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**TACTICAL HAND WARMER APPARATUS**

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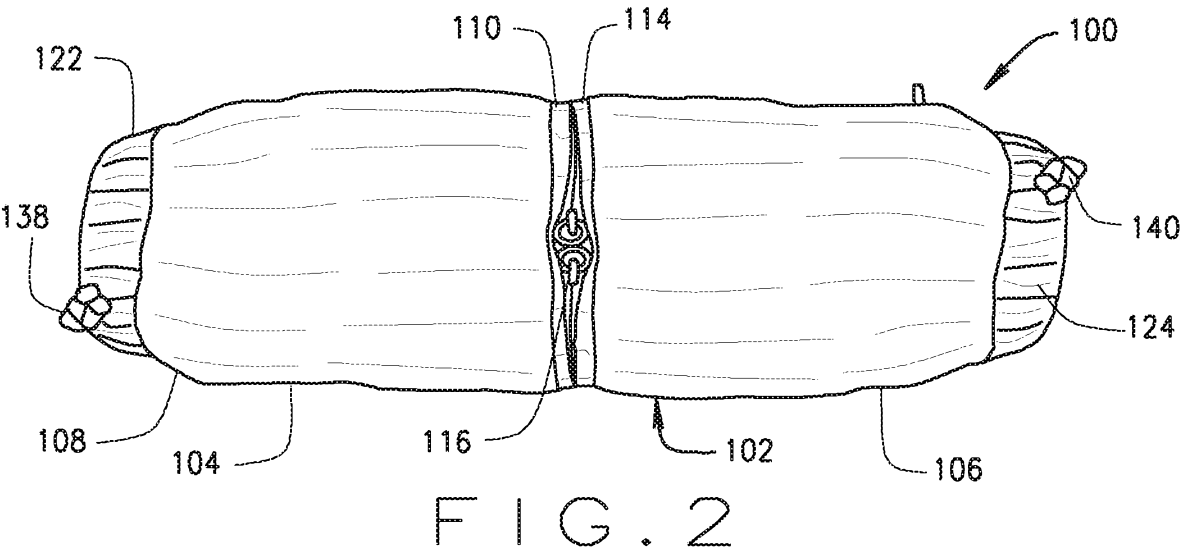
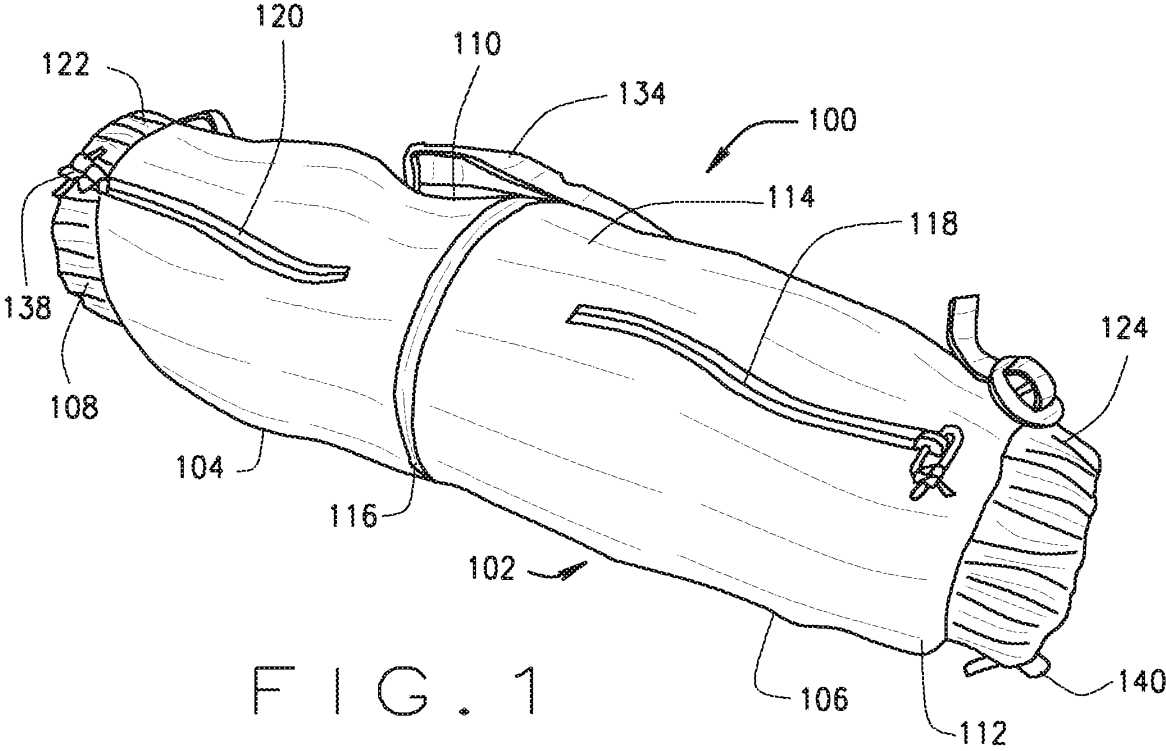
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(56) Related Art  
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# **ABSTRACT**

Embodiments of a tactical hand warmer apparatus having a first glove portion defining a first glove recess that is detachably connected to a second glove portion defining a second glove recess for allowing an individual to warm their hands within the first and second glove recesses either closely together when the first and second glove portions are attached or apart when the first and second glove portions are detached are disclosed.



## **TACTICAL HAND WARMER APPARATUS**

### **FIELD**

**[0001]** The present disclosure generally relates to hand warmer apparatus, and in particular to a hand warmer apparatus having two separable hand warming portions.

### **BACKGROUND**

**[0002]** Typically, tactical hand warmers may be single-piece muffs with opposing open ends that permit a soldier to insert their hands closely together to keep them warm. However, the demands of a combat or tactical environment may require the individual to maintain their hands apart from each other, rather than being closely held together in the single-piece muff. As such, there is a need for a tactical hand warmer that permits the soldier to maintain their hands either closely together or far apart to keep them warm.

### **SUMMARY**

**[0003]** In some embodiments, a tactical hand warmer apparatus may include a first glove portion defining a first open end and a second closed end, wherein the first open end forms a first opening in communication with a first glove recess defined by the first glove portion and configured to receive a hand of an individual. In addition, the tactical warmer apparatus includes second glove portion defining a first open end and a second closed end, wherein the first open end forms a second opening in communication with a second glove recess defined by the second glove portion and configured to receive another hand of the individual. Finally, a securing arrangement extends along a first end portion of the first glove portion and the second end portion of the second glove portion for engaging or disengaging the first glove portion and the second glove portion.

**[0004]** In some embodiments, a method of manufacturing a tactical hand warmer apparatus may include:

forming a first glove portion defining a first open end and a second closed end wherein the first open end forms a first opening in communication with a first glove recess defined by the first glove portion;

forming a second glove portion defining a first open end and a second closed end wherein the first open end forms a second opening in communication with a second glove recess defined by the second glove portion; and  
forming a securing arrangement for detachably coupling the first glove portion relative to the second glove portion.

# **BRIEF DESCRIPTION OF THE DRAWINGS**

- [0005] FIG. 1 is a perspective view of a tactical hand warmer apparatus having first and second glove portions secured together;
- [0006] FIG. 2 is a top view of the tactical hand warmer apparatus;
- [0007] FIG. 3 is an end view of the tactical hand warmer apparatus;
- [0008] FIG. 4 is an opposite end view of the tactical hand warmer apparatus of FIG. 3;
- [0009] FIG. 5 is an elevated perspective view of the tactical hand warmer apparatus showing the first and second hand glove portions partially secured together;
- [0010] FIG. 6 is a perspective view of the tactical hand warmer apparatus showing the first and second glove portions separated from one another;
- [0011] FIG. 7 is a top view of the tactical hand warmer apparatus showing the first and second glove portions separated from one another;
- [0012] FIG. 8 is an end view of the first glove portion showing a securing arrangement used to couple the first glove portion to the second glove portion;
- [0013] FIG. 9 is an end view of the second glove portion showing the securing arrangement used to couple the first glove portion to the second glove portion; and
- [0014] FIG. 10 is a flow chart showing one method of manufacturing the tactical hand warmer apparatus of FIG. 1.
- [0015] Corresponding reference characters indicate corresponding elements among the view of the drawings. The headings used in the figures do not limit the scope of the claims.

## DETAILED DESCRIPTION

[0016] Embodiments of a tactical hand warmer apparatus having detachable first and second glove portions that allow an individual to warm their hands either separately or closely together within the body of the tactical hand warmer apparatus are disclosed. Referring to the drawings, an embodiment of the tactical hand warmer apparatus is illustrated and generally indicated as **100** in FIGS. **1-10**.

[0017] As shown in FIGS. **1** and **2**, one embodiment of the tactical hand warmer apparatus **100** includes a detachable body **102** having a first glove portion **104** detachably secured to a second glove portion **106** through a first securing arrangement **116**. In one embodiment, the first securing arrangement **116** permits the first glove portion **104** to be engaged or disengaged from the second glove portion **106** when the first securing arrangement **116** is closed or opened to permit an individual to either keep their hands in close proximity to each other within the body **102** of the tactical hand warmer apparatus **100** or maintained apart from each other while still maintaining both hands within the body **102** of the tactical hand warmer apparatus **100**.

[0018] In one aspect, the first glove portion **104** defines a first open end **108** and a second closed end **110**, while the second glove portion **106** also defines a first open end **112** and a second closed end **114**. As shown in FIG. **3**, the first open end **108** of the first glove portion **104** forms an opening **126** that communicates with a first glove recess **130** configured to receive one hand of an individual. Similarly, as shown in FIG. **4**, the first open end **112** of the second glove portion **106** forms an opening **128** that communicates with a second glove recess **132** configured to receive the other hand of the individual. In some embodiments, the first and second glove recesses **130** and **132** may be lined with a felt material, a synthetic fur material, and/or a natural fur material that provide warmth to the hands when disposed within the first and second glove recesses **130** and **132** of the tactical hand warmer apparatus **100**.

[0019] As further shown in FIGS. **3** and **4**, in some embodiments the first open end **108** of the first glove portion **104** defines a first cuff **122** configured to receive a first drawstring **138** that permits the individual to closely draw the first cuff **122** around the wrist of an individual as the first drawstring **138** is drawn closed. Similarly, the first open end **112** of the second glove portion **106** defines a second

cuff **124** configured to receive a second drawstring **140** that also permits the individual to closely draw the second cuff **124** around the other wrist of the individual as the second drawstring **140** is drawn closed.

**[0020]** Referring to FIGS. **5-9**, as noted above, in some embodiments the closed first end **110** defining a generally circular-shaped first end portion **144** defined by the first glove portion **104** and the closed second end **114** also defines a generally circular-shaped second end portion **146** of the second glove portion **106** collectively form the first securing arrangement **116** that allows the first glove portion **104** to be engaged and disengaged from the second glove portion **106**. In particular, as shown in FIGS. **7** and **8**, the first securing arrangement **116** may be a zipper arrangement that includes a set of interlocking protruding teeth **142** formed along the periphery of the first end portion **144** and another set of interlocking protruding teeth **142** formed along the periphery of the second end portion **146**. The first securing arrangement **116** further includes a slider **136** that is operatively connected to both sets of interlocking protruding teeth **142** such that movement of the slider **136** in one direction opens the first securing arrangement **116** by disengaging both sets of interlocking protruding teeth **142** and movement of the slider **136** in the opposite direction closes the first securing arrangement **116** by engaging together both sets of interlocking protruding teeth **142**. Once the first securing arrangement **116** is fully opened as shown in FIG. **6**, the first and second glove portions **104** and **106** may be detached from each other such that each of the individual's hands are separately disposed within the first glove portion **104** and second glove portion **106**, respectively, as illustrated in FIG. **7**.

**[0021]** Referring back to FIG. **1**, in some embodiments the first glove portion **104** may define a second securing arrangement **120** that extends longitudinally between the first open end **138** and the second closed end **110** of the first glove portion **104**. Similarly, the second glove portion **106** may define a third securing arrangement **118** that extends longitudinally between the first open end **112** and the second closed end **114** of the second glove portion **106**. The second securing arrangement **120** and the third securing arrangement **118** may communicate with a respective internal pouch (not shown) that provides a closable storage area.

**[0022]** Referring back to FIG. **7**, in some embodiments the tactical hand warmer may include a strap **134** having one end attached to the first glove portion



**104** and the opposite end attached to the second glove portion **106**. The strap **134** provides a tether that couples the first and second glove portions **104** and **106** together.

[0023] In some embodiments, the first securing arrangement **116** may be a strap and buckle arrangement (not shown) that engages and disengages the first and second glove portions **104** and **106**. In other embodiments, the first securing arrangement **116** may be a loop and hook arrangement (not shown), such as VELCRO, that extends around the periphery of the first closed end **144** and second closed end **146**, respectively, for engaging and disengaging the first and second glove portions **104** and **106**.

[0024] Referring to FIG. **10**, a flow chart illustrates one method for manufacturing the tactical hand warmer apparatus **100**. At block **200**, forming a first glove portion **104** defining a first open end **108** and a second closed end **110** wherein the first open end **108** forms a first opening **126** in communication with a first glove recess **130** defined by the first glove portion **104** and configured to receive a hand of an individual. At block **202**, forming a second glove portion **106** defining a first open end **112** and a second closed end **114** wherein the first open end **112** forms a second opening **128** in communication with a second glove recess **132** defined by the second glove portion **106** and configured to receive the other hand of the individual. At block **204**, attaching a securing arrangement **116** for detachably coupling the first glove portion **104** to the second glove portion **106** in which the securing arrangement **116** includes a first set of interlocking protruding teeth **104** extending along the periphery of a first end portion **144** defined by the first glove portion **104** which is configured to engage or disengage a second set of interlocking protruding teeth **142** extending along the periphery of the second end portion **146** defined by the second glove portion **106**, and a slider **136** that is operably engaged to the first and second sets of interlocking protruding teeth **142** for opening and closing the securing arrangement **116**.

[0025] It should be understood from the foregoing that, while particular embodiments have been illustrated and described, various modifications can be made thereto without departing from the spirit and scope of the invention as will be apparent to those skilled in the art. Such changes and modifications are within the scope and teachings of this invention as defined in the claims appended hereto.

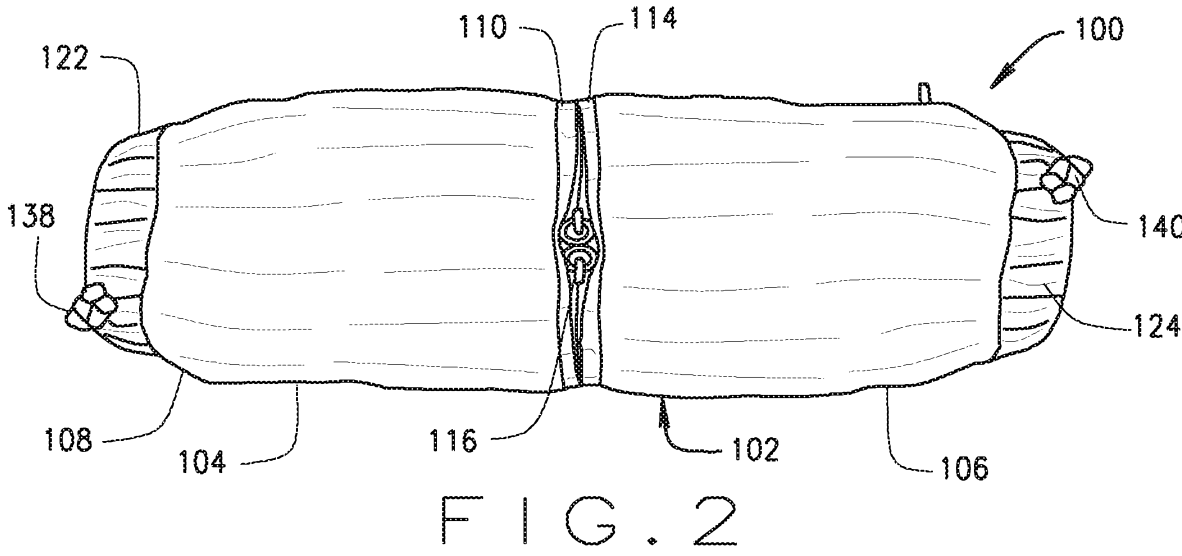
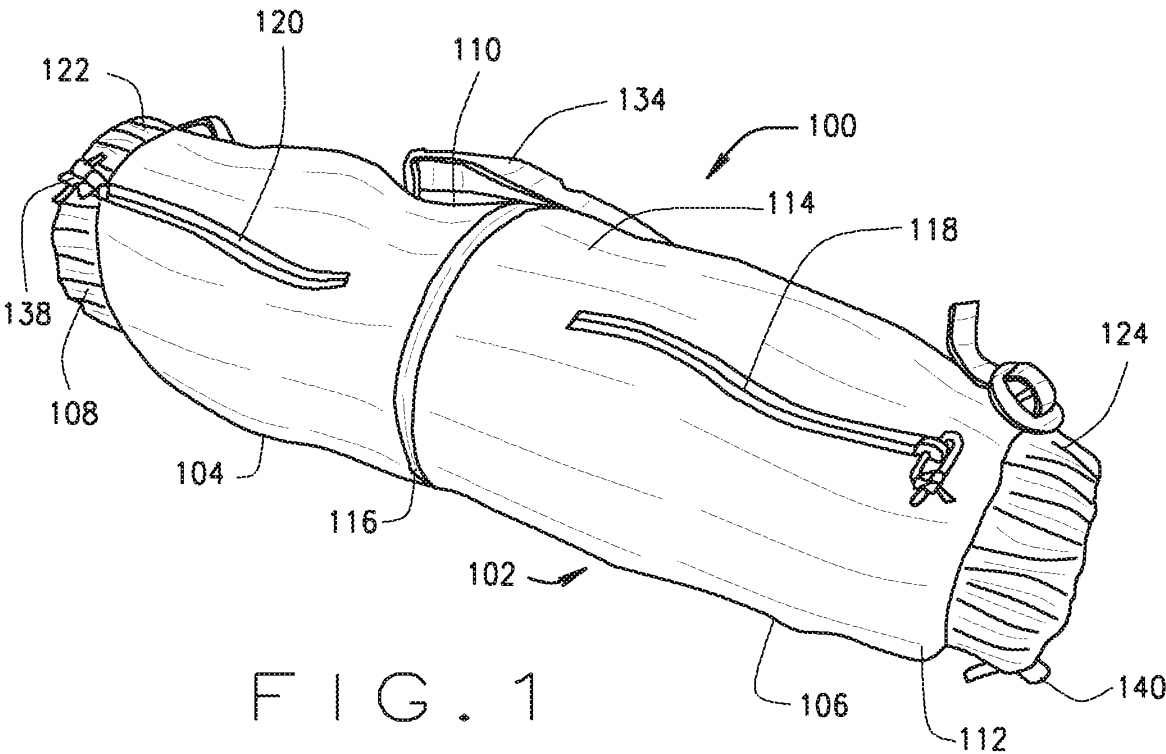
## CLAIMS

What is claimed is:

1. A tactical hand warmer apparatus comprising:
  - a detachable body extending from a first end to a second end along a longitudinal axis;
  - a first recess disposed within the detachable body and accessible through an opening at the first end, the first recess extending from the opening to a first end portion along the longitudinal axis, the first end portion extending transverse to the longitudinal axis;
  - a second recess disposed within the detachable body and accessible through an opening at the second end, the second recess extending from the opening at the second end to a second end portion along the longitudinal axis, the second end portion extending transverse to the longitudinal axis and parallel to the first end portion;
  - a first closed end associated with the first end portion of the first recess;
  - a second closed end associated with the second end portion of the second recess, the first closed end disposed adjacent to the second closed end; and
  - a zipper having a first zipper portion attached to the first end portion and extending around a first center of the first end portion and a second zipper portion attached to the second end portion and extending around a second center of the second end portion, the first center and the second center each positioned on the longitudinal axis, the zipper releasably securing the first closed end to the second closed end, release of the first closed end from the second closed end separating a first glove portion of the detachable body from a second glove portion of the detachable body.

2. The tactical hand warmer apparatus of claim 1, wherein the detachable body includes one or more pouches.
3. The tactical hand warmer apparatus of claim 2, wherein the one or more pouches includes a first pouch disposed along the detachable body near the first recess and a second pouch disposed along the detachable body near the second recess.
4. The tactical hand warmer apparatus of claim 1, wherein the first recess and the second recess each include a lining.
5. The tactical hand warmer apparatus of claim 4, wherein the lining includes at least one of a felt material, a synthetic fur material, or a natural fur material.
6. The tactical hand warmer apparatus of claim 1, wherein the opening at the first end and the opening at the second end are each closeable using a drawstring.
7. A tactical hand warmer apparatus comprising:
  - a first glove portion extending from a first end to a second end;
  - an opening at the first end forming a cuff, a size of the opening being adjustable;
  - an end portion at the second end, the end portion having a planar surface extending transverse to a length of the glove portion;
  - a glove recess disposed within the first glove portion and accessible through the opening; and
  - a zipper releasably engaging the first glove portion to a second glove portion, the zipper extending about a periphery of the planar surface, such that the zipper is oriented transversely to the length of the glove portion.
8. The tactical hand warmer apparatus of claim 7, wherein the size of the opening is adjustable using a drawstring.

9. The tactical hand warmer apparatus of claim 7, wherein the zipper releasably engages the second end of the first glove portion to a corresponding end of the second glove portion.
10. A tactical hand warmer apparatus comprising:
  - a detachable body extending from a first end to a second end along a longitudinal axis;
  - a first end wall disposed adjacent to a second end wall, the first end wall and the second end wall each extending transverse to the longitudinal axis of the detachable body and parallel to each other;
  - a first opening defined at the first end;
  - a second opening defined at the second end;
  - a first recess extending from the first opening to the first end wall;
  - a second recess extending from the second opening to the second end wall;
  - a first closed end releasably secured to a second closed end with a securing arrangement, the securing arrangement having a first securing portion attached to the first wall and extending about a first center of the first end wall and a second securing portion extending about a second center of the second end wall, the first center and the second center each positioned on the longitudinal axis, release of the first closed end from the second closed end separating a first glove portion of the detachable body from a second glove portion of the detachable body.
11. The tactical hand warmer apparatus of claim 10, wherein the securing arrangement is a zipper.



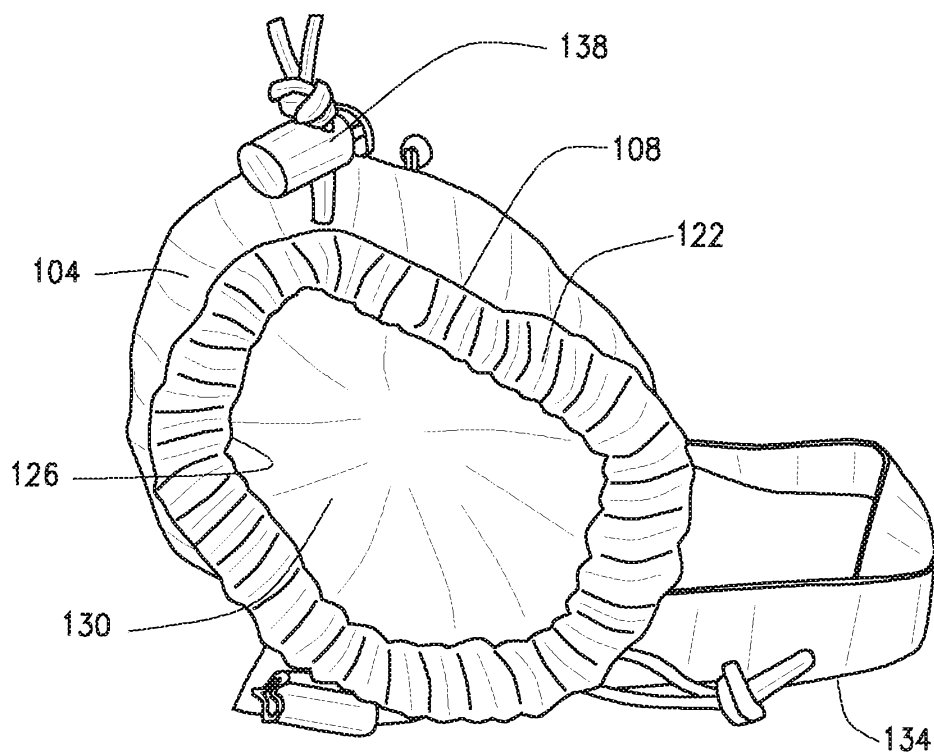


FIG. 3

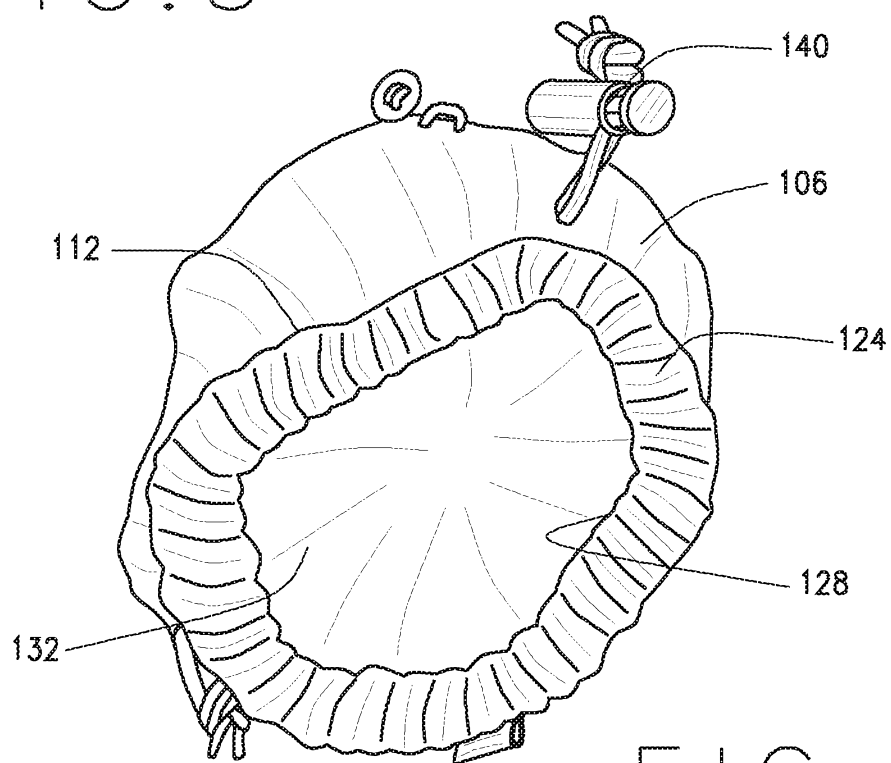


FIG. 4

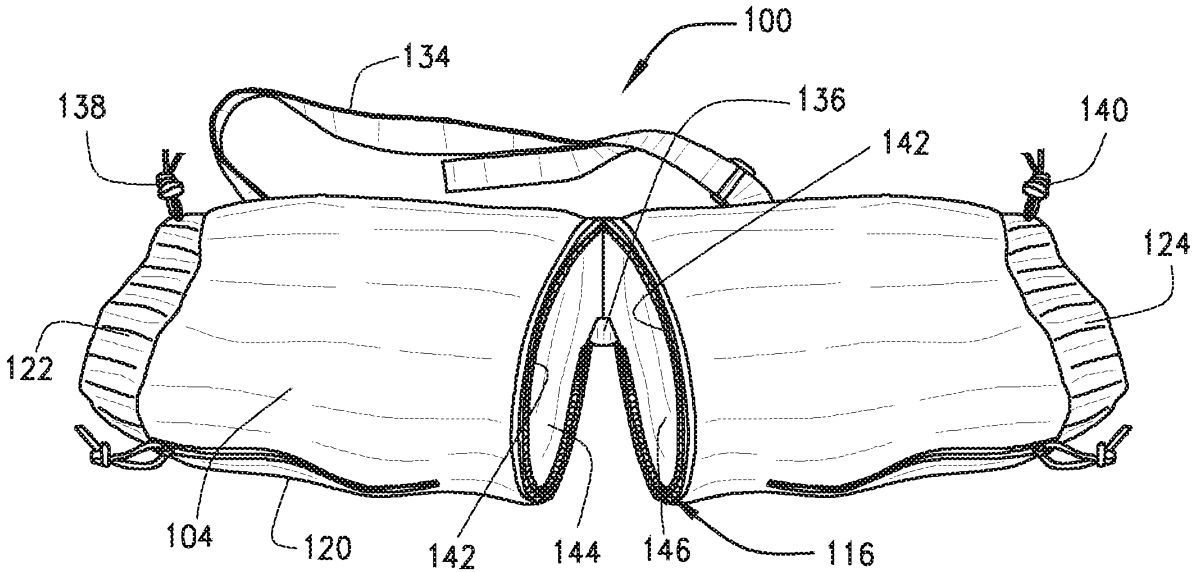


FIG. 5

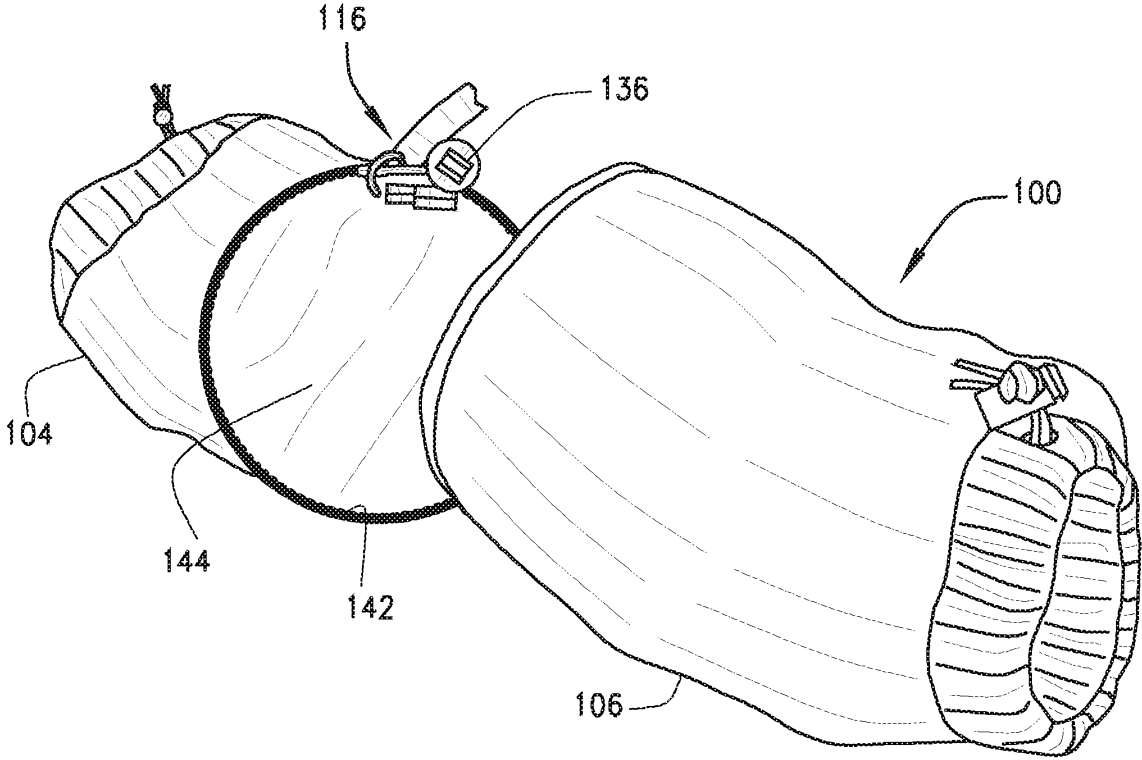
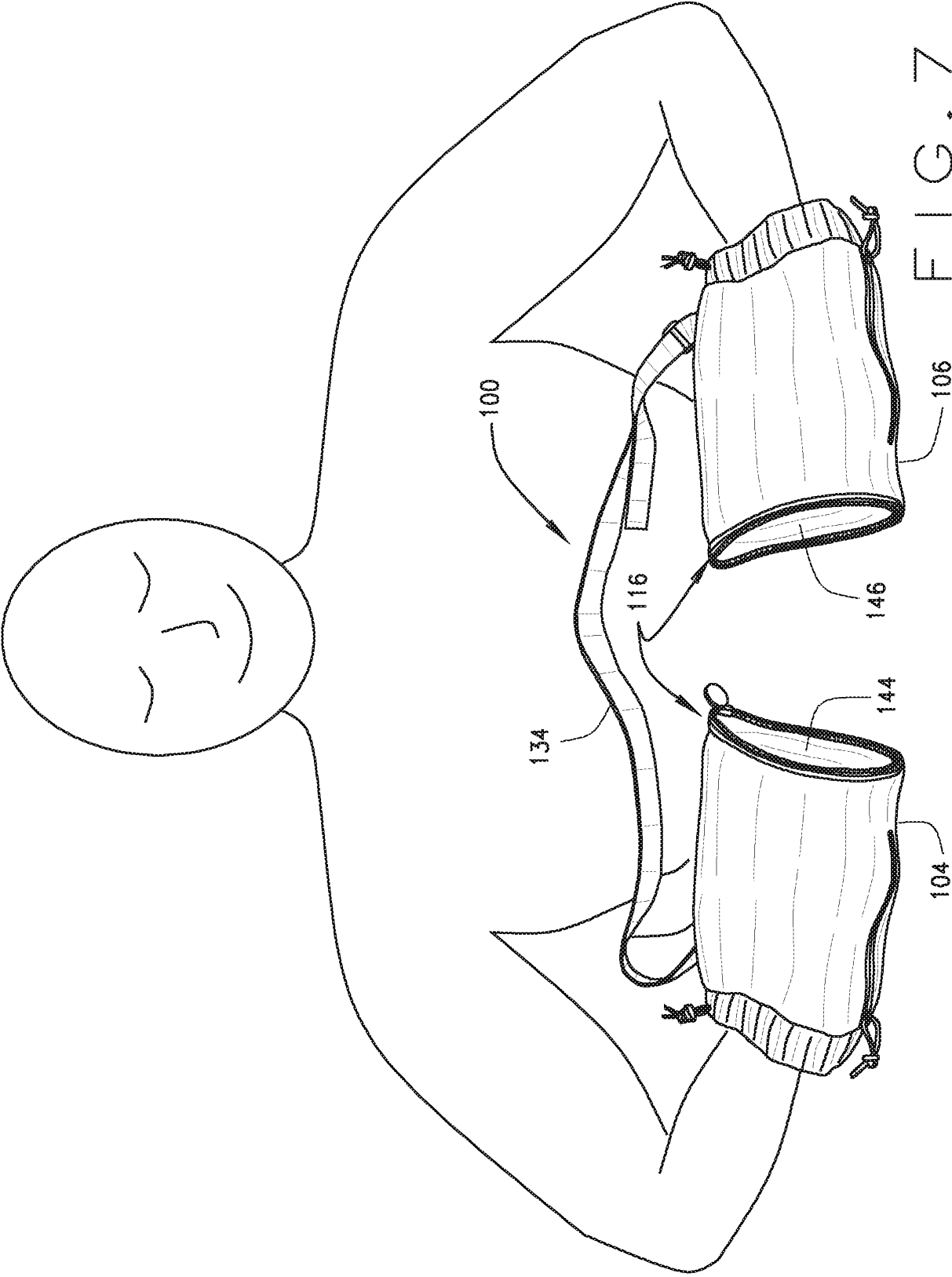


FIG. 6





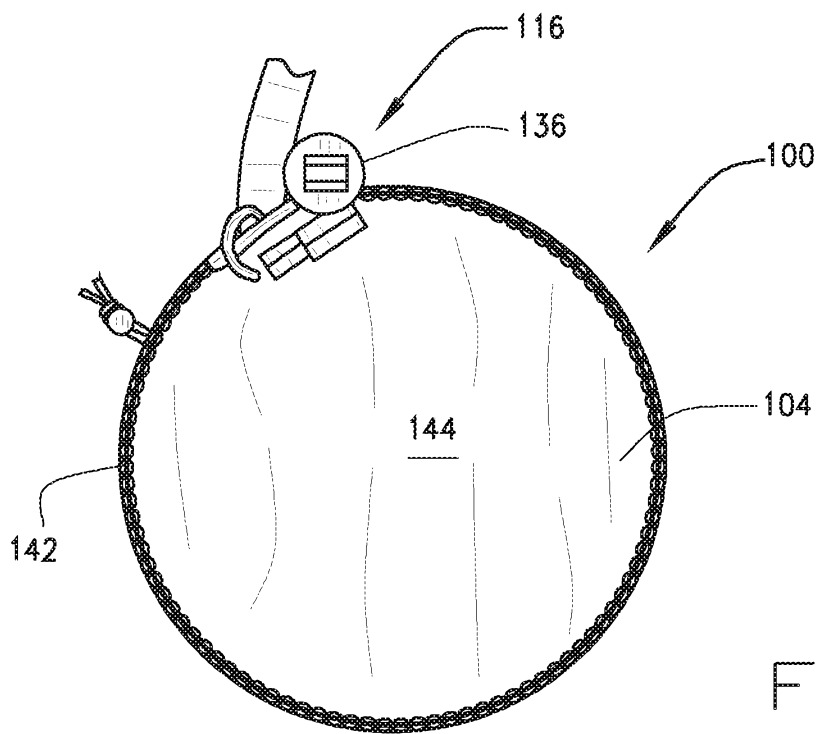


FIG. 8

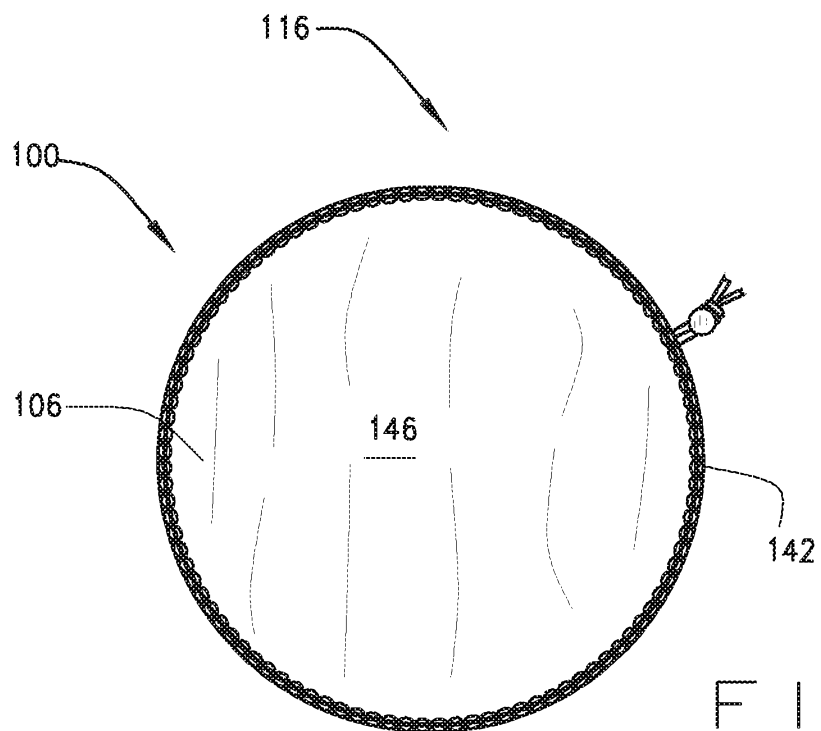


FIG. 9

200

FORMING A FIRST GLOVE PORTION DEFINING A FIRST OPEN END AND A SECOND CLOSED END WHEREIN THE FIRST OPEN END FORMS A FIRST OPENING IN COMMUNICATION WITH A FIRST GLOVE RECESS DEFINED BY THE FIRST GLOVE PORTION AND CONFIGURED TO RECEIVE A HAND OF AN INDIVIDUAL.

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FORMING A SECOND GLOVE PORTION DEFINING A FIRST OPEN END AND A SECOND CLOSED END WHEREIN THE SECOND OPEN END FORMS A SECOND OPENING IN COMMUNICATION WITH A SECOND GLOVE RECESS DEFINED BY THE SECOND GLOVE PORTION AND CONFIGURED TO RECEIVE THE OTHER HAND OF THE INDIVIDUAL.

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ATTACHING A SECURING ARRANGEMENT TO A FIRST END PORTION OF THE FIRST GLOVE PORTION AND TO A SECOND END PORTION OF THE SECOND GLOVE PORTION IN WHICH THE SECURING ARRANGEMENT INCLUDES A FIRST SET OF INTERLOCKING PROTRUDING TEETH EXTENDING ALONG THE PERIPHERY OF THE FIRST CLOSED END PORTION DEFINED BY THE FIRST GLOVE PORTION AND CONFIGURED TO ENGAGE OR DISENGAGE WITH A SECOND SET OF INTERLOCKING PROTRUDING TEETH EXTENDING ALONG THE PERIPHERY OF THE SECOND END PORTION DEFINED BY THE SECOND GLOVE PORTION, AND A SLIDER THAT IS OPERABLY ENGAGED TO THE FIRST AND SECOND SETS OF INTERLOCKING PROTRUDING TEETH FOR OPENING AND CLOSING THE SECURING ARRANGEMENT.

FIG. 10