

(21) Application No: 1903534.4

(22) Date of Filing: 15.03.2019

(30) Priority Data:
(31) 1804256 (32) 16.03.2018 (33) GB

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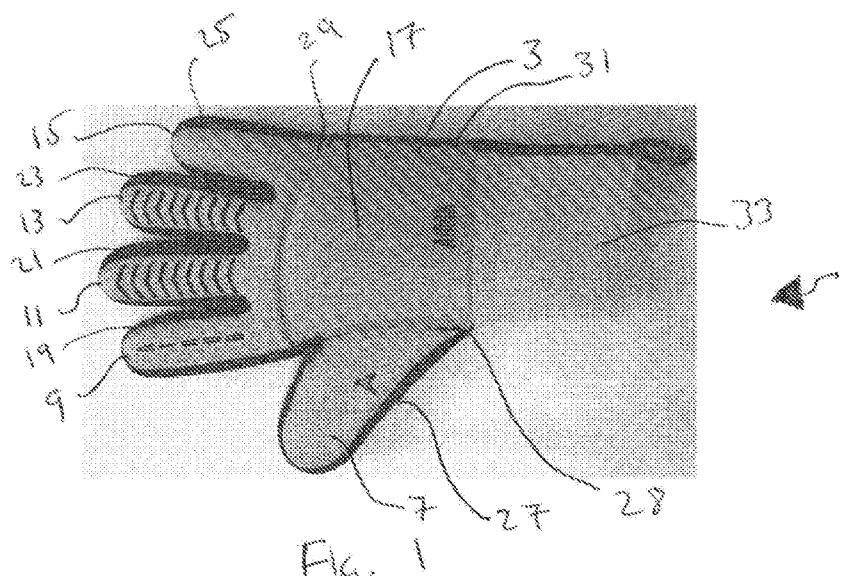
(51) INT CL:
A63B 71/14 (2006.01) **A41D 19/00** (2006.01)
A41D 19/015 (2006.01)

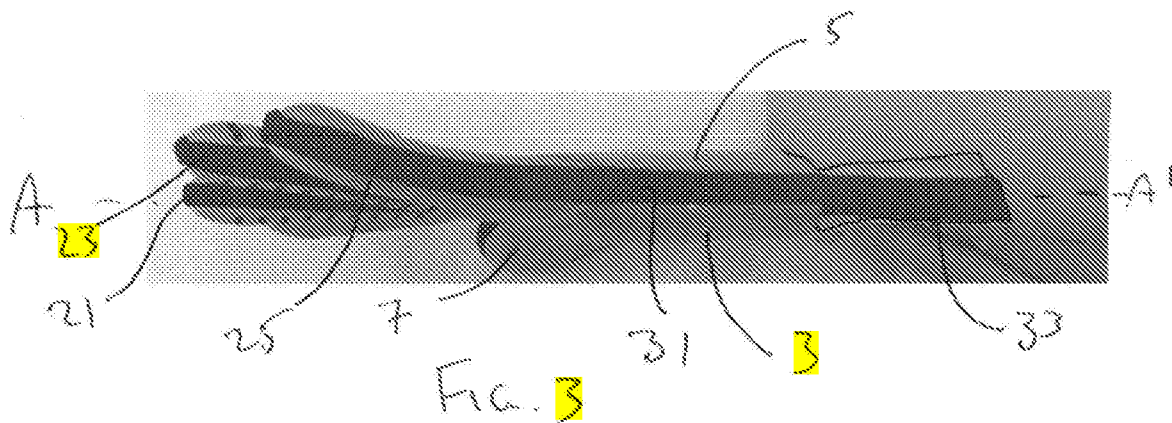
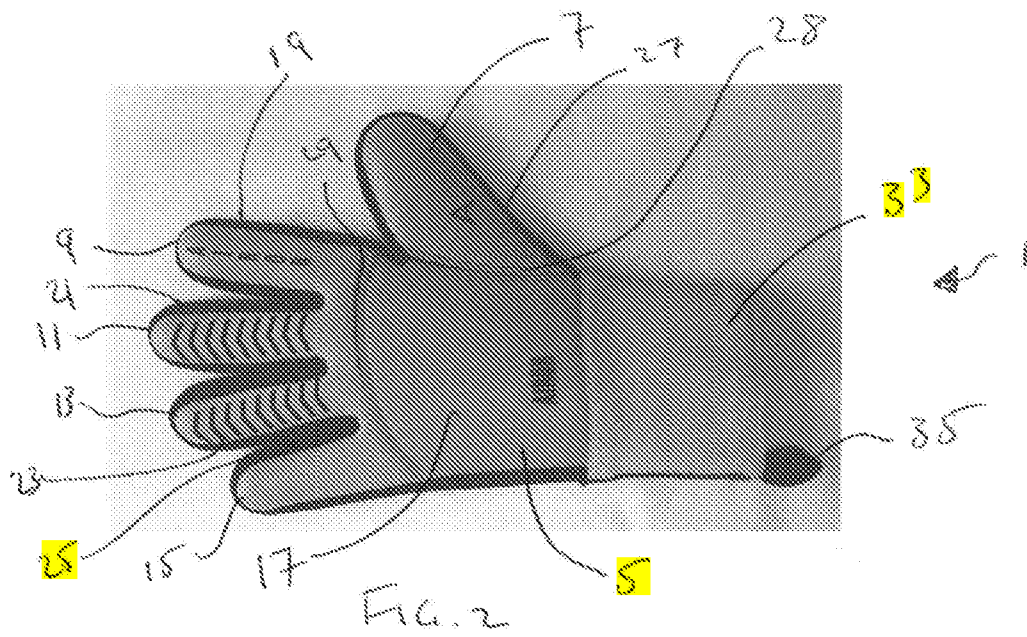
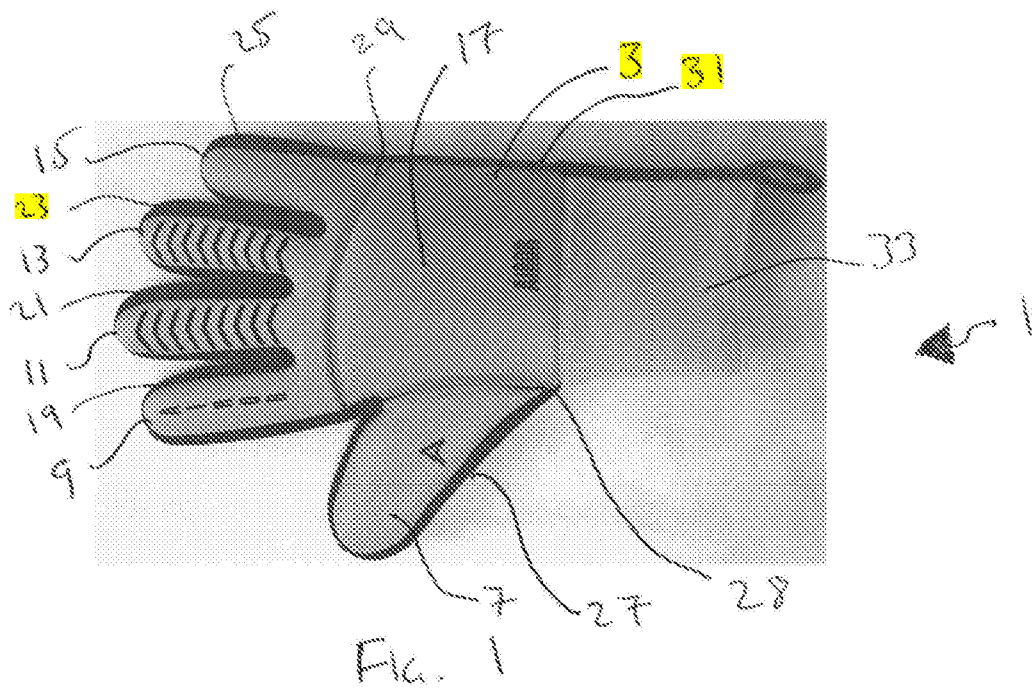
(56) Documents Cited:
WO 2005/120663 A1 **DE 003203023 A1**
AU 2012100162

(58) Field of Search:
INT CL **A41D, A63B**
Other: **EPODOC, WPI, Internet, Patent Fulltext**

(54) Title of the Invention: **Sports glove**
Abstract Title: **Reversible football goalkeeping glove**

(57) An ambidextrous goalkeeping glove having a body 17, fingers 9, 11, 13, 15 and a thumb 7, and comprising two sides (3, 5; figure 3) joint by a coupling material 19, 21, 23, 25, 27, 29 such that the glove is substantially symmetrical from its side view (figure 3). Both the front and the rear surface may be used as the palm side of the football glove when the other surface is worn down. By making the soccer glove reversible, the lifetime of the sports glove is increased. The thickness of the two sides of the glove may be varied dependant on whether the glove is optimised for grip, endurance, protection or ball control. There may be a further fabric or elasticated base layer, and the sides of the glove may be made of rubber.





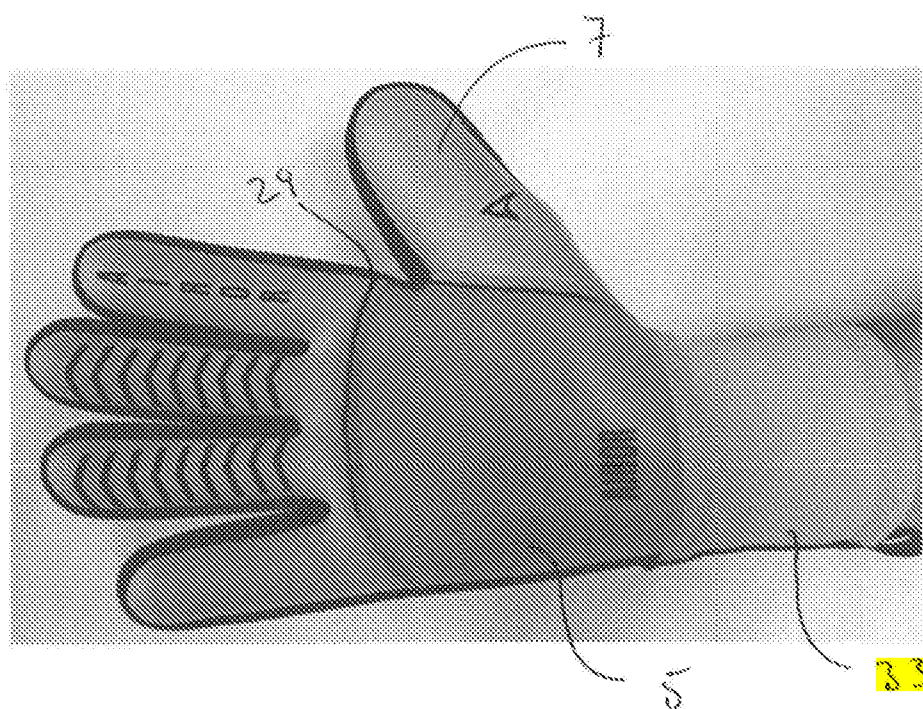
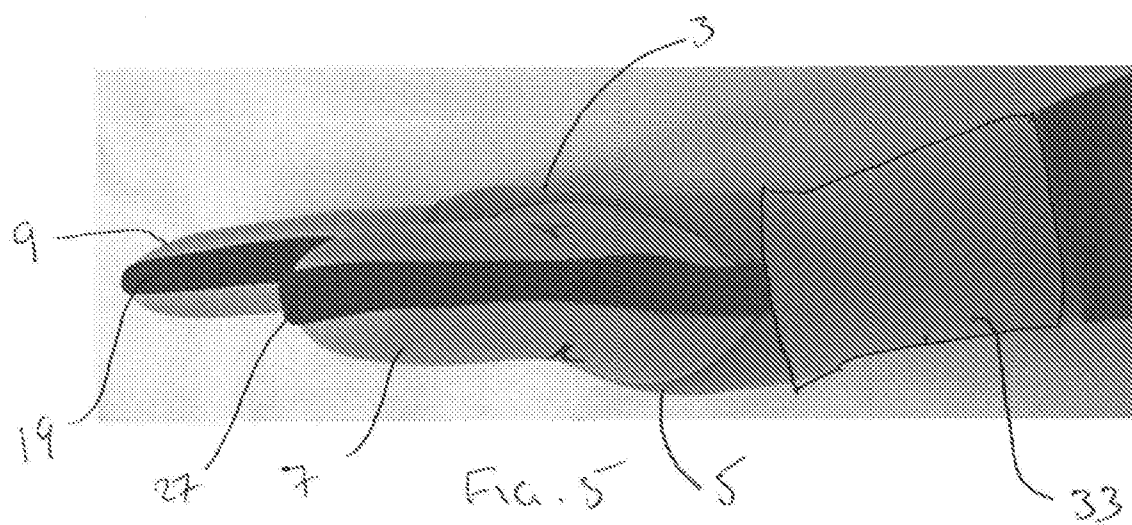
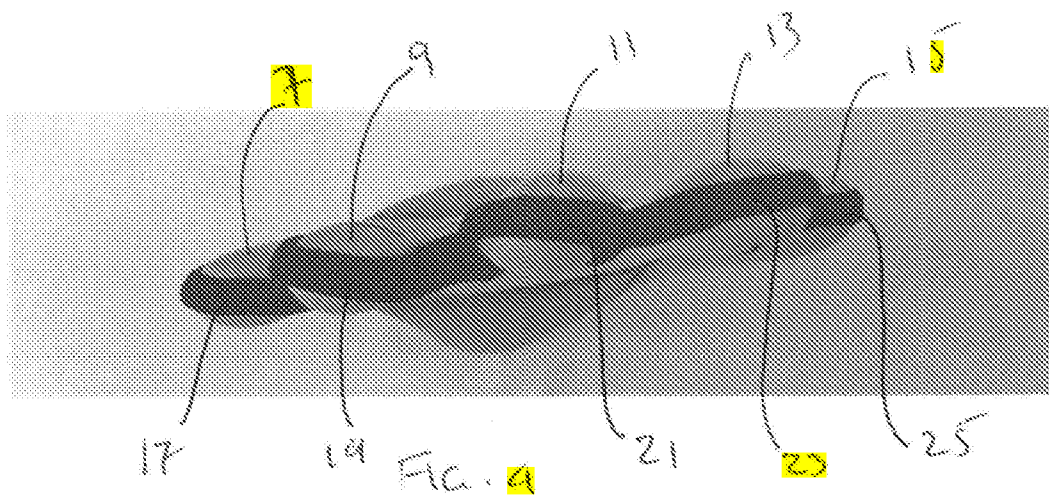
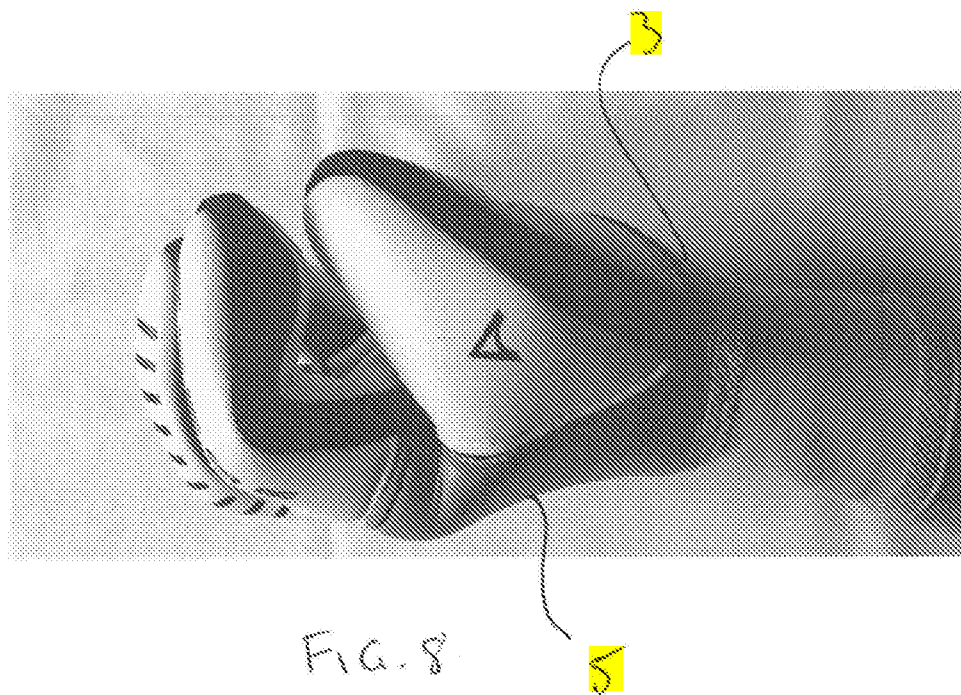
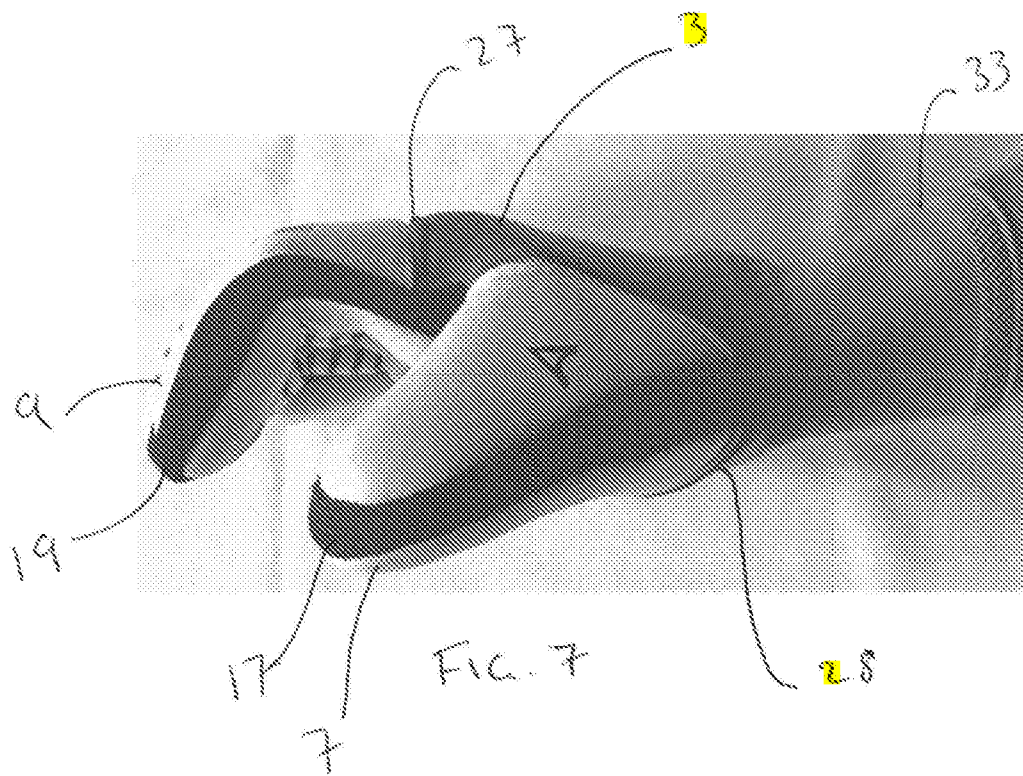
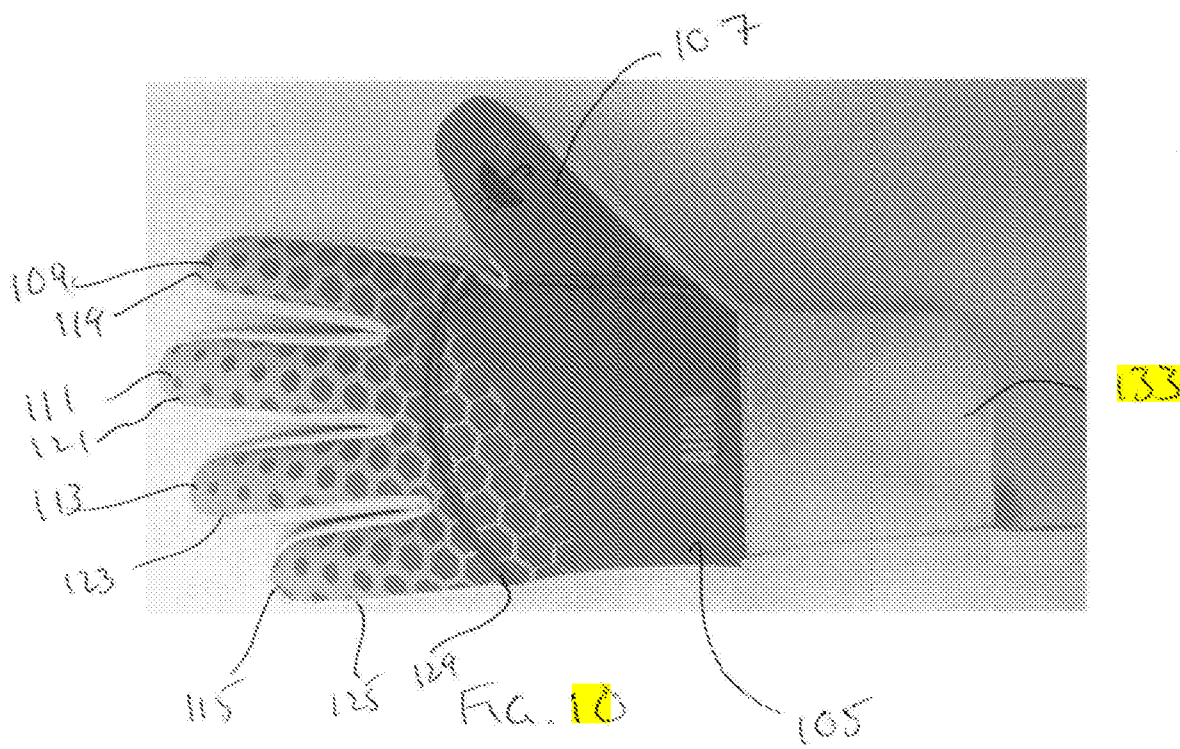
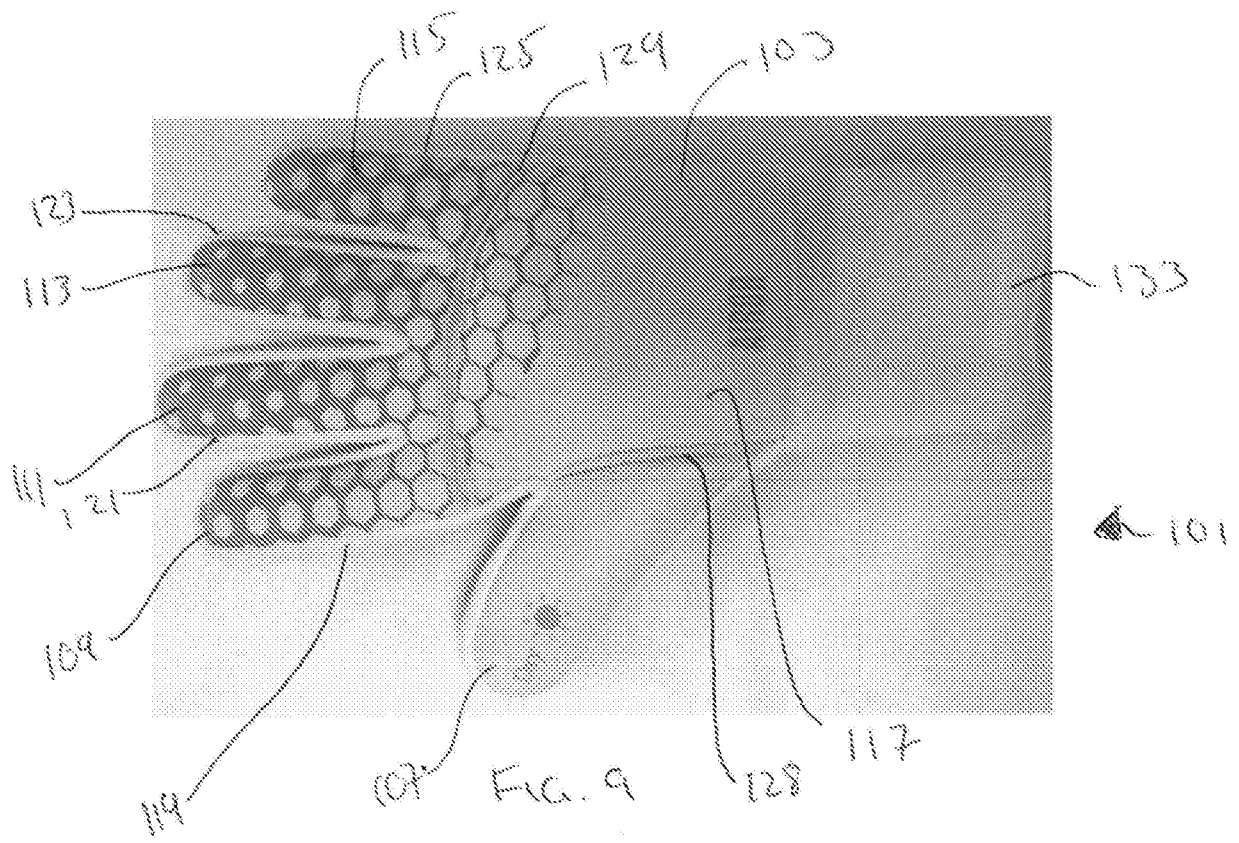
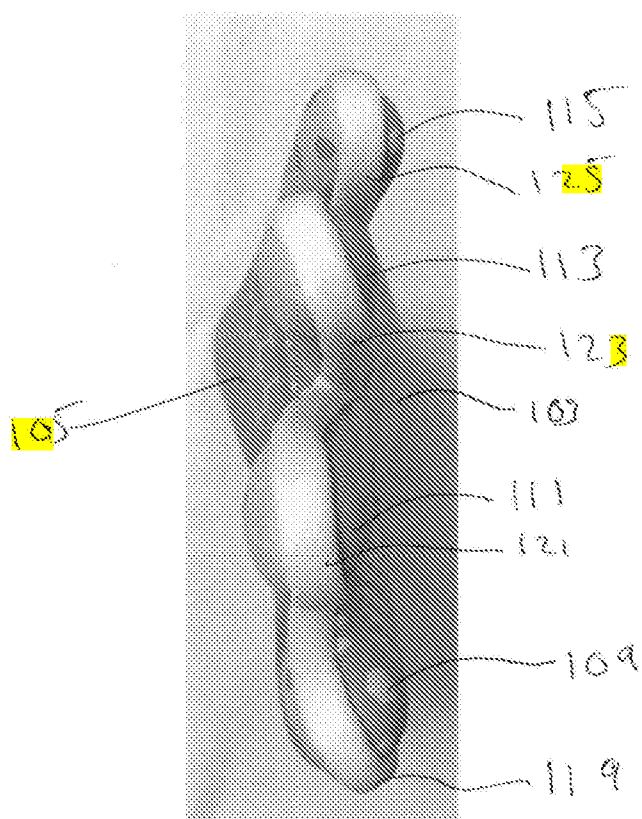
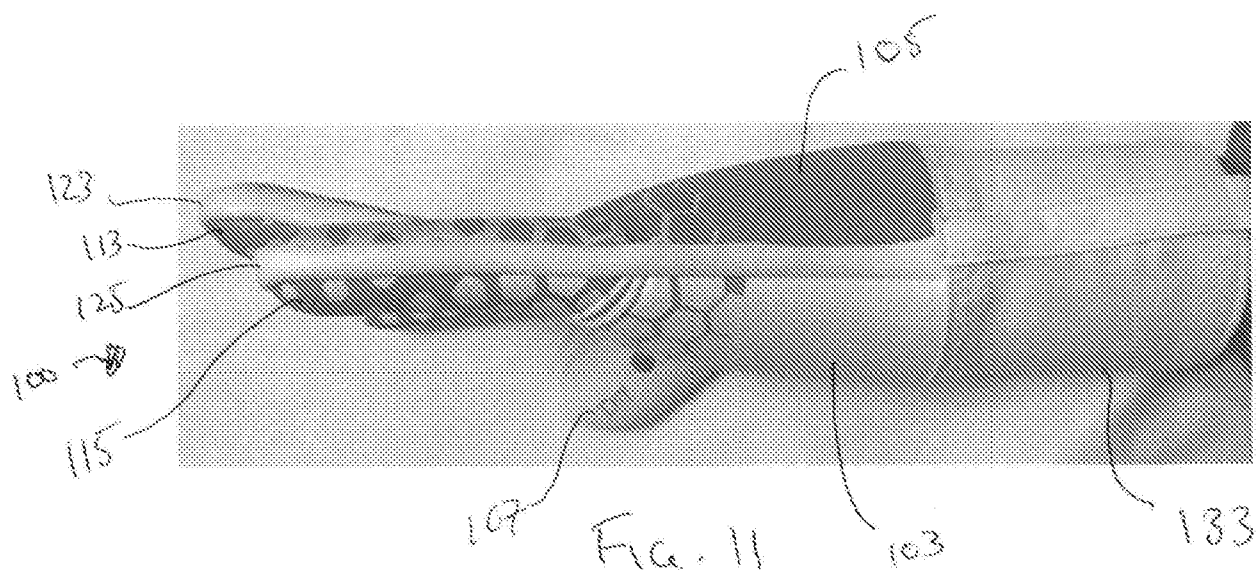


FIG. 6







Sports Glove

Introduction

- 5 The present invention relates to a sports glove and in particular a football or soccer goalkeeper's glove.

Background

- 10 Gloves are used by players in various sports. Goalkeepers use gloves to assist in catching the ball, holding on to the ball, and also to protect hands and fingers from injuries.

- The design of goalkeeper gloves has evolved over the last 50 years or so from
15 simple cotton gloves to modern goalkeeper gloves made of natural and/or synthetic materials.

- The typical modern glove has a palm side that includes a latex foam, and the backhand side made of latex or polyurethane. A large number of different glove cuts
20 exist. The cut defines the final shape of the glove. For example

- Roll Finger** goalkeeper gloves have a backhand side is connected to the palm side without gussets. The result is the latex rolled/curved around the fingers which provides great latex contact with the ball.
25

- Negative Cut** goalkeeper gloves use a single piece of latex attached to the backhand via gussets and have the stitching/gussets inside the glove. This provides a much tighter and snug fit with control on the ball that is more "true" to the wearer's hand.
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Negative Roll goalkeeper gloves combine negative and roll finger to produce a greater level of comfort, fit and feel. The fingers are rolled in the same way

any roll finger glove will, but the inside of the palm is stitched much like a negative glove.

Flat Palm goalkeeper gloves have stitched gussets located on the outside giving a looser feel. The cut also consists of one single piece of latex attached to the back of the glove, with the gussets in between the fingers and palm.

Hybrid goalkeeper gloves are a combination of other cuts. The term does not refer to a specific cut.

Modern goalkeeper gloves strive to optimize properties such as impact absorption, tackiness/grip for the ball, touch/feel for the ball, and protection.

Impact absorption is defined as how much of the soccer ball's momentum is absorbed by the glove upon contact.

Tackiness or grip for the ball is defined as how well a soccer ball is trapped to the palm of the glove. Tackiness depends upon the friction between the ball surface and the palm, and the size of the surface area of the glove.

Touch and feel is the degree of control a goalkeeper feels through the glove both in catching and passing and/or throwing the ball by hand. When a glove is worn, touch and feel for the ball is dampened because the glove reduces the feedback sensitivity between the hand and the ball. Manufacturers of goalkeeper gloves have tried to optimize the touch and feel of the glove by varying the shape of the catching surface, flexibility around the joints of the glove, and the softness of materials used in the glove.

Protection is defined as the degree in which the glove protects a hand from injuries resulting from contact between the hand and the ball. The most common hand injuries for soccer goalkeepers are hyperextensions, dislocation, and broken fingers.

Glove Wear and Tear is a measure of the durability of the materials from which the glove is made. In most cases, the outer surface of the glove is made from natural or synthetic rubber.

5 It is recognized that the key features of a goalkeeper glove are those which allow the glove to contribute positively to a goalkeeper's ability to handle the football. Consequently, the rubber outer surface is often soft and easily worn. In particular, when the gloves are worn on artificial surfaces, **frictional** rubbing against such surfaces can cause significant damage to the glove.

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In short, softer gives better the grip, harder latex gives better endurance, thicker latex gives better protection and thinner latex gives more ball control.

In some cases, the gloves may be damaged beyond use after as little as one football
15 match and gloves currently cost between £10 and £150.

Summary of the Invention

20 It is an object of the present invention to create an improved sports glove and in particular, an improved goalkeeping glove which is longer lasting than known gloves.

In accordance with a first aspect of the present invention there is provided, a glove for use as a goalkeeping glove, which has a body, fingers and a thumb, the glove
25 comprising:

a first side which forms a front surface or a rear surface of the glove;

a second side which forms a front surface or a rear surface of the glove; and

a **coupling** material joins the first side to the second side and provides an overall shape such that the glove is substantially symmetrical along the glove at its side
30 elevation and the glove is reversible such that the first side and the second side are useable as a palm side of the glove, in use.

Advantageously, the glove is shaped such that both front and rear surfaces are substantially identical and are useable for **catching** balls on the palm side and punching balls on the back-hand side.

5 Preferably, the glove further comprises a base layer

Optionally, the **coupling** comprises a base layer which is made of a compliant material.

10 Optionally, the compliant material is a fabric.

Optionally, the base layer is elasticated.

15 Preferably, the first/second side comprises a functional material designed to optimize grip and/or touch and/or feel and/or protection.

Preferably, the functional material is made from a natural or synthetic rubber.

20 Optionally, the functional material is made from non-vulcanized rubber

Optionally, the functional material is made from natural latex rubber.

25 The thickness of the functional material side is dependent upon whether the glove is optimized for grip, endurance, protection or ball control.

Preferably, the first/second side is attached to the base layer.

Optionally, the first/second side is stitched to the base layer.

30 Optionally, the first/second side is glued to the base layer.

Optionally, the first/second side is heat bonded to the base layer.

Preferably, the first/second side is cut into separate sections which are shaped for attachment to the base layer on the areas of the base layer which define the fingers, palm and thumb of the glove.

- 5 Preferably, the section of the first/second side which is attached to one or more fingers of the glove is flat.

Optionally, the section of the first/second side which is attached to one or more fingers of the glove is curved across the width of the finger.

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Preferably, the first side comprises a discrete section of the functional material for the body of the first side.

- 15 Preferably, the second side comprises a discrete section of the functional material for the body of the second side.

Preferably, the first side and the second side of the body are connected by the coupling material.

- 20 Preferably, the first side comprises a discrete section of the functional material for the thumb of the first side.

Preferably, the second side comprises a discrete section of the functional material for the thumb of the second side.

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Preferably, the first side and the second side of the thumb are connected by the coupling material.

- 30 Preferably, the first side comprises a discrete section of the functional material for the one or more of the fingers of the first side.

Preferably, the second side comprises a discrete section of the functional material for one or more of the fingers of the second side.

Preferably, the first side and the second side of corresponding fingers are connected by the **coupling** material.

Brief Description of the Drawings

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The invention will now be described by way of example only with reference to the accompanying drawings in which:

10

Fig. 1 shows a plan view of the first side of a first embodiment of a glove in accordance with the present invention;

Fig. 2 shows a plan view of a second side of the first embodiment of a glove in accordance with the present invention;

15

Fig. 3 shows a side view of the first embodiment of a glove in accordance with the present invention;

Fig. 4 shows a top view of the first embodiment of a glove in accordance with the present invention

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Fig. 5 shows a side view of the first embodiment of a glove in accordance with the present invention being worn;

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Fig. 6 shows a plan view of the first embodiment of a glove in accordance with the present invention being worn being worn;

Fig. 7 shows a side view of the first side of the first embodiment of a glove in accordance with the present invention being worn;

30

Fig. 8 shows a side view of the second side of the first embodiment of a glove in accordance with the present invention being worn;

Fig. 9 shows a plan view of the first side of a second embodiment of a glove in accordance with the present invention;

Fig. 10 shows a plan view of a second side of the first embodiment of a glove in accordance with the present invention;

- 5 Fig. 11 shows a side view of the second embodiment of a glove in accordance with the present invention; and

Fig. 12 shows a top view of the second embodiment of a glove in accordance with the present invention.

10

Detailed Description of the Drawings

- Figures 1 to 8 show a first embodiment of the present invention which is described below in more detail. shows a plan view of the first side of a first embodiment of a glove in accordance with the present invention.

- Figure 1 shows a plan view of the first side of the first embodiment of a glove in accordance with the present invention. Figure 2 shows a similar plan view of the second side of the embodiment of figure 1. The glove comprises the first side 3 a second side 5. Along with the normal features of a glove namely a thumb 7, and four fingers 9, 11, 13 and 15. As is also common with goalkeeping gloves a wrist strap 33 is provided which gives additional wrist support to the wearer.

- 25 In figure 1, the first side has a body 17 which comprises a layer of rubber material of the type suitable for use in a goalkeeping glove. Similarly, the thumb 7 and fingers 9, 11, 13 and 15 comprise a rubber, functional material which is used to provide cushioning and grip. In this example of the present invention, the rubber material is stuck to the outside surface of a fabric under glove.

30

Each of the areas of the glove which are covered by the functional material are separated by a **coupling** material as shown by reference numerals 19, 21, 23, 25, 27 and 29 for the corresponding areas of the glove as seen in figures 1 to 8. In this example of the present invention the **coupling** areas are provided by gaps between

the areas of functional material which are filled with the areas of the under glove or base layer. Because the under glove is made of a more compliant material than the functional material which is made from rubber, the coupling area areas provide the flexibility required to shape the glove into a clenched fist when worn on the left or right hand.

Similarly, the body 17 of the glove which covers the palm and backhand of the user has first and second sides which are covered by a layer of non-vulcanised rubber or natural latex.

Figure 3 shows a side view of the first embodiment of the glove and illustrates the fact that the glove is substantially symmetrical along its length. The area between the first side 3 and the second side 5 of the glove functions to couple together the first side 3 and the second side 5 such that the first side 3 and the second side 5 are substantially symmetrical along the line is A-A' as shown in figure 3.

Consequently, the glove can be worn on either the left hand on the right hand. In addition for a pair of such a gloves when the palm side or the side which is being used as the palm side becomes worn through use, the user may simply reverse the glove so that the side that had been so far are used as the back side of the glove which is not as warm as the palm side may now be used as the palm side.

Finger coupling sections 19, 21, 23 and 25 and thumb coupling 27 extend between the finger parts 9, 11, 13 and 15 on the first side 3 and the second side 5 of the glove. A side-coupling 31 extends along the edge of the body between the first side 3 and the second side 5 at the position across from the thumb side.

The structure of the glove which has the face materials made in sections with coupling areas between the sections which allow and provide the flexibility in the glove. This means that the glove may be easily used on each hand in the manner described above.

Figure 4 is a top view of the first embodiment of the glove and shows in more detail the arrangement of the fingers and thumb 7, 9, 11, 13 and 15 and their respective

coupling areas 17, 19, 21 23 and 25. It will be appreciated that the **coupling** areas have substantial width relative to the thumb and finger sections. Advantageously, using wide **coupling** sections as shown increases the flexibility of the glove making it easier to use it as a reversible glove.

5

Figures 5 and 6 show the glove being worn by our user. Figures 7 and show a single glove being worn on the right hand in figure 7 and on the left hand in figure 8.

10 The **coupling**, in combination with finger and thumb portions ensures the glove has a neutral shape that is, it is not curved towards the clench of a fist of a right hand or a left hand. The **couplings** have sufficient flexibility such that a glove can be worn on either the left hand or the right hand and the flexibility of the **coupling** will easily allow the user to clench their fist regardless of which hand the glove is worn on as illustrated with reference to figures 7 and 8.

15

In this example of the present invention, the finger parts, which are made of rubber, are fixed to the base by glue or the like. The body has a **coupling** 29 which allows the fingers to bend easily at the knuckles regardless of which hand the glove is worn on.

20 Figures 9 to 12 show a second embodiment of the present invention.

These figures show a glove which comprises the first side 103, a second side 105. Along with the normal features of a glove namely a thumb 107, and four fingers 109, 111, 113 and 115. As is also common with goalkeeping gloves a wrist strap 133 is
25 provided which gives additional wrist support to the wearer.

In figure 9, the first side has a body 117 which comprises a layer of rubber material of the type suitable for use in a goalkeeping glove. Similarly, the thumb 117 and fingers 109, 111, 113 and 115 comprise a rubber, functional material which is used to
30 provide cushioning and grip. In this example of the present invention, the rubber material is stuck to the outside surface of a fabric under glove.

Each of the areas of the glove which are covered by the functional material are separated by a **coupling** material as shown by reference numerals 119, 121, 123, 125, 127 and 129 for the corresponding areas of the glove as seen in figures 9 to 12.

- 5 In this embodiment of the present invention, the **coupling** areas between the first side 103 and the second side 105 comprise an additional layer of padded material which provides additional support and protection for the user whilst maintaining the flexibility which is required to allow the glove to be worn on the right hand and left-hand door as a reversible glove in the manner described above.

10

In other embodiment of the present invention the **coupling** maybe part of a single layer glove with the **coupling** material being made of the same material as the rest of the glove but thinner or being made of a different material which is more compliant or flexible than the first and second side of the glove as described herein. The glove
15 may have an inner fabric glove with functional layers of rubber attached to the outside of the inner glove. Alternatively, it may be made of a single material or in multiple layers.

20

In all cases, the glove is provided with **coupling** areas which connect the front and rear or first and second sides to allow the glove to be reversed such that both first and second side can be used as the palm or **catching** surface of the glove.

Improvements and modifications may be incorporated herein without deviating from the scope of the invention.

25

Claims

1. A glove for use as a goalkeeping glove, which has a body, fingers and a thumb, the glove comprising:
 - 5 a first side which forms a front surface or a rear surface of the glove;
 - a second side which forms a front surface or a rear surface of the glove; and
 - a **coupling** material joins the first side to the second side and provides an overall shape such that the glove is substantially symmetrical along the glove at its side elevation and the glove is reversible such that the first side and the second side are
 - 10 useable as a palm side of the glove, in use.
2. A glove as claimed in claim 1 which further comprises a base layer
3. A glove as claimed in claim 1 wherein, the **coupling** comprises a base layer
- 15 which is made of a compliant material.
4. A glove as claimed in claim 3 wherein, the compliant material is a fabric.
5. A glove as claimed in claim 2 wherein, the base layer is elasticated.
- 20 6. A glove as claimed in any preceding claim wherein, the first/second side comprises a functional material designed to optimize grip and/or touch and/or feel and/or protection.
- 25 7. A glove as claimed in claim 6 wherein, the functional material is made from a natural or synthetic rubber.
8. A glove as claimed in claim 6 or claim 7 wherein, the functional material is made from non-vulcanized rubber
- 30 9. A glove as claimed in any of claims 6 to claim 8 wherein, the functional material is made from natural latex rubber.

10. A glove as claimed in any of claims 6 to claim 9 wherein the thickness of the functional material side is dependent upon whether the glove is optimized for grip, endurance, protection or ball control.

5 11. A glove as claimed in any preceding claim wherein, the first/second side is attached to the base layer.

12. A glove as claimed in claim 11 wherein, the first/second side is stitched to the base layer.

10

13. A glove as claimed in claim 11 wherein, the first/second side is glued to the base layer.

14. A glove as claimed in claim 11 wherein, the first/second side is heat bonded
15 to the base layer.

15. A glove as claimed in any preceding claim wherein, the first/second side is made in separate sections which are shaped for attachment to the base layer on the areas of the base layer which define the fingers, palm and thumb of the glove.

20

16. A glove as claimed in claim 15 wherein, the section of the first/second side which is attached to one or more fingers of the glove is flat.

17. A glove as claimed in claim 15 wherein, the section of the first/second side
25 which is attached to one or more fingers of the glove is curved across the width of the finger.

18. A glove as claimed in claims 6 to 18 wherein, the first side comprises a discrete section of the functional material for the body of the first side.

30

19. A glove as claimed in claims 6 to 18 wherein, the second side comprises a discrete section of the functional material for the body of the second side.

20. A glove as claimed in any preceding claim wherein, the first side and the second side of the body are connected by the **coupling** material.

21. A glove as claimed in any preceding claim wherein, the first side comprises a
5 discrete section of the functional material for the thumb of the first side.

22.. A glove as claimed in any preceding claim wherein, the second side comprises a discrete section of the functional material for the thumb of the second side.

10



Application No: GB1903534.4

Examiner: Anne Barrett

Claims searched: 1-22

Date of search: 3 July 2019

Patents Act 1977: Search Report under Section 17

Documents considered to be relevant:

Category	Relevant to claims	Identity of document and passage or figure of particular relevance
A	-	AU 2012100162 A4 (HILLIER) - See whole document
A	-	WO 2005/120663 A1 (HOCHMUTH) - See whole document
A	-	DE 3203023 A1 (KRUMBHOLZ) - See whole document

Categories:

X	Document indicating lack of novelty or inventive step	A	Document indicating technological background and/or state of the art.
Y	Document indicating lack of inventive step if combined with one or more other documents of same category.	P	Document published on or after the declared priority date but before the filing date of this invention.
&	Member of the same patent family	E	Patent document published on or after, but with priority date earlier than, the filing date of this application.

Field of Search:

Search of GB, EP, WO & US patent documents classified in the following areas of the UKC^X :

Worldwide search of patent documents classified in the following areas of the IPC

A41D; A63B

The following online and other databases have been used in the preparation of this search report

EPODOC, WPI, Internet, Patent Fulltext

International Classification:

Subclass	Subgroup	Valid From
A63B	0071/14	01/01/2006
A41D	0019/00	01/01/2006
A41D	0019/015	01/01/2006