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(54) **HIGH VISIBILITY SLEEVE/GLOVE**

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(57) **ABSTRACT**

A high visibility sleeve for increasing identification and accuracy of hand signals used in low light and poor visibility conditions. The sleeve has an elongated body having a first portion and a second portion. The sleeve further has a plurality of reflective strips positioned on a front face of the first end and a reflective indicia positioned on the rear face of the first end.

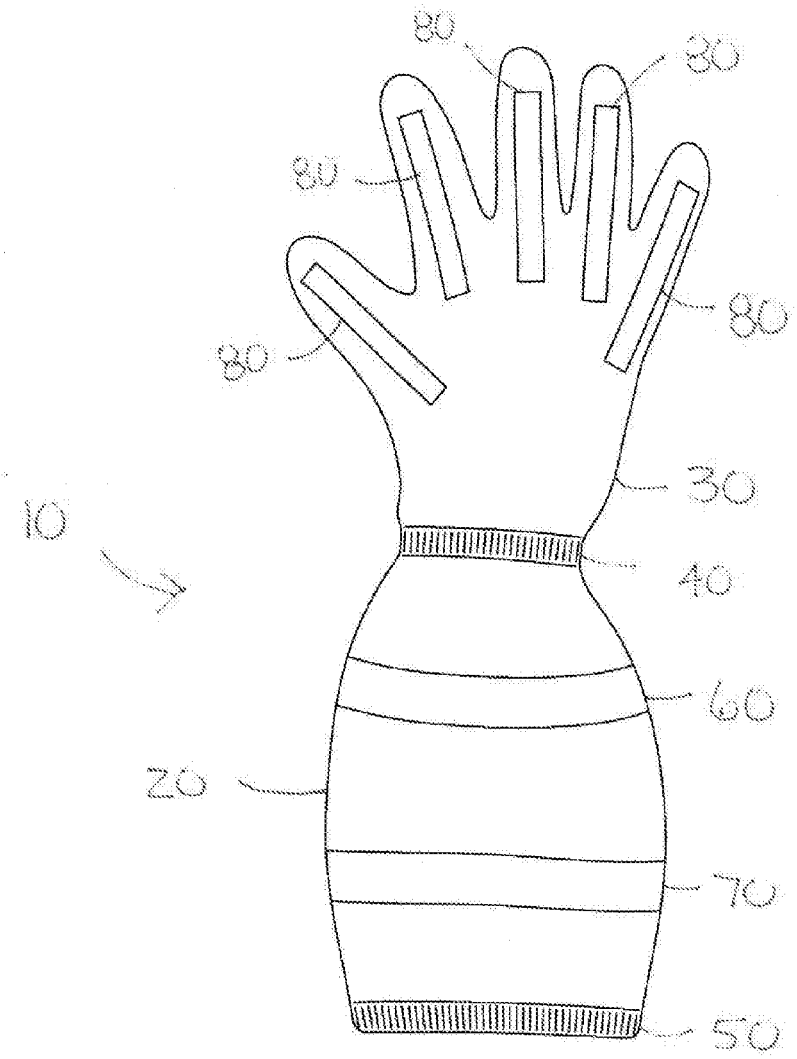


FIG. 1

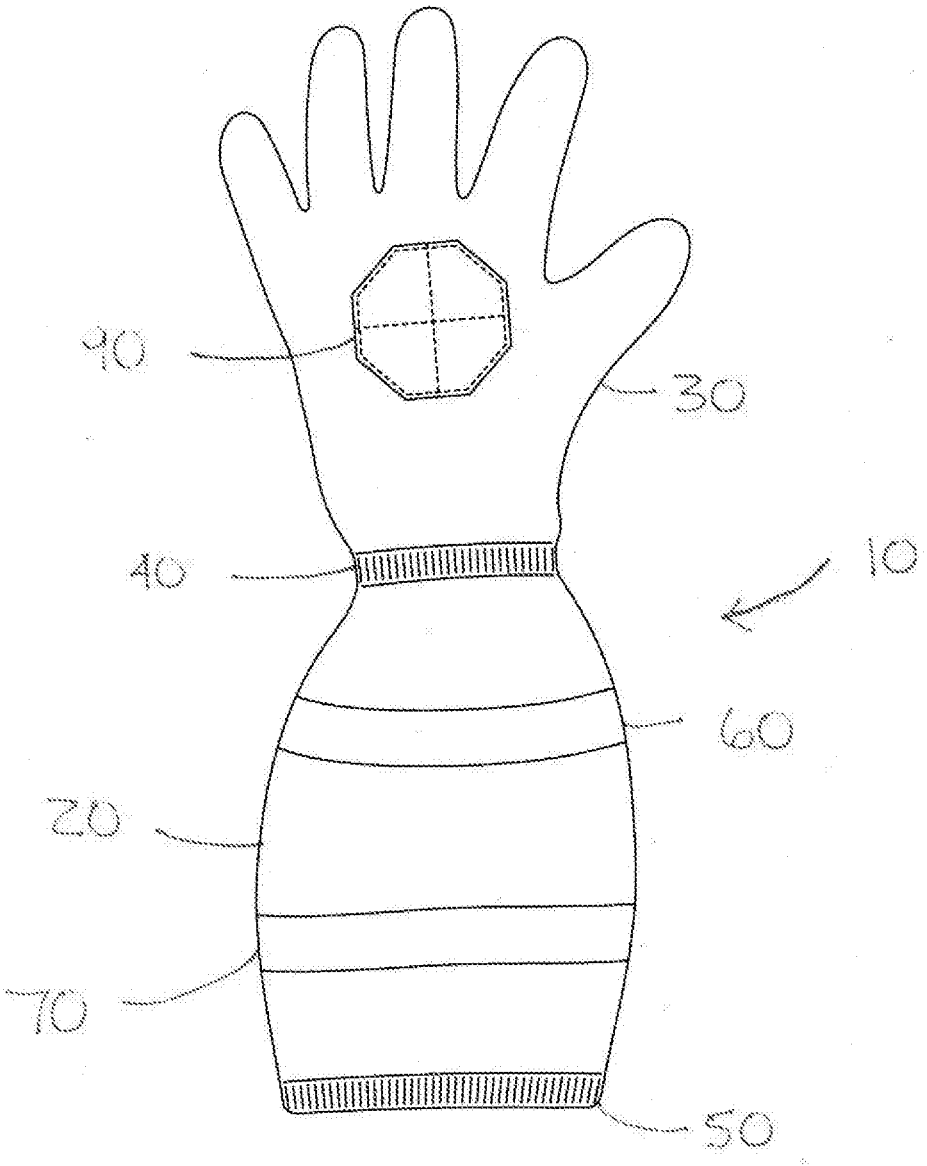
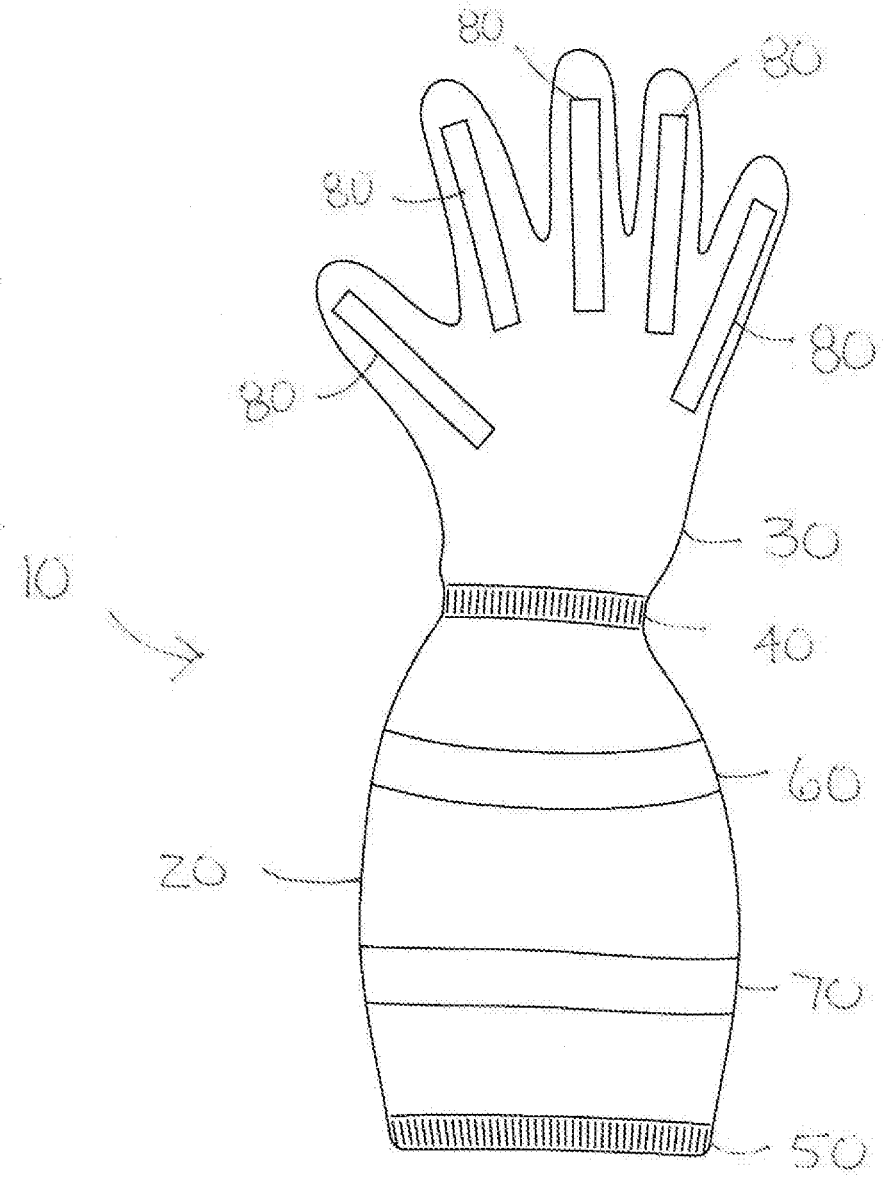


FIG. 2



HIGH VISIBILITY SLEEVE/GLOVE

[0001] This application claims the benefit of U.S. Provisional Patent Application Ser. No. 62/275,287, filed on Jan. 6, 2016, the disclosure of which is incorporated herein by reference.

TECHNICAL FIELD

[0002] This disclosure relates generally to multiple fields relying on visibility of hand signals and, more particularly, to an enhanced high visibility sleeve/glove for workers in the field of construction, heavy equipment operation, transportation, emergency and traffic direction and the like for improved efficiency, accuracy and safety, especially in adverse and poor visibility conditions.

BACKGROUND

[0003] It is well known that numerous fields rely on identification of persons in charge and hand signals. For example, police officers, firefighters, emergency personnel, and other first responders as well as road crews are often positioned to direct pedestrians and drivers to divert automobile traffic in the event of road construction and traffic accidents. Furthermore, construction workers and heavy equipment operators rely on signals from other workers, i.e., a signal man to perform specific tasks. Finally, airports rely on grounds crew to direct airplanes to the proper runway and gates. Each of these fields relies on proper identification of the person in charge and the accuracy of hand signals from that person to improve safety. These events often occur in less than desirable visibility conditions, such as at low light or night-time, in poor weather conditions, obstructed views and other factors, such as smoke and debris which can further decrease visibility

[0004] There are numerous tasks on a construction site, which require signals, such as workers driving construction equipment to specific areas, setting off a charge of dynamite, backing a truck or other type of heavy equipment, swinging a boom near a transmission line, flagging a railroad crossing, material placement or performing other tasks involving hoists and other equipment. In one particular activity common on construction sites, the hoist engineer relies on a signal to raise and lower the platform. Once the signal is given, a worker may drive a concrete buggy onto a hoist platform. If a signal is not seen or the engineer has trouble seeing the signal, accidents may happen, including fatalities. For example, if the hoist engineer thought that a signal had been given and lowered the platform, when the driver arrives where the platform should have been, the driver and buggy would go over the edge and the driver would likely suffer serious injury and/or death.

[0005] In the fields discussed above, including but not limited to construction and transportation, enhancing safety measures to decrease injuries and/or death to workers and pedestrians is of paramount importance. To avoid potentially dangerous situations, the signal man, such as police officer or construction worker should be stationed in a proper location to provide the signal. Furthermore, the signals used must be understood by all of the interested parties and the interested parties should remain alert at all times. However, accidents may still happen because signals may not always be identified correctly due to a number of factors, including low and decreased visibility at construction sites.

[0006] Accordingly, there is a need for more efficient signalman's safety sleeves/gloves to improve accuracy and identification of signals to promote a more efficient and safe environment. Namely, the signalman's safety sleeves/gloves should be highly visible to promote identification of clear and safe hand signals to reduce the likelihood of accidents and injuries, especially in traffic and work areas with low visibility conditions.

SUMMARY

[0007] In accordance with one aspect of the disclosure a high visibility sleeve is disclosed. The sleeve has an elongated body having a first portion and a second portion. The sleeve further has a plurality of reflective strips positioned on a front face of the first end and a reflective indicia positioned on the rear face of the first end. The first portion of the sleeve may be configured to receive a user's hand, while the second portion of the sleeve may be configured to extend along the user's arm. The first portion of the sleeve may also be glove-shaped having a slots corresponding to a user's fingers. Each of the plurality of reflective strips may correspond to each of the slots for the user's fingers. The first and second portion may be connected via stitching, an adhesive or removably connected. The reflective indicia may be octagonal-shaped. The body of the sleeve may be made of a first color, the plurality of reflective strips made of a second color and the reflective indicia made of a third color, wherein the first, second and third colors are different.

[0008] In another aspect of the disclosure, a high visibility sleeve for increasing identification and accuracy of hand signals used in low light and poor visibility conditions is disclosed. The sleeve includes a glove portion having a plurality of slots configured to receive a user's fingers and a body portion connecting to the glove portion and configured to extend along the user's wrist to the user's elbow. The sleeve further includes a plurality of reflective panels corresponding to the plurality of slots positioned on a first side of the glove portion and a reflective indicia positioned on a second, opposite side of the glove portion. A first end of the body portion may have a first elastic band positioned and forming a taper between the body portion and glove portion. A second end of the body portion may have a second elastic band. The body portion may have at least one reflective strip, wherein the at least one reflective strip is circular and extends around an entirety of the body portion. The plurality of reflective panels may be rectangular-shaped, while the reflective indicia may be shaped like a stop sign.

[0009] In yet another aspect of the disclosure, a wearable device for enhanced visibility is disclosed. The wearable device has an elongated body having a first end and a second end, wherein the first end is configured to receive a user's hand and the second end is configured to extend from the first end to the user's elbow. The wearable device further has at least three distinct reflective elements positioned on the elongated body for utilizing light reflection.

BRIEF DESCRIPTION OF THE DRAWINGS

[0010] The accompanying drawings incorporated in and forming a part of the specification, illustrate several aspects of this disclosure, and together with the description serve to explain the principles of the disclosure. In the drawings:

[0011] FIG. **1** is a top view of a front or palm side of a high visibility sleeve or glove forming one aspect of this disclosure; and

[0012] FIG. **2** is a top view of a back side of the high visibility sleeve or glove forming one aspect of this disclosure.

DETAILED DESCRIPTION

[0013] In the following detailed description, reference is made to the accompanying drawings that form a part hereof, and in which is shown by way of illustration, specific embodiments in which the invention may be practiced. These embodiments are described in sufficient detail to enable those skilled in the art to practice the embodiments and like numerals represent like details in the various figures. Also, it is to be understood that other embodiments may be utilized and that process or other changes may be made without departing from the scope of the disclosure. The following detailed description is not to be taken in a limiting sense, and the scope of the invention is defined only by the appended claims and their equivalents. In accordance with the disclosure, a high visibility sleeve or glove is hereinafter described.

[0014] As shown in FIGS. **1** and **2**, the high visibility sleeve **10** is typically a standard signalman's safety glove known in the art of construction with specific improvements described herein. The high visibility sleeve may be made from various materials, including lightweight safety vest material such as mesh and/or polyester, leather pig skin or tig glove material. The high visibility sleeve **10** is typically made of high visibility color, such as fluorescent colors, including but not limited to bright orange, neon green or highlighter yellow. Furthermore, the high visibility sleeve **10** is typically made a with high visibility material running long ways with the fingers. While only a single sleeve is discussed herein, it should be appreciated that most users will likely utilize a pair of sleeves, i.e., one for each hand or arm. In use, the high visibility sleeve **10** is designed for clear identification, especially from the signal person to the operator of various types of heavy construction equipment, such as cranes and other lifts as it is imperative in the construction field that clear and safe hand signals are identified and property communicated.

[0015] It is well known that most construction workers and emergency personnel often wear safety vests and/or gloves, so an operator of a particular piece of machinery or pedestrian/automobile driver may have difficulty identifying the signal person. Identification and high visibility of the signal person and the signal person's hand signals are necessary for proper direction of the operation. It is envisioned that only the signal person will wear the high visibility sleeve **10** on the construction site or roadway, so the operator of the equipment or lift or pedestrian/automobile driver should immediately recognize the signalman due to the sleeves.

[0016] The high visibility sleeve **10** is designed to allow for the operator of the equipment or a driver of a motor vehicle to more easily identify the movement of the signal person's hand and arm as the signal person should be the only person to signal to the operator. In other words, the high visibility sleeve **10** is intended to give clear identification of who will be in charge of a particular situation, such as crane direction, material placement and traffic diversion.

[0017] With respect to FIG. **1**, a front or palm side of the high visibility sleeve **10** is illustrated. The high visibility sleeve **10** is designed to extend from the fingertips to at least approximately the elbow area of the individual's arm, which is advantageous to gloves which only extend over a user's hands and, therefore, are more difficult to identify. In more detail, the high visibility sleeve **10** includes a body or sleeve portion **20** extending from where the user's hand meets the user's wrist and extending to at least approximately the user's elbow. The high visibility sleeve **10** also includes a glove portion **30** for receiving and covering the user's hand and fingers, which may be substantially permanently connected together to the body portion **20**, i.e., via sewing or removably connected to the body portion via adhesive or Velcro.

[0018] The high visibility sleeve **10** has at least one elastic band built into the end opposite the fingers. In the embodiment shown in FIGS. **1** and **2**, a first elastic band **40** is positioned between the body portion and glove portion, i.e., approximately at the location of the user's wrist. Furthermore, a second elastic band **50** is positioned at the end opposite the finger near the user's elbow. These elastic bands are designed to provide a more secure fit of the sleeve to the user and increase comfort.

[0019] In addition to the elastic bands, one or more circular strips may be positioned on the body portion **20** to increase visibility. Again, in the embodiment shown in FIGS. **1** and **2**, a first continuous circular strip **60** and a second continuous circular strip **70** are positioned on the body portion, i.e.,, extending all around the forearm. These circular strips **60**, **70** are made of a reflective material to increase visibility. The size and shape of the circular strips may vary, but in the illustrated embodiment, the circular strips are approximately 1 inch in width. The strips may be positioned on the body via any suitable means, including adhesive and stitching.

[0020] Turning to the glove portion **30** of the high visibility sleeve **10** illustrated in FIGS. **1** and **2**, each finger of the sleeve will have a strip of material made of a suitable reflective panels or stripping **80** positioned on the exterior of the sleeve or glove. In the embodiment shown in FIGS. **1** and **2**, the strip **30** is approximately ½ inches, but it should be appreciated that the strips may be different dimensions. The reflective panels may be positioned on the glove portion via any suitable means, including adhesive and stitching. The reflective panels **80** on the fingers of the glove portion are positioned on top portion of the sleeve, i.e., the portion opposite the palm of the hand. The reflective panels **80** may take a variety of shapes and sizes. As shown in FIG. **1**, the reflective panels **80** are rectangular-shaped.

[0021] On the opposite side, i.e., the palm side of the hand, an additional indicia **90** may be positioned in the palm area of the glove portion. For example, FIG. **1** illustrates a stop sign shaped (octagonal shaped) indicia, which may be used by the signal person to indicate to the operator to stop operation of the equipment or the driver to stop the motor vehicle. The indicia **90** may be positioned on the palm via any suitable means, including adhesive and stitching. The indicia **90** along with the circular strips **60**, **70** and finger panels **80** are made of a reflective material, which utilizes light reflection to highlight the signal person's directions.

[0022] The high visibility sleeve **10** has a wide variety of uses that apply to diverse trades and fields of interest. Any time that safety concerns arise because of low lighting or

possible miscommunication, the high visibility sleeve may be used to provide enhanced visibility. The high visibility sleeve may be used with the smallest amount of light and increase visibility at great distances. The high visibility sleeve may be used in conjunction with proper personal protection equipment, such as vests and helmets to decrease work place accidents and improve safety and operation of the project.

[0023] The foregoing descriptions of various embodiments have been presented for purposes of illustration and description. These descriptions are not intended to be exhaustive or to limit the invention to the precise forms disclosed. The embodiments described provide the best illustration of the inventive principles and their practical applications to thereby enable one of ordinary skill in the art to utilize the disclosure in various embodiments and with various modifications as are suited to the particular use contemplated.

1. A high visibility sleeve, comprising:
- an elongated body having a first portion and a second portion;
- a plurality of reflective strips positioned on a front face of the first end; and
- a reflective indicia positioned on the rear face of the first end.

2. The high visibility sleeve according to claim **1**, wherein the first portion is configured to receive a user's hand.

3. The high visibility sleeve according to claim **1**, wherein the first portion is glove-shaped having a slots corresponding to a user's fingers.

4. The high visibility sleeve according to claim **3**, wherein each of the plurality of reflective strips corresponds to each of the slots for the user's fingers.

5. The high visibility sleeve according to claim **1**, wherein the second portion is configured to extend along a user's arm.

6. The high visibility sleeve according to claim **1**, wherein the first portion and the second portion are connected via stitching.

7. The high visibility sleeve according to claim **1**, wherein the first portion and the second portion are connected via an adhesive.

8. The high visibility sleeve according to claim **1**, wherein the first portion and the second portion are removably connected.

9. The high visibility sleeve according to claim **1**, wherein the reflective indicia is octagonal-shaped.

10. The high visibility sleeve according to claim **1**, wherein the body is made of a first color, the plurality of reflective strips are made of a second color and the reflective indicia is made of a third color.

11. The high visibility sleeve according to claim **10**, wherein the first, second and third colors are different.

12. A high visibility sleeve for increasing identification and accuracy of hand signals used in low light and poor visibility conditions, comprising:
- a glove portion having a plurality of slots configured to receive a user's fingers;
- a body portion connecting to the glove portion and configured to extend along the user's wrist to the user's elbow;
- a plurality of reflective panels corresponding to the plurality of slots positioned on a first side of the glove portion; and
- a reflective indicia positioned on a second, opposite side of the glove portion.

13. The high visibility sleeve according to claim **12**, wherein a first end of the body portion has a first elastic band is positioned between the body portion and glove portion.

14. The high visibility sleeve according to claim **13**, wherein the first elastic band forms a taper between the body portion and the glove portion.

15. The high visibility sleeve according to claim **13**, wherein a second end of the body portion has a second elastic band.

16. The high visibility sleeve according to claim **12**, wherein the body portion has at least one reflective strip.

17. The high visibility sleeve according to claim **16**, wherein the at least one reflective strip is circular and extends around an entirety of the body portion.

18. The high visibility sleeve according to claim **12**, wherein the plurality of reflective panels are rectangular-shaped.

19. The high visibility sleeve according to claim **12**, wherein the reflective indicia is shaped like a stop sign.

20. A wearable device for enhanced visibility, comprising:
- an elongated body having a first end and a second end, wherein the first end is configured to receive a user's hand and the second end is configured to extend from the first end to the user's elbow; and
- at least three distinct reflective elements positioned on the elongated body for utilizing light reflection.

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