CONVERTIBLE HAND COVERING SYSTEM

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ABSTRACT
A hand covering configured to enclose a human hand, fingers and thumb, having a dorsal side and a palm side. The hand covering includes a wrist portion and a hand portion. The hand portion includes at least one digit receptacle and a thumb receptacle. An opening is formed in the dorsal side of the hand covering, and extends from a location rearward of the thumb receptacle, across the dorsal side, to a side of the hand covering opposite the thumb receptacle. The opening is configured to allow the digit receptacle and the thumb receptacle to be removed from the digits and thumb of the wearer, while the wrist portion remains attached to the wearer and covers a dorsal side of the wearer's hand.
FIG. 4
CONVERTIBLE HAND COVERING SYSTEM

CROSS REFERENCE TO RELATED APPLICATIONS

[0001] This application is a continuation of U.S. patent application Ser. No. 12/077,538 filed on Mar. 17, 2008, which is a continuation of U.S. patent application Ser. No. 11/133, 069, filed May 18, 2005, which are hereby incorporated herein by reference in their entirety.

BACKGROUND

[0002] The present invention relates generally to hand coverings such as gloves and mittens. Gloves and mittens are used to protect and insulate human hands in a variety of environments and uses. For example, work gloves are typically constructed of a sturdy material such as leather that protects the wearer’s bare hands from friction, cuts, scrapes, burns and other injuries. Ski gloves or mittens, on the other hand, are usually worn to insulate the wearer’s hand in cold climatic conditions. Both work gloves and ski gloves are bulky in comparison to the wearer’s hand. The bulk of the gloves cause the wearer to be less sensitive with respect to touch and feel of objects picked up by a gloved hand. Consequently, wearing gloves can make dexterity manipulation of small objects, such as keys, very difficult. For this reason, it is often necessary to remove coverings from the hand in order to accomplish tasks that require use of the fingers and thumb.

[0003] However, completely removing a hand covering to accommodate use of the fingers is not always desirable. At times, complete removal of a glove can only be done at great inconvenience or risk to the wearer. Removing gloves while riding a ski lift, for example, creates a risk of dropping a loose glove from the lift. Additionally, completely removing a work glove in certain industrial environments could expose the worker’s hand to injury.

[0004] In an attempt to address these problems, some gloves or mittens have been developed that include various openings positioned to allow the wearer’s fingers to be extracted from the glove or mitten without removing the glove or mitten. Other hand coverings have been developed that include a detachable section that can be removed from the fingers. However, in many instances, exposure of the fingers alone does not give the hand sufficient exposure to accomplish many tasks. Also, many of these known systems do not provide adequate freedom to the fingers to provide the wearer with sufficient dexterity to manipulate many small objects.

SUMMARY

[0005] It has been recognized that it would be advantageous to develop a hand covering that can expose the fingers, thumb, and palm of the hand while remaining attached to the wrist of the wearer. Additionally, it would be advantageous to maintain coverage of the dorsal side of the hand when the fingers, thumb and palm are exposed. Briefly, and in general terms, the invention is directed to a partially removable hand covering for allowing a wearer to use his or her fingers and thumb outside of the covering without completely removing the covering from the wearer’s wrist.

[0006] In accordance with one aspect of the present invention, the hand covering can be configured to enclose a human hand, fingers and thumb. The hand covering can have a dorsal side and a palm side. The hand covering can also include a wrist portion and a hand portion. The hand portion can include at least one digit receptacle and a thumb receptacle. An opening can be formed in the dorsal side of the hand covering, and can extend from a location rearward of the thumb receptacle, across the dorsal side, to a side of the hand covering opposite the thumb receptacle. The opening can be configured to allow the digit receptacle and the thumb receptacle to be removed from the digits and thumb of the wearer, while the wrist portion remains attached to the wearer and covers a dorsal side of the wearer’s hand. In one aspect of the invention, a closure device can be operably attached to the opening to allow the opening to be selectively closed and opened by the wearer. In accordance with another aspect of the present invention, the method for covering a hand while providing selective access to objects by bare fingers and a thumb of a wearer can include enclosing the wearer’s hand with a hand covering. A closure device can be operably attached to an opening formed in the dorsal side of the hand covering between the hand portion and the wrist portion can be opened. The hand covering can be part at the opening to expose the fingers and thumb of the wearer while maintaining coverage of a dorsal portion of the wearer’s hand. The hand covering can be bent about the palm side of the hand covering downward from the wearer’s hand.

[0007] In accordance with another aspect of the present invention, an openable hand covering can be configured to enclose a human hand, fingers and thumb, and can include a dorsal side and a palm side. The openable hand covering can also include a wrist portion and a hand portion. The hand portion can include at least one digit receptacle and a thumb receptacle. An arcuate opening can be formed in the dorsal side of the hand covering between the wrist portion and the hand portion. The arcuate opening can be configured to allow the digit receptacle and the thumb receptacle to be removed from the digits and thumb of the wearer, respectively, while the wrist portion remains attached to the wearer and covers a dorsal side of the wearer’s hand. A closure device can be operably attached to the arcuate opening to allow the opening to be selectively closed and opened by the wearer.

BRIEF DESCRIPTION OF THE DRAWINGS

[0008] Additional features and advantages of the invention will be apparent from the detailed description which follows, taken in conjunction with the accompanying drawings, which together illustrate, by way of example, features of the invention; and, wherein:

[0009] FIG. 1 is a perspective view of a hand covering in accordance with an embodiment of the present invention; FIG. 2 is a left, perspective view of the hand covering of FIG. 1, shown in an open configuration;

[0010] FIG. 3 is a top, left perspective view of the hand covering of FIG. 1;

[0011] FIG. 4 is a perspective view of another embodiment of the present invention shown in an open configuration; and

[0012] FIG. 5 is a top perspective view of the hand covering of FIG. 4 in a removed, open configuration.

[0013] Reference will now be made to the exemplary embodiments illustrated, and specific language will be used herein to describe the same. It will nevertheless be understood that no limitation of the scope of the invention is thereby intended.

DETAILED DESCRIPTION OF THE INVENTION:

[0014] Reference will now be made to the exemplary embodiments illustrated in the drawings, and specific lan-
The present invention is directed to a hand covering, such as a glove or mitten, configured to allow removal of the fingers and thumb, and expose the palm of the hand, while at the same time keeping the dorsal part of the hand covered, and reducing interference between the hand and the hand covering when the covering is partially removed from the hand. The hand covering can be used in a variety of applications, including construction environments, manufacturing environments, etc. The hand covering can also be advantageously used, when formed from an insulated material, in a variety of outdoor activities, such as outdoor work sites, skiing, snowmobiling, ice fishing, etc.

As illustrated in FIGS. 1-3, an openable hand covering 10 in accordance with an exemplary embodiment of the present invention can be configured as a mitten which encloses a human hand, fingers and thumb. The hand covering can have a dorsal side 26 and a palm side 30. The hand covering 10 can have a wrist portion 14, and a hand portion 22. The hand portion can include a thumb receptacle 18 and a digit receptacle 34. The hand portion 22 can be at least partially integrally joined to the wrist portion 14.

As used herein, the term “dorsal side” 26 of the hand covering is to be understood to refer to a side of the hand covering that corresponds to a back or dorsal side of a human hand over which the covering is to be disposed. Similarly, the term “palm side” 30 of the hand covering is to be understood to refer to the opposing side of the hand covering that corresponds to the palm of a human hand over which the covering is to be disposed. When discussed herein, it is to be understood that the hand covering is generally formed of at least two sections: a “hand portion” 22 which includes, but is not necessarily limited to, the portion of the hand covering that covers the fingers and the thumb; and a “wrist portion” that includes, but is not necessarily limited to, the portion of the hand covering that covers the wrist.

An opening 42 can be formed in the dorsal side 26 of the hand covering 10. The opening 42 can extend from a location 46 that is rearward of the thumb receptacle 18, across the dorsal side 26 of the hand covering, and to a side 38 of the hand covering opposite the thumb receptacle. The opening 42 can allow the digit receptacle 34 and the thumb receptacle 18 to be removed from the fingers 54 in.

FIGS. 2 and 3) and thumb 58 in FIGS. 2 and 3) of the wearer. The opening 42 can be accurate and can extend across the dorsal side 26 of the hand covering 10 and outward toward a fingertip end 32 of the hand covering 10. Additionally, the opening 42 can be shaped to correspond to a profile defined by a proximal knuckle of each finger and the thumb of the wearer’s hand. The opening 42 can have an open position in which the finger and thumb receptacles are removed from the wearer’s fingers and thumb, as shown in FIGS. 2-3, and a closed position as shown in FIG. 1, in which the wearer’s fingers and thumbs are covered.

As shown in FIGS. 2-3, when removed from the fingers 54 and thumb 58 of the wearer, the digit receptacle 34 and thumb receptacle 18 can remain attached to the wrist portion 14, and the wrist portion 14 can remain attached to the wearer. In this manner, the wrist portion 14 can maintain coverage of the dorsal side 50 of the wearer’s hand when the finger and thumb receptacles 34 and 18 are removed from the wearer’s fingers 54 and thumb 58. The palm side 30 of the hand covering 10 can be substantially integral with the wrist portion 14. The hand covering 10 can be bendable across the hand portion 22 on the palm side 30 to allow the hand portion 22 of the hand covering 10 to be removed downwardly from the wearer’s fingers and thumb. Thus, the finger receptacle 34 and thumb receptacle 18, when removed from the wearer’s fingers 54 and thumb 58, can be bent away from the palm side 52 of the wearer’s hand and toward the wrist portion 14 of the hand covering 10. In this manner, the fingers and thumb are free to manipulate objects without interference by the finger and thumb receptacles, which might otherwise dangle directly below the fingers and thumb.

In one aspect of the invention a closure device 62 can be operatively attached to the opening 42. The closure device 46 can selectively open or close the opening 42. It will be appreciated that, while the closure device is generally shown in FIGS. 1-5 as a zipper, other suitable closure devices as known in the art may also be used. For example the closure device could be a hook-and-loop fastener, a clasp, a button, a flexible cord, snaps, or an overlapping flap of hand covering material.

A securing device 64 can be operatively coupled to the wrist portion 14. The securing device 64 can be operable to temporarily secure the hand portion 22 beneath the wrist portion 14. In the secured position, interference between the hand portion 22 and the wearer’s bare fingers 54 and thumb 58 is reduced when the hand portion 22 is removed from the wearer’s fingers 54 and thumb 58, and the hand portion 22 is bent toward the wrist portion 14. It will be appreciated that, while the securing strap is generally shown as a stretchable chord, other suitable securing devices as known in the art may also be used. For example the securing device could be a hook-and-loop fastener, a clasp, a button, a flexible cord, a snap, etc. In one aspect of the invention, a releasable strap (31 in FIG. 3) can be provided that operates to cinch the wrist portion about the wrist of a wearer during “normal” use and can be released from this position and wrapped about the hand portion when folded beneath the wrist portion and re-cinched about both the wrist portion and the hand portion to secure the hand portion out of the way of the fingers and thumb. The releasable strap can be secured in both positions with a buckle, hook-and-loop and fastener, etc. The releasable strap can also be formed of or include an elastic material to allow the strap to stretch and more tightly secure the hand covering sections.

Referring now to FIG. 4, a hand covering 100 is shown in accordance with another embodiment of the present invention. In this embodiment, the hand covering is configured as a glove which encloses a human hand, fingers and thumb. The hand covering 100 is shown with the opening 146 in the open position. In this embodiment, the hand portion 122 includes a plurality of finger receptacles 134 and a thumb receptacle 118. The opening 146 can extend rearwardly through the wrist portion 114 and terminate at a wrist opening.
164 of the covering. The closure device 162 can extend the length of the opening 146 to open or close some or all of the opening.

[0024] Turning now to FIG. 5, a pair of hand coverings 210 is shown each in a fully open position. In this embodiment, the opening 146 extends from one side 138 of the hand covering 110, rearwardly through the wrist portion 114 and terminates at a wrist opening 164 of the covering. In this manner, an inside 168 of the hand coverings 210 can be substantially completely exposed when the opening 146 is in an open position. This embodiment is advantageous in that an openable hand covering is provided that also has the benefit of being fully openable to vent the inside of the hand coverings. This configuration can be advantageously utilized to dry the internal portions of the hand coverings after becoming wet with perspiration, rain, snow, etc.

[0025] While not shown in the figures, in one aspect of the invention, the hand covering can include an inner liner disposed between the hand covering and the wearer's hand. The liner can be formed of a soft, relatively absorbent material to facilitate absorption of moisture from within the glove to aid in removing perspiration, water, etc., from contact with the wearer's hand. The inner liner can include an opening similar in shape and function to the opening 42 to allow the liner to be selectively removed from the wearer's digits while still covering the dorsal side of the wearer's hand.

[0026] In addition to the structure discussed above, the present invention also provides a method for covering a hand while providing selective access to objects by bare fingers and a thumb of a wearer. The method can be to stop the wrist opening of the hand covering that can have a dorsal side and a palm side and can include a wrist portion and a hand portion. A closure device can be openably attached to an opening formed in the dorsal side of the hand covering between the hand portion and the wrist portion can be opened. The method can include the step of porting the hand covering at the opening to expose the fingers and thumb of the wearer while maintaining coverage of a dorsal portion of the wearer's hand. The method can include the step of bending the hand covering about the palm side of the hand covering downwardly from the wearer's hand.

[0027] While the foregoing examples are illustrative of the principles of the present invention in one or more particular applications, it will be apparent to those of ordinary skill in the art that numerous modifications in form, usage and details of implementation can be made without the exercise of inventive faculty, and without departing from the principles and concepts of the invention. Accordingly, it is not intended that the invention be limited, except as by the claims set forth below.

What is claimed:

1. An openable hand covering configured to enclose a human hand, fingers and thumb, the hand covering having a dorsal side and a palm side and comprising:
   a wrist portion and a hand portion, the hand portion including at least one digit receptacle and a thumb receptacle; and
   an opening, formed in the dorsal side of the hand covering, extending from a location rearward of the thumb receptacle, across the dorsal side, to a side of the hand covering opposite the thumb receptacle, the opening being configured to allow the digit receptacle and the thumb receptacle to be removed from the digits and thumb of the wearer, respectively, while the wrist portion remains attached to the wearer and covers a dorsal side of the wearer's hand.

2. The hand covering of claim 1, further comprising a closure device, operably attached to the opening to allow the opening to be selectively closed and opened by the wearer.

3. The hand covering of claim 1, wherein the palm side of the hand covering is substantially integral and wherein the hand covering is bendable across the palm side to allow the hand portion of the covering to be removed downwardly from the wearer's fingers and thumb.

4. The hand covering of claim 1, wherein the opening is arcuate and extends across the dorsal side of the covering and outward toward a fingertip end of the covering.

5. The hand covering of claim 4, wherein the opening is shaped to correspond to a profile defined by a proximal knuckle of each finger and the thumb of the wearer's hand.

6. The hand covering of claim 1, further comprising:
   a securing device, operatively coupled to the wrist portion, the securing device being operable to temporarily secure the hand portion beneath the wrist portion to limit interference with the wearer's bare fingers and thumb when the hand portion is removed from the wearer's fingers and thumbs.

7. The hand covering of claim 1, wherein the opening extends from one side of the covering, rearwardly through the wrist portion and terminates at a wrist opening of the covering to allow an inside of the covering to be exposed when the opening is in an opened configuration.

8. An openable hand covering configured to enclose a human hand, fingers and thumb, the hand covering having a dorsal side and a palm side and comprising:
   a wrist portion and a hand portion, the hand portion including at least one digit receptacle and a thumb receptacle; and
   an arcuate opening, formed in the dorsal side of the hand covering between the wrist portion and the hand portion, the opening being configured to allow the digit receptacle and the thumb receptacle to be removed from the digits and thumb of the wearer, respectively, while the wrist portion remains attached to the wearer and covers a dorsal side of the wearer's hand.

9. The hand covering of claim 8, further comprising a closure device, operably attached to the arcuate opening to allow the opening to be selectively closed and opened by the wearer.

10. The hand covering of claim 8, wherein the palm side of the hand covering is substantially integral and wherein the hand covering is bendable across the palm section to allow the hand portion of the covering to be removed downwardly from the wearer's fingers and thumb.

11. The hand covering of claim 8, wherein the opening extends across the dorsal side of the covering and outwardly toward a fingertip end of the covering.

12. The hand covering of claim 11, wherein the opening is shaped to correspond to a profile defined by a proximal knuckle of each finger and the thumb of the wearer's hand.

13. The hand covering of claim 8, further comprising:
   a securing strap, operatively coupled to the wrist portion, the securing strap being operable to temporarily secure the digit portion beneath the wrist portion to limit interference with the wearer's bare fingers and thumb when the hand portion is removed from the wearer's fingers and thumbs.
14. The hand covering of claim 11, wherein the opening extends from one side of the covering, rearwardly through the wrist portion and terminates at a wrist opening of the covering to allow an inside of the covering to be exposed when the opening is in an opened configuration.

15. A method for covering a hand while providing selective access to objects by bare fingers and a thumb of a wearer, comprising the steps of:

- enclosing the wearer's hand with a hand covering, the hand covering having a dorsal side and a palm side and including a wrist portion and a hand portion;
- opening a closure device operably attached to an opening formed in the dorsal side of the hand covering between the hand portion and the wrist portion;
- parting the hand covering at the opening to expose the fingers and thumb of the wearer while maintaining coverage of a dorsal portion of the wearer's hand; and
- bending the hand covering about the palm side of the hand covering downward from the wearer's hand.

16. The method of claim 15, wherein the opening extends across the dorsal side of the hand covering and outwardly toward a fingertip end of the hand covering.

17. The method of claim 15, wherein the opening is shaped to correspond to a profile defined by a proximal knuckle of each finger and the thumb of the wearer's hand.

18. The method of claim 15, wherein the closure device is selected from the group consisting of:

- a hook-and-loop fastener, a zipper, a clasp, and a button.

19. The method of claim 15, comprising the further step of:

- securing a strap operatively coupled to the wrist portion about the digit portion of the hand covering to limit interference with the wearer's bare fingers and thumb when the hand portion is removed from the wearer's fingers and thumbs.

20. The method of claim 15, wherein the opening extends from one side of the covering, rearwardly through the wrist portion and terminates at a wrist opening of the covering to allow an inside of the covering to be exposed when the opening is in an opened configuration.

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