FINGER PROTECTION STRUCTURE FOR GLOVE

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ABSTRACT
A finger protection structure adapted to be assembled in a glove is provided. The finger protection structure includes a protection strip unit, and an engagement unit. The protection strip unit is configured with a plurality of fixing portions on an upper surface of the protection strip unit. Each fixing portion is configured with a top edge and a bottom edge. The bottom edges are adapted for being engaged from two opposite directions. The engagement unit includes a widened strip member, and a plurality of engagement blocks configured on a surface of the widened strip member. The engagement blocks are adapted for engaging with the bottom edges of the fixing portions, such that the engagement blocks are tightly arranged in close contact in a row side by side on the upper surface of the protection strip unit for restricting a reverse bending of the finger protection structure for protecting the fingers.
FIG. 1
FINGER PROTECTION STRUCTURE FOR GLOVE

BACKGROUND OF THE INVENTION

[0001] 1. Field of the Invention

[0002] The present invention relates generally to a finger protection structure adapted for a glove, and more particularly, to a finger protection structure adapted to be assembled in a glove for restricting undesired reverse bending of user’s fingers.

[0003] 2. The Prior Arts

[0004] Gloves are often used in many fields for a variety of purposes, and carry out different functions and are used in different ways. For example, goalkeeper gloves are often designed with a great thickness for providing a buffer for buffering the impact applied by a soccer flying toward the user, thus providing a protection against injuries to the user’s hands.

[0005] Typically, flexible or soft materials such as cotton cloth or cushions are often provided in conventional goalkeeper gloves. However, although adapted for reducing injuries caused to palms and front surfaces of the fingers, such structures almost provide no protection to the fingers regarding injuries caused by undesired reversing bending of the fingers relative to the palm. One finger is constituted of several bones, and the bones are connected with ligaments. When repetitively suffering such impact forces, the bones or ligaments of the fingers are in danger of being broken.

SUMMARY OF THE INVENTION

[0006] A primary objective of the present invention is to provide a finger protection structure adapted for being assembled in a glove, for restricting undesired reverse bending of user’s fingers, so as to reduce injuries caused to the user’s fingers.

[0007] For achieving the foregoing objective, the present invention provides a finger protection structure, which includes a protection strip unit, and an engagement unit. The protection strip unit is configured with a plurality of fixing portions on an upper surface of the protection strip unit. Each fixing portion is configured with a top edge and a bottom edge. The top edge has a width greater than a width of the bottom edge. The bottom edges are adapted for being engaged from two opposite directions. The engagement unit includes a widened strip member, and a plurality of engagement blocks configured on a surface of the widened strip member. The engagement blocks are adapted for engaging with the bottom edges of the fixing portions, such that the engagement blocks can be tightly arranged in close contact in a row side by side on the upper surface of the protection strip unit. In such a way, the engagement unit is secured to the protection strip unit as a whole.

[0008] The finger protection structure is adapted to be assembled in a glove, such as a finger portion of the glove. When the finger portion of the glove is reversely bent toward the back of the user’s hand, the finger protection structure is synchronously bent together with the finger portion. The engagement blocks are secured and expanded by the fixing portions, so that the engagement blocks are tightly arranged in close contact side by side on the upper surface of the protection strip unit. In this time, the engagement blocks press against each other, and restrict the reverse bending of the protection strip unit toward the back of the user’s hand, thus providing a protection to the user’s fingers against injuries caused by the reverse bending.

BRIEF DESCRIPTION OF THE DRAWINGS

[0009] The present invention will be apparent to those skilled in the art by reading the following detailed description of a preferred embodiment thereof, with reference to the attached drawings, in which:

[0010] FIG. 1 is a perspective view of a finger protection structure according to an embodiment of the present invention;

[0011] FIG. 2 is a schematic diagram illustrating the finger protection structure according to an embodiment of the present invention;

[0012] FIG. 3 is a schematic diagram illustrating the finger protection structure according to an embodiment of the present invention;

[0013] FIG. 4 is a schematic diagram illustrating the finger protection structure according to an embodiment of the present invention; and

[0014] FIG. 5 is a side cross-sectional view of the finger structure.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

[0015] The accompanying drawings are included to provide a further understanding of the invention, and are incorporated in and constitute a part of this specification. The drawings illustrate embodiments of the invention and, together with the description, serve to explain the principles of the invention.

[0016] FIG. 1 is a perspective view of a finger protection structure according to an embodiment of the present invention. Referring to FIG. 1, the finger protection structure 1 includes a protection strip unit 11 and an engagement unit 12. The protection strip unit 11 is configured with a plurality of fixing portions 111 on an upper surface of the protection strip unit 11. Each fixing portion 111 is configured with a top edge 1111 and a bottom edge 1112. The engagement unit 12 includes a widened strip member 121, and a plurality of engagement blocks 122 configured on a surface of the widened strip member 121. Each of the engagement blocks 122 includes an engagement portion 1221. The engagement portions 1221 are adapted for engaging with the bottom edges 1112 of the fixing portions 111, such that the engagement unit 12 and the protection strip unit 11 can be secured to each other as a whole.

[0017] FIG. 2 is a schematic diagram illustrating the finger protection structure according to an embodiment of the present invention. Referring to FIG. 2, the bottom edges 1112 of the fixing portions 111 are configured in a shape adapted for correspondingly engaging with the engagement portions 1221. For example, the bottom edges 1112 can be triangle-shaped, and the engagement portions 1221 can be configured with a corresponding arrowhead-shaped void, as shown in FIG. 2. In assembling the bottom edges 1112 of the fixing portions 111 with the engagement portions 1221, the bottom edges 1112 are slid inside the engagement portions 1221, and are engaged at corresponding head portions of the arrowhead-shaped void of the engagement portions 1221. The bottom edges 1112 of the fixing portions 111 are locked thereby, so as
to restrict the engagement blocks 122 from sliding toward an opposite direction. Further, according to an aspect of the embodiment, if the bottom edge 1112 of a certain fixing portion 111 is configured for engaging with a corresponding engagement portion 1221 from a first direction, the bottom edge 1112 of a next fixing portion 111 immediately adjacent to the certain fixing portion 111 is configured for engaging with another engagement portion 1221 from a second direction. The first direction is opposite to the second direction. In other words, the triangle-shaped bottom edges 1112, as shown in FIG. 2, are arranged toward opposite directions. In such a way, the engagement blocks 122 are provided with more spaces for assembling with the bottom edges 1112 of the fixing portions 111, thus achieving an improved assembly performance of the protection strip unit 11 and the engagement unit 12.

[0018] FIG. 3 is a schematic diagram illustrating the finger protection structure according to an embodiment of the present invention. As shown in FIG. 3, a plurality of finger protection structures 1 are assembled to a securing member 2. According to an embodiment of the present invention, each protection strip unit 1 further includes a coupling portion 112 configured at one end of the protection strip unit 1. The coupling portion 112 is constituted of a rod member and a baffle member. The rod member is configured protruding from an upper surface of the end of the protection strip unit 1, and the baffle member is configured at an end of the rod member. Correspondingly, the securing member 2 is configured with a sliding channel 21 and an accommodation space 22 positioned at a periphery of the securing member 2. The sliding channel 21 communicates the accommodation space 22 with outside, and the accommodation space 22 has a diameter greater than a width of the sliding channel 21. The rod member of the coupling portion 112 is allowed to slide along the sliding channel 21 into the accommodation space 22. Then, the baffle member is buckled at an edge of the accommodation space 22, so as to secure the finger protection unit 1 to the securing member 2.

[0019] FIG. 4 is a schematic diagram illustrating the finger protection structure according to an embodiment of the present invention. Referring to FIG. 4 together, it illustrates a plurality of (four as shown in FIG. 4) finger protection structures 1 secured to the securing member 2. The assembly of the finger protection structures 1 and the securing member 2 can be assembled inside a glove 3, or assembled at an external backside or front side of the glove 3, for achieving similar performance.

[0020] Further, it should be noted that the width of the widened strip member 121 can be varied as desired. For example, if the user of the glove 3 is an adult, the glove 3 usually has a large size, and correspondingly widened strip members 121 having a relatively greater width are often used. If the glove 3 is designed for children, then it usually has a small size, and correspondingly widened strip members 121 having a relatively smaller width are often used, or alternatively the widened strip members 121 can be cut after engaging the protection strip units 11 and the engagement units 12 for reducing the width of the finger protection units 1. Further, desired lengths of the finger protection units 1 can be obtained by individually cutting the protection strip units 11 and the engagement units 12 and assembling them subsequently.

[0021] FIG. 5 is a side cross-sectional view of the finger structure. Referring to FIG. 5, the finger protection structure 1 can be assembled inside a goalkeeper glove. When the user tries to catch a high-speed ball, the fingers of the goalkeeper suffer a reverse impact applied by the ball. In this case, the engagement blocks 122 are tightly arranged in close contact side by side on the upper surface of the protection strip unit 11. Reverse bending of the fingers and the finger protection structures 1 are restricted at the same time. Accordingly, most of the impact applied by the ball is shared by the finger protection structures 1, and reverse bending injuries to the fingers caused by the ball can be thus prevented.

[0022] Although the present invention has been described with reference to the preferred embodiments thereof, it is apparent to those skilled in the art that a variety of modifications and changes may be made without departing from the scope of the present invention which is intended to be defined by the appended claims.

What is claimed is:
1. A finger protection structure for a glove, comprising: a protection strip unit, comprising a plurality of fixing portions configured on an upper surface of the protection strip unit; and an engagement unit, comprising a widened strip member, and a plurality of engagement blocks configured on a surface of the widened strip member, wherein the engagement blocks are engaged with the fixing portions, wherein the engagement blocks are tightly arranged side by side in a row against each other for restricting a reverse bending of the protection strip unit.
2. The finger protection structure according to claim 1, wherein the protection strip unit is a strip-shaped member.
3. The finger protection structure according to claim 1, wherein each fixing portion comprises a top edge and a bottom edge, and the top edge has a width greater than a width of the bottom edge.
4. The finger protection structure according to claim 1, wherein the bottom edge of the fixing portion is engaged with a corresponding one of the engagement blocks.
5. The finger protection structure according to claim 1, wherein the bottom edge of the fixing portion is engaged with the engagement blocks in a manner of male-female engagement.
6. The finger protection structure according to claim 1, wherein the bottom edge is adapted for engaging with the engagement block from a first direction, and a next bottom edge immediately adjacent to the bottom edge is adapted for engaging another one of the engagement blocks from a second direction, wherein the first direction and the second direction are opposite each other, such that the engagement blocks are alternatively engaged from opposite directions.
7. The finger protection structure according to claim 1, wherein the finger protection structure is assembled inside the glove.
8. The finger protection structure according to claim 1, wherein the finger protection structure is assembled at an external backside of the glove.
9. The finger protection structure according to claim 1, wherein the finger protection structure is assembled at an external front side of the glove.
10. The finger protection structure according to claim 1, wherein the protection strip unit further comprises a coupling portion configured at an end of the protection strip unit, wherein the coupling portion is adapted to be assembled to a securing member.
11. The finger protection structure according to claim 10, wherein the assembly of finger protection structure and the securing member is assembled inside the glove.

12. The finger protection structure according to claim 10, wherein the assembly of finger protection structure and the securing member is assembled at an external backside of the glove.

13. The finger protection structure according to claim 10, wherein the assembly of finger protection structure and the securing member is assembled at an external front side of the glove.

14. The finger protection structure according to claim 1, wherein the widened strip member can be cut for achieving a desired width.

15. The finger protection structure according to claim 1, wherein each engagement block comprises an engagement portion adapted for engaging with a corresponding one of the bottom edges of the fixing portions.

16. The finger protection structure according to claim 1, wherein the engagement blocks and the fixing portions are tightly arranged in close contact in a row for restricting the protection strip unit from reverse bending.

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