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(54) Title: MOTORCYCLE HELMET

(57) Abstract: A motorcycle helmet includes signals that are coupled to signal systems on the motorcycle via wireless communications. The signals on the helmet correspond to the signals of the motorcycle so that braking and/or turning is signaled both on the motorcycle and on the helmet. The signals on the helmet are variously colored to attract attention.
MOTORCYCLE HELMET

BACKGROUND OF THE INVENTION

1. Field of the Invention

   The present invention relates to the general art of helmets, and to the particular field of motorcycle helmets.

2. Discussion of the Related Art

   Many people ride some form of motorcycle. Motorcycle riding can be for recreation, transportation, or any other objective that is common to most land vehicles.

   A vehicle, generally a car or a truck, or other such full-size vehicle, not recognizing when a motorcycle is turning or stopping, is a common problem encountered by many motorcycle riders. This can be dangerous since the following vehicle does not know the intentions of the motorcyclist and can accidentally collide with the motorcycle as the motorcycle slows down to stop or make a turn.

   Therefore, there is a need for a means for notifying drivers of a motorcyclist's intention to slow down and/or turn.

   The inventor has recognized that this problem is often caused because the driver of a following vehicle may not notice the signal indicators on the rear of the
motorcycle. This results from either the driver being inattentive, or because the driver in the following vehicle is sitting so high above the ground that he or she cannot see the signal indicators of the motorcycle.

For example, a driver in a large SUV may not even see the signals on a small motorcycle.

Therefore, there is a need for a means for notifying following drivers of a motorcyclist’s intention to slow down and/or turn in a manner that will permit drivers of large vehicles to notice the signal indicators.

While the prior art does contain examples of motorcycle helmets with signals, the inventor is not aware of any such devices that take extra steps to ensure that even inattentive drivers will notice the signal of the motorcycle.

Therefore, there is a need for a means for notifying following drivers of a motorcyclist’s intention to slow down and/or turn in a manner that will permit even inattentive drivers to notice the signal indicators.

PRINCIPAL OBJECTS OF THE INVENTION

It is a main object of the present invention to provide a means for notifying following drivers of a motorcyclist’s intention to slow down and/or turn.

It is another object of the present invention to provide a means for notifying following drivers of a
motorcyclist's intention to slow down and/or turn in a manner that will permit drivers of large vehicles to notice the signal indicators of the motorcycle.

It is another object of the present invention to provide a means for notifying following drivers of a motorcyclist's intention to slow down and/or turn in a manner that will permit even inattentive drivers to notice the signal indicators of the motorcycle.

SUMMARY OF THE INVENTION

These, and other, objects are achieved by a motorcycle helmet that has turn signals and stop signals in the rear of the helmet. The signals are located near the top of the helmet and emit different colors, with the turn signals having an amber color and the stop signals having a red color so the signals will be readily visible to drivers of other vehicles, especially large vehicles such as trucks or SUVs. The signals in the helmet are electrically coupled to the corresponding signals in the motorcycle by wireless communications so that, for example, when the motorcyclist activates a turn signal, a signal on the helmet that corresponds to the activated turn signal of the motorcycle will also be activated. In this manner, the motorcycle provides two signals of the turning intention. One signal is on the motorcycle where a driver of another vehicle may be looking and a second
signal is on the helmet to ensure that even an inattentive driver will notice the signal.

Using the motorcycle helmet embodying the present invention will permit a motorcycle driver to reliably and readily alert drivers, especially drivers in large vehicles that may be following the motorcycle, of an intention to slow down or turn. The signals on the helmet of the present invention are also designed to alert even inattentive drivers of the stop or turn intentions of a motorcycle.

BRIEF DESCRIPTION OF THE DRAWING FIGURES

Figure 1 is a perspective view of a motorcycle helmet embodying the present invention.

Figure 2 is a rear elevational view of the motorcycle helmet embodying the present invention.

Figure 3 is a perspective view of a wireless transmitter that is mounted on a motorcycle and is connected to the signal system associated with the motorcycle and is used in connection with the motorcycle helmet embodying the present invention to relay signals from a motorcycle to signals in the helmet via wireless communication.

Figure 4 is a block diagram indicating the control circuit used to couple signal lights in the helmet to signal circuits in a motorcycle via wireless
communications.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

Other objects, features and advantages of the invention will become apparent from a consideration of the following detailed description and the accompanying drawings.

Referring to the Figures, it can be understood that the present invention is embodied in a motorcycle helmet 10. Helmet 10 comprises a head-covering portion 12 having a first portion 14 that is adapted to be located adjacent to a wearer's face W when the head-covering portion 12 is worn, a second portion 16 that is adapted to be located adjacent to the rear of the wearer's head when the head-covering portion 12 is worn, and a third portion 18 that is adapted to be located on top of the wearer's head when the head-covering portion 12 is worn. The helmet head-covering portion 12 can be formed of materials known to those skilled in the art of motorcycle helmets.

A signal unit 20 is mounted in the second portion 16 of the head-covering portion 12. Signal portion 20 includes a first signal light 22, a second signal light 24, and a third signal light 26.

A power source 30 is mounted in the helmet 10 and is electrically connected to the first, second and third signal lights 22, 24, 26 as will be understood from the
following discussion.

A first cover 40 is mounted on the head-covering portion 12 in position to cover the first signal light 22. The first cover 40 is translucent and has a first color. The first color is preferably amber and includes a direction arrow 42 thereon which is illuminated when the first signal light 22 is activated.

A second cover 44 is mounted on the head-covering portion 12 in position to cover the second signal light 24. The second cover 44 is translucent and has a color identical to the first color, preferably amber. The second cover 44 also includes a direction arrow 46 which is illuminated when the second signal light 24 is activated.

A third cover 50 is mounted on the head-covering portion 12 in position to cover the third signal light 26. The third cover 50 is translucent and has a third color, preferably red, which is different from the first and second colors.

An electrical communication circuit 60 includes a transmitter 62 mounted on a motorcycle M. The transmitter 62 is electrically connected to turn and braking signal systems of the motorcycle via lead lines, such as lead line 63. The transmitter 62 generates a first turn signal 64 and second turn signal 66 associated with turn signals operated on the motorcycle, the transmitter 62 also
generates a third signal 68 associated with a brake signal of the motorcycle.

A receiver 70 is mounted on the head-covering portion 12 and is adapted to receive wireless communication signals generated by the transmitter 62 on the motorcycle. Using leads, such as leads 72, 74 and 76, the receiver 70 is electrically connected to the first signal light 22, the second signal light 24, and the third signal light 26. The receiver 70 connects the signal lights 22, 24, 26 to the power source 30 and activates the signal lights 22, 24, 26 according to signals received from the transmitter 62.

It is understood that while certain forms of the present invention have been illustrated and described herein, it is not to be limited to the specific forms or arrangements of parts described and shown.
CLAIMS

What is desired to be covered by Letters Patent is as follows:

1. A motorcycle helmet comprising:
   a) a head-covering portion having a first portion that is adapted to be located adjacent to a wearer’s face when said head-covering portion is worn, a second portion that is adapted to be located adjacent to the rear of the wearer’s head when said head-covering portion is worn, and a third portion that is adapted to be located on top of the wearer’s head when said head-covering portion is worn;
   b) a signal unit mounted in the second portion of said head-covering portion and including
      (1) a first signal light,
      (2) a second signal light,
      (3) a third signal light,
      (4) a power source electrically connected to the first, second, and third signal lights,
      (5) a first cover mounted on said head-covering portion in position to cover the first signal light, the first cover being translucent and having a first color,
(6) a second cover mounted on said head-covering portion in position to cover the second signal light, the second cover being translucent and having a color identical to the first color, and

(7) a third cover mounted on said head-covering portion in position to cover the third signal light, the third cover being translucent and having a third color which is different from the first color; and

c) an electrical communication circuit which includes

(1) a transmitter mounted on a motorcycle, the transmitter being electrically connected to turn and braking signal systems of the motorcycle, the transmitter generating a first and second turn signals associated with turn signals operated on the motorcycle and generating a third signal associated with a brake signal of the motorcycle, and

(2) a receiver mounted on said head-covering portion and which is adapted to receive wireless communication signals generated by the transmitter on the motorcycle, the receiver being electrically connected to
the first signal light, the second signal light, and the third signal light, the receiver connecting the signal lights to the power source and activating the signal lights according to signals received from the transmitter.

2. The motorcycle helmet as described in claim 1 wherein the first and second colors are amber and the third color is red.

3. The motorcycle helmet as described in claim 1 wherein the first and second covers include direction arrows.
# INTERNATIONAL SEARCH REPORT

**International application No.**

PCT/US04/00104

A. **CLASSIFICATION OF SUBJECT MATTER**

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<td>US CL.</td>
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According to International Patent Classification (IPC) or to both national classification and IPC

B. **FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)

U.S.: 2/422, 410, 424, 340/468, 467, 463, 465, 475, 479, 425.5; 362/105, 106

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic database consulted during the international search (name of data base and, where practicable, search terms used)

Please See Continuation Sheet

C. **DOCUMENTS CONSIDERED TO BE RELEVANT**

<table>
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<tr>
<th>Category</th>
<th>Citation of document, with indication, where appropriate, of the relevant passages</th>
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<tbody>
<tr>
<td>X, Y</td>
<td>US 4,891,736 A (Gouda) 02 January 1990 (02.01.1990), column 2, lines 15-23 and 59-68.</td>
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Further documents are listed in the continuation of Box C.

See patent family annex.

* "A" document defining the general state of the art which is not considered to be of particular relevance
* "E" earlier application or patent published on or after the international filing date
* "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
* "O" document referring to an oral disclosure, use, exhibition or other means
* "P" document published prior to the international filing date but later than the priority date claimed

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Continuation of B. FIELDS SEARCHED Item 3:
EAST
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