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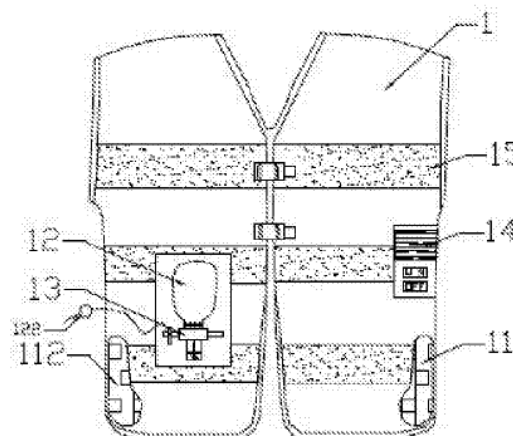
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(54) **Title of Utility Model**

A Geolocation-Based Airbag Suit for Alarming

(57) **Abstract**

The utility model discloses a geolocation-based airbag suit for alarming, which includes an airbag suit equipped with an airbag, a gas storage cylinder, and an inflation valve. The gas storage cylinder inflates the airbag through the inflation valve. The airbag is provided with an air delivery pipeline connected to the gas storage cylinder, and the inflation valve is controlled by a pull cord installed on a motor vehicle. A GPS positioning alarm is installed on the side of the airbag suit. The advantages of this utility model are as follows: when the driver or passenger encounters a car accident or other dangers, the airbag inflates to protect the falling body, reducing personal injuries. Simultaneously, the activation of the airbag automatically triggers the GPS alarm system, transmitting distress information to a remote receiving terminal for rescue. Additionally, the system automatically activates an audible and visual alarm to emit sound and light signals, alerting nearby pedestrians and vehicles. The airbag is made of thermoplastic polyurethane material, which offers excellent impact resistance and elongation variability.



1. A geolocation-based airbag suit for alarming comprises an airbag suit (1) equipped with an airbag (11), a gas storage cylinder (12), and an inflation valve (13); the gas storage cylinder (12) inflates the airbag (11) through the inflation valve (13); the airbag (11) is provided with an air delivery pipeline, which is connected to the gas storage cylinder (12); the inflation valve (13) is controlled by a pull cord (121) installed on a motor vehicle; the side of the airbag suit (1) is equipped with a GPS positioning alarm (14).
2. The geolocation-based airbag suit for alarming according to Claim 1 is characterized in that the GPS positioning alarm (14) consists of a sensor, an alarm signal trigger, a GPS locator, an audible and visual alarm, and a wireless transmission system; when the alarm signal trigger receives a danger signal from the sensor, it automatically activates the GPS locator for real-time positioning and triggers the audible and visual alarm to emit sound and light signals; the GPS locator transmits the location information to a remote receiving terminal via the wireless transmission system.
3. The geolocation-based airbag suit for alarming according to Claim 1 is characterized in that the inflation valve (13) is a manually operated valve or a water-soluble automatic valve.
4. The geolocation-based airbag suit for alarming according to Claim 1 is characterized in that the airbag suit (1) transmits the gas from the gas storage cylinder (12) through the air delivery pipeline to the side airbag (112), neck airbag (113), back airbag (114), and tailbone airbag (115).
5. The geolocation-based airbag suit for alarming according to Claim 1 or 4 is characterized in that the airbag (11) is made of thermoplastic polyurethane material.
6. The geolocation-based airbag suit for alarming according to Claim 1 is characterized in that the airbag suit (1) is made of breathable mesh fabric, and lattice reflective strips (15) are sewn on the front, back, and waist of the airbag suit (1).
7. The geolocation-based airbag suit for alarming according to Claim 1 or 6 is characterized in that a pad made of polyurethane rigid foam material is attached to the back of the airbag suit (1), and polyurethane blow-molded plates are attached to the left and right sides of the chest area of the airbag suit (1).
8. The geolocation-based airbag suit for alarming according to Claim 1 is characterized in that a waist adjustment strap is provided on the sides of the waist of the airbag suit (1).
9. The geolocation-based airbag suit for alarming according to Claim 1 is characterized in that the gas storage cylinder (12) is a 50ml special steel cylinder.

A Geolocation-Based Airbag Suit for Alarming

Technical Field

[0001] The present utility model relates to the field of motorcycle safety airbag suits, particularly to a geolocation-based airbag suit for alarming.

Background Art

[0002] With the acceleration of industrialization and modernization, automobiles, motorcycles, ships, and high-altitude operations have become increasingly common, leading to a rising number of safety accidents. In particular, motorcycles, due to their high speed and flexibility, frequently experience collisions and sudden braking, resulting in a significant number of casualties. While people enjoy the convenience brought by motorcycles, there remains a considerable safety risk for both drivers and passengers.

[0003] In the event of a motorcycle accident, the driver and passengers are often ejected, making them susceptible to varying degrees of personal injury. Therefore, it is essential to protect critical areas such as the neck, back, and waist from severe impact and harm when a motorcycle accident occurs. To achieve this, cushioning devices need to be installed on the bodies of drivers and passengers. At the same time, when the driver or passenger is injured, an alarm system should be triggered to alert rescue personnel.

[0004] Existing protective measures involve wearing an airbag suit before riding. However, current airbag suits have complex inflation and gas storage structures, leading to delayed activation, and in some cases, failure to activate. They also have a high failure rate, poor reliability, and limited functionality, lacking real-time positioning and alarm capabilities.

Summary of the Invention

[0005] The purpose of the present utility model is to provide a geolocation-based airbag suit for alarming that effectively protects the human body from injury in the event of a motorcycle accident, while simultaneously triggering an alarm system for real-time positioning. This airbag suit is designed to be efficient, reliable, multifunctional, and comfortable to wear.

[0006] To achieve the above objective, the present utility model is implemented through the following technical solution: A geolocation-based airbag suit for alarming, which comprises an airbag suit equipped with an airbag, a gas storage cylinder, and an inflation valve. The gas storage cylinder inflates the airbag through the inflation valve. The airbag is provided with an air delivery pipeline, which is connected to the gas storage cylinder. The inflation valve is controlled by a pull cord installed on a motor vehicle. A GPS positioning alarm is installed on the side of the airbag suit.

[0007] Furthermore, the GPS positioning alarm consists of a sensor, an alarm signal trigger, a GPS locator, an audible and visual alarm, and a wireless transmission system. When the alarm signal trigger receives a danger signal from the sensor, it automatically activates the GPS locator for real-time positioning and triggers the audible and visual alarm to emit sound and light signals. The GPS locator transmits the location information to a remote receiving terminal via the wireless transmission system.

[0008] The inflation valve is a manually operated valve or a water-soluble automatic valve.

[0009] Furthermore, the airbag suit transmits the gas from the gas storage cylinder through the air delivery pipeline to the side airbag, neck airbag, back airbag, and tailbone airbag.

[0010] Preferably, the airbag is made of thermoplastic polyurethane material.

[0011] Preferably, the airbag suit is made of breathable mesh fabric, with lattice reflective strips sewn on the front, back, and waist.

[0012] Preferably, a pad made of polyurethane rigid foam material is attached to the back of the airbag suit, and polyurethane blow-molded plates are attached to the left and right sides of the chest area.

[0013] Preferably, a waist adjustment strap is provided on the sides of the airbag suit.

[0014] Preferably, the gas storage cylinder is a 50ml special steel cylinder.

[0015] The present utility model has the following advantages: (1) In the event of a motorcycle accident, the pull cord installed on the motorcycle triggers the inflation valve, allowing gas to enter the air delivery pipeline through the outlet and fill the airbag. This cushions the falling body and reduces personal injuries. (2) When a motorcycle accident or other danger occurs, the sensor detects airbag inflation and transmits a danger signal to the alarm signal trigger, which automatically activates the GPS alarm system. The system then sends distress information to a remote receiving terminal for timely rescue. Simultaneously, the alarm signal trigger activates the audible and visual alarm, emitting a red light and an alarm sound to signal distress to nearby pedestrians and vehicles. (3) The inflation valve can be a water-soluble automatic valve, which is also used in water rescue life jackets. This valve automatically activates within approximately 0.5 seconds upon contact with water, ensuring rapid and sensitive operation. (4) The airbag is installed in various parts of the airbag suit, including the side airbag, neck airbag, back airbag, and tailbone airbag, effectively protecting critical body areas from severe impact. (5) The airbag is made of thermoplastic polyurethane material, which maintains a pressure resistance value above 35 kPa under standard atmospheric pressure. This ensures an inflation rate of less than 0.5 seconds and strong impact resistance upon instant inflation. After inflation, its impact resistance exceeds 100 kg, offering excellent elongation variability. (6) Lattice reflective strips are sewn on the front, back, and waist of the airbag suit, serving as a highly effective warning marker to attract the attention of distant pedestrians and vehicles. (7) A polyurethane rigid foam pad is attached to the back of the airbag suit to protect the spinal column. Additionally, polyurethane blow-molded plates are attached to the left and right sides of the chest area to prevent the motorcycle handlebars from piercing the chest in the event of a fall. (8) A waist adjustment strap is provided on the sides of the airbag suit to ensure that individuals of different body sizes can wear it comfortably. (9) The gas storage cylinder is a 50ml special steel cylinder, which is lightweight, durable, and pressure-resistant. It can be filled with 38 grams of liquid carbon dioxide gas.

Description of the Drawings

[0016] Figure 1 is a front view of Embodiment 1 of the geolocation-based airbag suit for alarming in the present utility model.

[0017] Figure 2 is a rear view of Embodiment 1 of the geolocation-based airbag suit for alarming in the present utility model.

[0018] 1 - Airbag suit; 11 - Airbag; 12 - Gas storage cylinder; 13 - Inflation valve; 14 - GPS positioning alarm; 15 - Lattice reflective strip; 112 - Side airbag; 113 - Neck airbag; 114 - Back airbag; 115 - Tailbone airbag; 121 - Pull cord.

Specific Embodiments

[0019] The following provides a more detailed description of the embodiments of the present utility model in conjunction with the accompanying drawings.

0020] Embodiment 1

[0021] As shown in Figure 1, a geolocation-based airbag suit for alarming comprises an airbag suit 1, which is equipped with an airbag 11, a gas storage cylinder 12, and an inflation valve 13. The gas storage cylinder 12 inflates the airbag 11 through the inflation valve 13. The airbag 11 is provided with an air delivery pipeline, which is connected to the gas storage cylinder 12. The gas storage cylinder 3 is a 50ml special steel cylinder.

[0022] As shown in Figure 2, the airbag suit 1 transmits the gas from the gas storage cylinder 12 through the air delivery pipeline to the side airbag 112, neck airbag 113, back airbag 114, and tailbone airbag 115.

[0023] The inflation valve 13 is a manually operated valve, which is controlled by a pull cord 121 installed on a motor vehicle. In the event of a collision, fall, or separation between the rider and the vehicle, the motorcycle pulls the pull cord 121, triggering the opening of the inflation valve 13. The gas then enters the air delivery pipeline through the outlet and is transported via the pipeline to each airbag 2.

[0024] The airbag suit 1 is equipped with a GPS positioning alarm 14 on its side. The GPS positioning alarm 14 consists of a sensor, an alarm signal trigger, a GPS locator, an audible and visual alarm, and a wireless transmission system. When the alarm signal trigger receives a danger signal from the sensor, it automatically activates the GPS locator for real-time positioning and triggers the audible and visual alarm to emit sound and light signals. The GPS locator then transmits the location information to a remote receiving terminal via the wireless transmission system.

[0025] The airbag suit 1 is made of breathable mesh fabric, with lattice reflective strips 15 sewn on the front, back, and waist. The airbag suit 1 is equipped with a waist adjustment strap on its sides. A polyurethane rigid foam pad is attached to the back, while polyurethane blow-molded plates are attached to the left and right sides of the chest.

[0026] Embodiment 2

[0027] The inflation valve 13 on the airbag suit 1 adopts a water-soluble automatic valve, which automatically activates approximately 0.5 seconds after contact with water. This valve is specifically designed for water rescue life jackets, while the rest remains the same as in Embodiment 1.

[0028] Embodiment 3

[0029] The airbag 11 on the airbag suit 1 is detachable, allowing for easy cleaning, while the rest remains the same as in Embodiment 1.

[0030] The above descriptions are merely preferred embodiments of the present utility model. It should be noted that for those skilled in the field, various modifications and refinements can be made without departing from the concept of the utility model. These modifications and refinements should also be regarded as within the scope of protection of the present utility model.

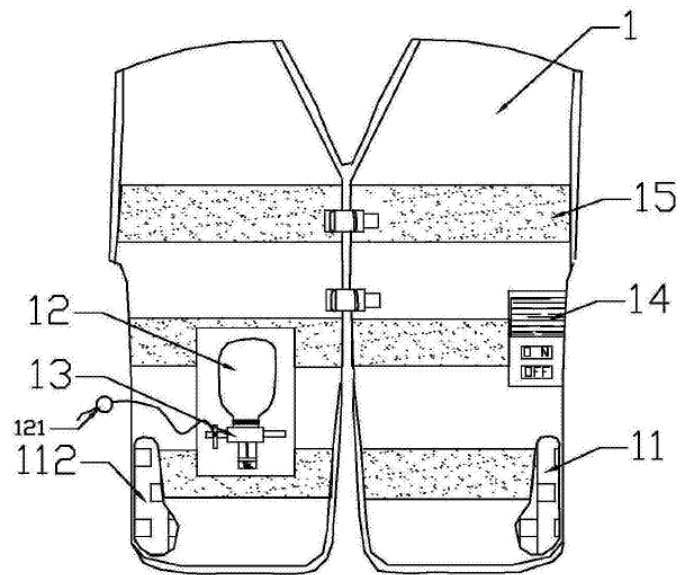


Figure 1

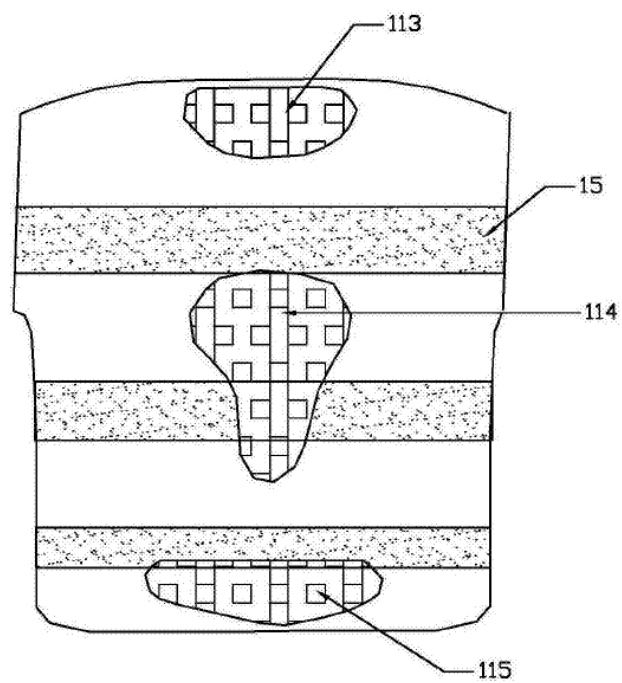


Figure 2