 gripping the outer casing, there being extended from said strip 29 a means for clipping the article to the cap or other article of wearing apparel,

said means comprising the stationary jaw 31 having the teeth 32 and formed with the spaced ears 33 between which extend the pivot member 34 on which is pivotally mounted the spring-loaded jaw 35 toothed in opposition to the teeth 32.

In use, the hunter first throws the switch 6, and while walking or making any other normal movements, will cause the spring 14 to vibrate or oscillate rapidly, alternately making and breaking contacts to the bulbs 24 and 25, so that said bulbs are given an alternate flashing effect which is more or less continuous as long as the hunter is making any movements whatsoever. It will be understood that when the conductor prong 15 touches the small arcuate bar 13, a contact is made with the bulb 25, while touching of the bar 17 makes contact with the bulb 24.

Referring now to Fig. 5, a modified construction is there illustrated which illustrates a means for positioning the inner parts of the device inoperatively as desired. In this form of the invention, the closed inner end 36 of the inner casing 37 is mounted within the outer casing 38, on which is mounted the strip 39. Basically, these portions of the device are the same in the modified form as in the first form described. However, in the form illustrated in Fig. 5, longitudinal registering slots 40, 41, and 42 respectively are formed in the strip 39, outer casing 38, and inner casing 37, and slidably mounted in these registering slots is the arm 43 the projecting outer end of which is provided with a thumb grip or handle, while the inner end of the arm 43 is formed with the bearing ring 44 which is formed from or lined with insulating material and supports the compression spring 14. As a result, shifting of the arm 43 to the right in Fig. 5 will support the compression spring 14 at a point near the weight 16 and prevent vibration of prong 15 and contact thereof with the arcuate rings 17 and 18, thus to make the device inoperative. When, however,

it is desired to utilize the device, it is necessary only to shift the arm 43 to the left in Fig. 5 to the position in which it is illustrated in the drawing. The insulated ring 44 is then moved away from the vibrating end of the compression spring 14, thereby leaving prong 15 free to vibrate. The device would thus be placed in operation.

The arm 43 thus could be used as the operating switch for the device as it can either hold the prong 15 from vibrating or free it, as desired.

What is claimed is:

A safety light comprising an outer casing, a battery mounted in one end thereof, an inner casing mounted within the outer casing and having a conductive stud, a spring interposed between the battery and said stud for maintaining electrical contact therebetween, a second spring mounted within the inner casing in contact at one end with the stud, the other end of the second spring being free to vibrate responsive to the normal movements of a wearer, a contact prong carried by the second spring, a pair of arcuate spaced-apart contact bars positioned to be momentarily touched by the prong on vibration of said second spring, a pair of electric light bulbs mounted on the outside of the outer casing, and leads connecting the respective bulbs to the respective contact bars.

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