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Inventor(s)	KRICK; Thierry et al.

GOALKEEPER CATCHING GLOVE

Abstract

A goalkeeper catching glove has a front portion defining a cuff region, a thumb region, a finger region, and a palm region. The palm region is concave. The palm region extends between the thumb region and the finger region, and between the cuff region and the finger region. The front portion has a unitary impact resistant member. The unitary impact resistant member spans at least a majority of the thumb region, at least a majority of the finger region, and at least a majority of the palm region. The goalkeeper catching glove also has a rear portion connected to the front portion, the front portion and the rear portion defining therebetween a space for receiving a hand of a goalkeeper; and a trap connected to at least one of the front portion or the rear portion, the trap extending between the thumb region and the finger region.

Inventors: **KRICK; Thierry (Coteau-Du-Lac, CA), ASSELIN; Francois (Blainville, CA), LAVOIE; Robert (St-Jerome, CA)**

Applicant: **BAUER HOCKEY LLC** (Exeter, NH)

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Background/Summary

CROSS-REFERENCE [0001] The present application claims priority to U.S. Provisional Patent Application No. 63/555,240, filed Feb. 19, 2024, the entirety of which is incorporated herein by reference.

TECHNICAL FIELD
[0002] The present technology relates to goalkeeper catching gloves.
BACKGROUND
[0003] To assist them in blocking and catching hockey pucks shot toward a hockey net, hockey goalkeepers wear a goalkeeper blocker on one hand and a goalkeeper catching glove on the other. The blocker is worn on the hand holding the goalkeeper stick and is used to block hockey pucks. The catching glove is used to catch hockey pucks shot in the air and to smother and stop hockey pucks on the surface of the ice. A right-handed goalkeeper typically wears the blocker on their right hand and the catching glove on their left hand.
[0004] Most catching gloves come in a single size for adults. They are designed to fit most hands. As a result, goalkeepers with large hands will have to position their hands inside the catching glove differently than goalkeepers with small hands in order to be comfortable. This may not result in a biomechanically ideal position for applying force to close the catching glove to catch hockey puck.
[0005] To protect the hand of the goalkeeper, the front portion of the catching glove has pieces of rigid material provided in the cuff, thumb, finger, and palm regions of the catching glove that are connected to each other by flexible padding for permitting the closing of the catching glove. This assembly is complex and time intensive to manufacture. Additionally, the combination of rigid material and flexible padding tends to push the hand of the goalkeeper out of the catching glove when the catching glove is closed. As a result, a goalkeeper will often push the end of their catching glove against their hip, thigh, or blocker hand between saves in order to push their hand back in a proper position inside the catching glove. Some catching gloves will include additional straps inside the catching glove to help keep the hand inside the catching glove. Some goalkeepers have also been known to add their own straps and other type of retention means in order to prevent their hand from being pushed out of the catching glove.
[0006] In order to catch a hockey puck, the goalkeeper catching glove is folded to a closed position by the hand of the goalkeeper inside the catching glove along a line in the palm region of the catching glove that is often referred to as the break. When the catching glove is not closed, the at rest position of the catching glove, it is still partially closed due to the manner in which the catching glove is constructed and assembled. The at rest position of the catching glove is the position of the catching glove when no external force is applied to it. In other words, the at rest position is the position of the catching glove when the hand of the goalkeeper inside the catching glove does not apply any force to close or open the glove. As such, in the at rest position, the catching glove does not cover the greatest surface area that it is capable of. In order to cover the greatest possible surface area with the catching glove, which is desirable to increase the likelihood of catching a hockey puck, the goalkeeper needs to force their hand open in order to open the catching glove by unfolding the catching glove from the at rest position. This brings fatigue to the hand of the goalkeeper, and it is not possible for the goalkeeper to keep the catching glove wide open for long periods of time.
[0007] Also, to help keep a puck in the catching glove, catching gloves are provided with a trap extending between the thumb region and the finger region. The trap includes a webbing. In cases where the shot hockey puck is not caught directly in the trap, and instead hits the thumb, finger, or

palm regions of the catching glove, it is possible for the hockey puck to bounce out of the catching glove and back in to play. This can lead to a quick return shot from the opposing team that can be harder to stop by the goalkeeper than the initial shot. As such, goalkeepers have to be accurate in positioning the catching in order to align the trap with the hockey puck, and if this fails, they have to be very quick in closing the catching glove to prevent the hockey puck from bouncing out of the catching glove.

[0008] Therefore, there is a desire for a goalkeeper catching glove that can overcome at least some of the above-described drawbacks.

SUMMARY

[0009] It is an object of the present technology to ameliorate at least some of the inconveniences present in the prior art.

[0010] According to one aspect of the present technology, there is provided a goalkeeper catching glove having a front portion defining a cuff region, a thumb region, a finger region, and a palm region. The palm region is concave. The palm region extends between the thumb region and the finger region, and between the cuff region and the finger region. The front portion has a unitary impact resistant member. The unitary impact resistant member spans at least a majority of the thumb region, at least a majority of the finger region, and at least a majority of the palm region. The goalkeeper catching glove also has rear portion connected to the front portion, the front portion and the rear portion defining therebetween a space for receiving a hand of a goalkeeper; and a trap connected to at least one of the front portion or the rear portion, the trap extending between the thumb region and the finger region.

[0011] In some embodiments, the unitary impact resistant member spans at least 95 percent of the thumb region, the finger region, and the palm region.

[0012] In some embodiments, the unitary impact resistant member spans the cuff region, the thumb region, the finger region, and the palm region.

[0013] In some embodiments, the unitary impact resistant member is foldable between a rest position and a plurality of folded positions. The unitary impact resistant member is normally biased toward the rest position.

[0014] In some embodiments, the unitary impact resistant member is made from plastic.

[0015] In some embodiments, the unitary impact resistant member is made from one of: polycarbonate (PC), acrylonitrile butadiene styrene (ABS), PC-ABS blend, polyketone (PK), PC siloxane copolymer, PC blend, thermoplastic, thermoplastic composite, and high-density polyethylene (HDPE).

[0016] In some embodiments, the unitary impact resistant member is made from PC.

[0017] In some embodiments, the unitary impact resistant member is a molded unitary impact resistant member.

[0018] In some embodiments, the front portion also has a facing connected to a front of the unitary impact resistant member.

[0019] In some embodiments, the facing is laminated on the front of the unitary impact resistant member.

[0020] In some embodiments, the facing is made from synthetic polyurethane.

[0021] In some embodiments, the front portion also has a foam backing connected to a back of the unitary impact resistant member.

[0022] In some embodiments, the foam backing is laminated on the back of the unitary impact resistant member.

[0023] In some embodiments, the front portion also has an inner member connected to the unitary impact resistant member. The inner member is disposed between the unitary impact resistant member and the rear portion.

[0024] In some embodiments, the inner member is made from foam.

[0025] According to another aspect of the present technology, there is provided a goalkeeper

catching glove having: a front portion defining a cuff region, a thumb region, a finger region, and a palm region, the palm region being concave; a rear portion connected to the front portion, the front portion and the rear portion defining therebetween a space for receiving a hand of a goalkeeper; and a trap connected to at least one of the front portion or the rear portion, the trap extending between the thumb region and the finger region. The goalkeeper catching glove is movable between an at rest position and a closed position. The goalkeeper catching glove is normally biased toward the at rest position. The goalkeeper catching glove has a perimeter. A projection of the perimeter of the goalkeeper catching glove in the at rest position onto a plane disposed in front of the goalkeeper catching glove having an at rest surface area. The at rest surface area is at least 90 percent of a maximum surface area. The maximum surface area corresponds to a projection of the perimeter of the goalkeeper catching glove onto the plane in a position of the goalkeeper catching glove providing a largest possible surface area.

[0026] In some embodiments, the at rest surface area is at least 95 percent of the maximum surface area.

[0027] In some embodiments, the at rest surface area is the maximum surface area.

[0028] In some embodiments, the front portion is shaped such that in the at rest position the hand of the goalkeeper received in the space is in a relaxed position.

[0029] In some embodiments, the front portion has an impact resistant member.

[0030] The impact resistant member is disposed at least in the thumb region, the finger region, and the palm region. The impact resistant member biases the goalkeeper catching glove toward the at rest position.

[0031] In some embodiments, the impact resistant member is made from plastic.

[0032] In some embodiments, the impact resistant member is a molded unitary impact resistant member.

[0033] In some embodiments, the front portion also has a facing connected to a front of the impact resistant member.

[0034] In some embodiments, the front portion also has a foam backing connected to a back of the impact resistant member.

[0035] In some embodiments, the front portion also has an inner member connected to the impact resistant member. The inner member is disposed between the impact resistant member and the rear portion.

[0036] In some embodiments, the inner member is made of from foam.

[0037] In some embodiments, the impact resistant member is a unitary impact resistant member, the unitary impact resistant member spans at least a majority of the cuff region, at least a majority of the thumb region, at least a majority of the finger region, and at least a majority of the palm region.

[0038] In some embodiments, a hand covering is disposed in the space. The hand covering is configured for receiving the hand of the goalkeeper. The hand covering is selectively removably connected to an inner side of the front portion.

[0039] In some embodiments, the hand covering is selectively removably connected to an inner side of the front portion via hook and loop fasteners.

[0040] In some embodiments, the hand covering is a glove having four finger stalls and one thumb stall.

[0041] According to another aspect of the present technology, there is provided a goalkeeper catching glove having: a front portion defining a cuff region, a thumb region, a finger region, and a palm region, the palm region being concave; a rear portion connected to the front portion, the front portion and the rear portion defining therebetween a space for receiving a hand of a goalkeeper; and a trap connected to at least one of the front portion or the rear portion, the trap extending between the thumb region and the finger region. The goalkeeper catching glove is movable between an at rest position and a closed position. The front portion has a puck reflection area. The

puck reflection area is at least 80 percent of a total outer surface area of the thumb region, the finger region, and the palm region. The puck reflection area is shaped such that, in the at rest position, for each incident line being normal to a plane defined by a front surface of the cuff region and passing through the puck reflection area: a corresponding reflection line extends through the trap, the reflection line extends from a point of intersection between the incident line and the puck reflection area; the reflection line is at a first angle to a normal line; the normal line is normal to the puck reflection area at the point of intersection; the incident line is at a second angle to the normal line; and the first angle and the second angle are equal.

[0042] In some embodiments, the puck reflection area is at least 90 percent of the total outer surface area of the thumb region, the finger region, and the palm region.

[0043] In some embodiments, the puck reflection area is at least 95 percent of the total outer surface area of the thumb region, the finger region, and the palm region.

[0044] In some embodiments, the puck reflection area corresponds to the total outer surface area of the thumb region, the finger region, and the palm region.

[0045] In some embodiments, the puck reflection area has a generally parabolic cross-section.

[0046] In some embodiments, a vertex of the parabolic cross-section is disposed on a finger side of a glove length line. The pocket length line is a shortest line extending from a heel of the goalkeeper catching glove to a point on the trap being furthest from the heel and following a contour of the front portion and the trap.

[0047] In some embodiments, the front portion has an impact resistant member. The impact resistant member is disposed at least in the thumb region, the finger region, and the palm region. The impact resistant member biases the goalkeeper catching glove toward the at rest position. The impact resistant member defines a shape of the puck reflection area.

[0048] In some embodiments, the impact resistant member is made from plastic.

[0049] In some embodiments, the impact resistant member is a molded unitary impact resistant member.

[0050] In some embodiments, the front portion also has an inner member connected to the impact resistant member. The inner member is disposed between the impact resistant member and the rear portion.

[0051] In some embodiments, the inner member is made of from foam.

[0052] In some embodiments, at least a portion of the trap is inserted between the impact resistant member and the inner member.

[0053] In some embodiments, a hand covering is disposed in the space. The hand covering is configured for receiving the hand of the goalkeeper. The hand covering is selectively removably connected to an inner side of the front portion.

[0054] In some embodiments, the hand covering is selectively removably connected to an inner side of the front portion via hook and loop fasteners.

[0055] In some embodiments, the hand covering is a glove having four finger stalls and one thumb stall.

[0056] According to another aspect of the present technology, there is provided a goalkeeper catching glove having: a front portion defining a cuff region, a thumb region, a finger region, and a palm region, the palm region being concave; a hand covering configured for receiving a hand of a goalkeeper, and the hand covering being selectively removably connected to an inner side of the front portion. The hand covering has at least one finger stall and a thumb stall. The at least one finger stall is selectively connected to the inner side of the front portion along the finger region. The thumb stall is selectively connected to the inner side of the front portion along the thumb region. The goalkeeper catcher glove also has a rear portion connected to the front portion. The rear portion has a finger cover for selectively covering the at least one finger stall and a thumb cover for selectively covering the at least one thumb stall. The finger cover is movable between a finger covering position and a finger donning position. In the finger covering position, the finger cover

covers the at least one finger stall. In the finger donning position, the finger cover is positioned such that the at least one finger stall is uncovered. The thumb cover is movable between a thumb covering position and a thumb donning position. In the thumb covering position, the thumb cover covers the thumb stall. In the thumb donning position, the thumb cover is positioned such that the thumb stall is uncovered. A trap is connected to at least one of the front portion or the rear portion. The trap extends between the thumb region and the finger region.

[0057] In some embodiments, the hand covering is selectively removably connected to an inner side of the front portion via hook and loop fasteners.

[0058] In some embodiments, the hook and loop fasteners has at least one first fabric strip and a plurality of second fabric strips. The at least one first fabric strip has one of hooks and loops. The plurality of second fabric strips has an other one of hooks and loops. The at least one first fabric strip is connected to the inner side of the front portion along the finger region and the thumb region. The plurality of second fabric strips includes at least one second fabric strip connected to the at least one finger stall and at least one second fabric strip connected to the thumb stall.

[0059] In some embodiments, the at least one first fabric strip is connected to the inner side of the front portion along the palm region. The hand covering has a palm portion. The plurality of second fabric strips includes at least one second fabric strip connected to the palm portion.

[0060] In some embodiments, the hand covering is a glove; the at least one finger stall is four finger stalls; the at least one second fabric strip connected to the at least one finger stall is at least four second fabric strips connected to the four finger stalls, with each of the four finger stalls having at least one second fabric strip of the at least four fabric strips connected thereto.

[0061] In some embodiments, the hand covering is a glove; and the at least one finger stall is four finger stalls.

[0062] In some embodiments, the at least one finger stall is selectively connected to the inner side of the front portion along the finger region at any finger position of a plurality of finger positions; and the thumb stall is selectively connected to the inner side of the front portion along the thumb region at any thumb position of a plurality of thumb positions.

[0063] In some embodiments, an edge of the thumb cover is connected to the thumb region of the front portion; and the thumb cover pivots between the thumb covering position and thumb donning position.

[0064] In some embodiments, a buckle fastens the thumb cover in the thumb covering position.

[0065] In some embodiments, an edge of the finger cover is connected to the finger region of the front portion; and the finger cover pivots between the finger covering position and finger donning position.

[0066] In some embodiments, a flap selectively connects the finger cover in the finger covering position.

[0067] In some embodiments, the flap selectively connects to the finger cover via hook and loop fasteners.

[0068] In some embodiments, a cuff pad is connected to the inner side of the front portion along the cuff region.

[0069] In some embodiments, the rear portion has a cuff cover connected to and movable with the finger cover.

[0070] In some embodiments, the front portion has an impact resistant member. The impact resistant member is disposed at least in the thumb region, the finger region, and the palm region. The impact resistant member biases the goalkeeper catching glove toward an at rest position.

[0071] According to another aspect of the present technology, there is provided a goalkeeper catching glove being movable between an at rest position and a closed position. The goalkeeper catching glove has: a front portion defining a cuff region, a thumb region, a finger region, and a palm region, the palm region being concave, the palm region extending between the thumb region and the finger region, and between the cuff region and the finger region. The front portion has: an

outer member; and an inner member connected to the outer member. In the at rest position of the goalkeeper catching glove, a portion of the outer member in the palm region has a first radius of curvature. In the at rest position of the goalkeeper catching glove, a portion of the inner member in the palm region has a second radius of curvature. The first radius of curvature is greater than the second radius of curvature. In the at rest position of the goalkeeper glove, the portion of the outer member having the first radius of curvature is spaced from the portion of the inner member having the second radius of curvature. The goalkeeper catching glove also has: a rear portion connected to the front portion, the front portion and the rear portion defining therebetween a space for receiving a hand of a goalkeeper, the inner member being disposed between the outer member and the rear portion; and a trap connected to at least one of the front portion or the rear portion, the trap extending between the thumb region and the finger region.

[0072] In some embodiments, the outer member includes a unitary impact resistant member spanning the thumb region, the finger region, and the palm region.

[0073] In some embodiments, the unitary impact resistant member biases the goalkeeper catching glove toward the at rest position.

[0074] In some embodiments, the unitary impact resistant member is made from plastic.

[0075] In some embodiments, the unitary impact resistant member is a molded unitary impact resistant member.

[0076] In some embodiments, the front portion also has a facing connected to a front of the unitary impact resistant member.

[0077] In some embodiments, the front portion also has a foam backing connected to a back of the unitary impact resistant member.

[0078] In some embodiments, the inner member is made of from foam.

[0079] In some embodiments, a hand covering is configured for receiving the hand of the goalkeeper. The hand covering is selectively removably connected to an inner side of the inner member. The hand covering has at least one finger stall and a thumb stall. The at least one finger stall is selectively connected to the inner side of the inner member along the finger region. The thumb stall is selectively connected to the inner side of the inner member along the thumb region.

[0080] In some embodiments, the hand covering is selectively removably connected to the inner side of the front portion via hook and loop fasteners.

[0081] In some embodiments, the hook and loop fasteners have at least one first fabric strip and a plurality of second fabric strips. The at least one first fabric strip has one of hooks and loops. The plurality of second fabric strips have an other one of hooks and loops. The at least one first fabric strip is connected to the inner side of the inner member along the finger region and the thumb region. The plurality of second fabric strips includes at least one second fabric strip connected to the at least one finger stall and at least one second fabric strip connected to the thumb stall.

[0082] In some embodiments, the hand covering is a glove; the at least one finger stall is four finger stalls; and the at least one second fabric strip connected to the at least one finger stall is at least four second fabric strips connected to the four finger stalls, with each of the four finger stalls having at least one second fabric strip of the at least four fabric strips connected thereto.

[0083] In some embodiments, the rear portion is movable between a covering position and a donning position. In the covering position, the rear portion covers the hand covering. In the donning position, the rear portion is positioned such that the hand covering is uncovered.

[0084] In some embodiments, the inner member is shaped such that in the at rest position the hand of the goalkeeper received in the space is in a relaxed position.

[0085] In some embodiments, a cuff pad is connected to an inner side of the front portion along the cuff region.

[0086] In the context of the present specification, unless expressly provided otherwise, the words “first,” “second,” “third,” etc. have been used as adjectives only for the purpose of allowing for distinction between the nouns that they modify from one another, and not for the purpose of

describing any particular relationship between those nouns.
[0087] It must be noted that, as used in this specification and the appended claims, the singular form “a,” “an” and “the” include plural referents unless the context clearly dictates otherwise.
[0088] As used herein, the term “about” in the context of a given value or range refers to a value or range that is within 20%, preferably within 10%, and more preferably within 5% of the given value or range.
[0089] As used herein, the term “at least a majority” should be understood as meaning more than 50%.
[0090] As used herein, the term “and/or” is to be taken as specific disclosure of each of the two specified features or components with or without the other. For example, “A and/or B” is to be taken as specific disclosure of each of (i) A, (ii) B and (iii) A and B, just as if each is set out individually herein.
[0091] Embodiments of the present technology each have at least one of the above-mentioned object and/or aspects, but do not necessarily have all of them. It should be understood that some aspects of the present technology that have resulted from attempting to attain the above-mentioned object may not satisfy this object and/or may satisfy other objects not specifically recited herein.
[0092] Additional and/or alternative features, aspects, and advantages of embodiments of the present technology will become apparent from the following description, the accompanying drawings, and the appended claims.

Description

BRIEF DESCRIPTION OF THE DRAWINGS
[0093] For a better understanding of the present technology, as well as other aspects and further features thereof, reference is made to the following description which is to be used in conjunction with the accompanying drawings, where:
[0094] FIG. **1** is a front view of a goalkeeper catching glove according to the present technology;
[0095] FIG. **2**A is a front view of the goalkeeper catching glove of FIG. **1** showing the goalkeeper catching glove in an at rest position;
[0096] FIG. **2**B is a front view of the goalkeeper catching glove of FIG. **1** showing the goalkeeper catching glove in a closed position;
[0097] FIG. **3** is a rear view of the goalkeeper catching glove of FIG. **1**;
[0098] FIG. **4** is a rear view of the goalkeeper catching glove of FIG. **1** showing various components of goalkeeper catching glove disassembled;
[0099] FIGS. **5**A and **5**B are schematic cross-sections taken through line **5**-**5** of FIG. **1** of a front portion of the goalkeeper catching glove of FIG. **1** illustrating an outer member and an inner member of the front portion in the at rest position of the goalkeeper catching glove (FIG. **5**A) and in a closed position of the goalkeeper catching glove (FIG. **5**B);
[0100] FIG. **6** is a cross-section of the outer member of the front portion of the goalkeeper catching glove of FIG. **1** taken through line **6**-**6** of FIG. **1**;
[0101] FIG. **7**A is a schematic view of a prior art goalkeeper catching glove in an at rest position in solid lines and showing a wide-open position in dotted lines;
[0102] FIG. **7**B is a front elevation view of the goalkeeper catching glove of FIG. **1** in the at rest position and showing a wide-open position in dotted lines;
[0103] FIG. **8** is a schematic cross-section of a puck reflection area of the goalkeeper catching glove of FIG. **1** taken along line P of FIG. **7**B;
[0104] FIG. **9** is a front elevation view of the goalkeeper catching glove of FIG. **1** illustrating various incident lines passing through the puck reflection area with corresponding normal lines and reflection lines;

[0105] FIG. **10** is a schematic illustration of an incident line with its corresponding normal line and reflection line;
[0106] FIG. **11** is a front view of the outer member of the goalkeeper catching glove of FIG. **1**, with a facing of the outer member being omitted;
[0107] FIG. **12**A is a rear view of the outer member of FIG. **11**;
[0108] FIG. **12**B is a rear view of an alternative embodiment of a unitary impact resistant member of the outer member of FIG. **12**A;
[0109] FIG. **12**C is a bottom view of the unitary impact resistant member of FIG. **12**B;
[0110] FIG. **13** is a front view of the inner member of the goalkeeper catching glove of FIG. **1**;
[0111] FIG. **14** is a rear view of the inner member of FIG. **13**;
[0112] FIG. **15** is a view taken from a thumb region side of the goalkeeper catching glove of FIG. **1**, with a finger cover being in a finger donning position and a thumb cover being in a thumb covering position;
[0113] FIG. **16** is a rear view of the goalkeeper catching glove of FIG. **1**, with the finger cover being in the finger donning position and the thumb cover being in the thumb covering position;
[0114] FIG. **17** is a rear perspective view of the goalkeeper catching glove of FIG. **1**, with the finger cover being in the finger donning position and the thumb cover being in a thumb donning position;
[0115] FIGS. **18**A, **18**B, **18**C and **18**D are rear views of various hand coverings to be used with the goalkeeper catching glove; and
[0116] FIGS. **19**A, **19**B, **19**C and **19**D are front views of the hand coverings **18**A, **18**B, **18**C and **18**D respectively.

DETAILED DESCRIPTION

[0117] The present disclosure is not limited in its application to the details of construction and the arrangement of components set forth in the following description or illustrated in the drawings. The disclosure is capable of other embodiments and of being practiced or of being carried out in various ways. Also, the phraseology and terminology used herein is for the purpose of description and should not be regarded as limiting. The use of “including”, “comprising”, or “having”, “containing”, “involving” and variations thereof herein, is meant to encompass the items listed thereafter as well as, optionally, additional items. In the following description, the same numerical references refer to similar elements.
[0118] The present technology will be described with reference to a goalkeeper catching glove **10** configured to be worn on a left hand **12** (schematically shown in FIG. **1**) of an ice hockey goalkeeper. A goalkeeper catching glove that is a mirror image of the goalkeeper catching glove **10** and that is configured to be worn on a right hand of an ice hockey goalkeeper is also contemplated. It is also contemplated that aspects of the present technology could be applied to goalkeeper catching gloves for sports other than ice hockey. A goalkeeper can also be referred to as a goalie, a goaltender, a netkeeper and a netminder. A catching glove can also be referred to as a catcher, a catch glove, and a trapper.
[0119] With reference to FIGS. **1** and **3**, the goalkeeper catching glove **10**, hereinafter the catching glove **10**, has a front portion **14**, a rear portion **16** connected to the front portion **14**, and a trap **18** connect to the front portion **14**. It is contemplated that the trap **18** could alternatively be connected to the rear portion **16** or to both the front and rear portions **14**, **16**. The front and rear portions **14**, **16** define a space therebetween for receiving the hand **12** of the goalkeeper.
[0120] With reference to FIG. **1**, the front portion **14** defines a cuff region **20**, a thumb region **22**, a finger region **24** and a palm region **26**. The boundaries between these regions are illustrated by dash-dot lines in FIG. **1**. The cuff region **20** is the region of the front portion **14** that is configured to generally cover a front of at least part of a wrist **28** of the goalkeeper, and a distal portion of the forearm **30** of the goalkeeper. The thumb region **22** is the region of the front portion **14** that is configured to generally cover a front of at least part of a thumb **30** of the hand **12** of the goalkeeper.

The finger region **24** is the region of the front portion **14** that is configured to generally cover a front of at least part of an index finger **32**, a middle finger **34**, a ring finger **36** and a pinky **38** of the hand **12** of the goalkeeper. For purposes of the present application, the thumb **30** is not considered to be a finger. The thumb **30**, the index finger **32**, the middle finger **34**, the ring finger **36** and the pinky **38** are all digits, but only the index finger **32**, the middle finger **34**, the ring finger **36** and the pinky **38** are fingers. The palm region **26** is the region of the front portion **14** that is configured to generally cover a front of at least part of a palm **40** of the hand **12** and the wrist **28** of the goalkeeper. As can be seen, the palm region **26** extends between the thumb region **22** and the finger region **24**, between the cuff region **20** and the thumb region **22**, and between the cuff region **20** and the finger region **24**. The palm region **26** is concave. By moving their fingers **32**, **34**, **36**, **38** toward the thumb **30**, the goalkeeper can move the catching glove **10** between an at rest position (shown in FIG. **1**) and a closed position (schematically shown in dotted lines in FIG. **2**B). The at rest position is the position of the catching glove **10** when no external force is applied to it. When the catching glove **10** is in the at rest position, the hand **12** is in a relaxed position and the goalkeeper does not need to apply any force with their thumb **30** and fingers **32**, **34**, **36**, **38** to achieve this position of the catching glove **10**.

[0121] With reference to FIGS. **1**, **3**, **4**, and **15** to **17**, the front portion **14** has an outer member **42** and an inner member **44**. The inner member **44** is disposed between the outer member **42** and the rear portion **16**. A cuff pad **46** is connected via fasteners (not shown) to the inner side of the inner member **44** along the cuff region **20**. The cuff pad **46** is made of compressible foam. The cuff pad **46** and the cuff region **20** of the inner member **44** are inserted into a pouch **48** connected to a back of the cuff region **20** of the outer member **42**. The outer member **42** and the inner member **44** will be described in more detail below.

[0122] The trap **18** extends between the thumb region **22** and the finger region **24** and is partially inserted between the outer member **42** and the inner member **44**. Laces **49** fasten the outer member **42** to the inner member **44** and fasten the trap **18** to the outer member **42** and the inner member **44**. The trap **18** has webbing **50** to which a double-T reinforcement strip **52** is connected. The strip **52** is referred to as “double-T” since it has two vertical portions connected to one horizontal portion (with respect to the orientation shown in FIG. **4**). It is contemplated that alternatively the trap **18** could have a single-T reinforcement strip (i.e., with a single vertical portion). The trap **18** also has an edge piece **54** covering the exposed peripheral edge of the reinforcement strip **52**. The trap **18** is assembled flat as shown in FIG. **4** and gets its pocket-shape when connected to the front portion **14**.

[0123] The rear portion **16** includes a finger cover **56**, a cuff cover **58** and a thumb cover **60**. An edge of the finger cover **56** is connected to the finger region **24** of the front portion **14** such that the finger cover **56** can pivot between a finger covering position, shown in FIG. **3** and a finger donning position, shown in FIGS. **15** to **17**. As seen in FIG. **3**, the edge of the finger cover **56** is connected to the front portion **14** via buckles **62** and strips of hook and loop fasteners **64**. It is contemplated that the finger cover **56** could be connected differently to the front portion **14** in order to move between the finger covering position and the finger donning position. The finger cover **56** includes impact resistant material and/or padding to protect the portion of the hand **12** that the finger cover **56** covers when in the finger covering position.

[0124] The cuff cover **58** is connected to the finger cover **56** so as to move with the finger cover **56** as it moves between the finger covering position and the finger donning position. The cuff cover **58** includes impact resistant material and/or padding to protect the wrist **28** and forearm **30** of the goalkeeper when the finger cover **56** is in the finger covering position. A cuff piece **66** is connected along an edge to the cuff cover **58**. The cuff piece **66** includes a wrist pad **68**, best seen in FIG. **4**. The cuff piece **66** extends along a back of the pouch **48**, such that when the goalkeeper inserts their hand **12** inside the catching glove **10**, the cuff piece **66** is between the wrist **28** of the goalkeeper and the pouch **48**.

[0125] A flap **70** extends from the cuff piece **66**. The flap **70** connects to the finger cover **56** via

hoop and loop fasteners **72** when the finger cover **56** is in the finger covering position. A buckle **74** and a strip of hook and loop fasteners **76** connect the finger cover **56** to the front portion **14** when the finger cover **56** is in the finger covering position. A strap **77** and a buckle **78** connected to the cuff piece **66** are used to fasten the cuff piece **66** to the wrist **28** and/or forearm **30** of the goalkeeper such that the cuff cover **58** and the cuff piece **66** will move with the wrist **28** and/or forearm **30** of the goalkeeper as it moves during use of the catching glove **10**. It is contemplated that the strap **77** and the buckle **78** could be omitted or replaced by other means of fastening to the wrist **28** and/or forearm **30** of the goalkeeper. It is contemplated that the finger cover **56** could be connected differently to the flap **70** and/or the front portion **14** when in the finger covering position.

[0126] An edge of the thumb cover **60** is connected to the thumb region **22** of the front portion **14** such that the thumb cover **60** can pivot between a thumb covering position, shown in FIG. **15** and a thumb donning position, shown in FIG. **17**. As seen in FIG. **17**, the edge of the thumb cover **60** is connected to the front portion **14** via stitching. It is contemplated that the thumb cover **60** could be connected differently to the front portion **14** in order to move between the thumb covering position and the thumb donning position. A buckle **80** and a strip of hook and loop fasteners **82** connect the thumb cover **60** to the front portion **14** when the thumb cover **60** is in the thumb covering position. The thumb cover **60** includes impact resistant material and/or padding to protect the portion of the thumb **30** that the thumb cover **60** covers when in the thumb covering position.

[0127] Along the break line of the catching glove **10** (i.e., the line along which the palm region **26** folds when closing the catching glove **10**), in the at rest position of the catching glove **10**, portions the outer member **42** of the front portion **14** have radii of curvature that are greater than radii of curvature of portions of the inner member **44** with which they are aligned. The difference between the radii of curvature of the outer member **42** and the inner member **44** gets smaller as the break line extends from the portion of the palm region **26** that is next to the trap **18** to the heel **84** of the catching glove **10**. As can be seen in FIG. **5**A for the cross-section taken along line **5-5** of FIG. **1**, in the at rest position of the catching glove **10**, a portion of the outer member **42** of the front portion **14** has a radius of curvature that is greater than a radius of curvature of a portion of the inner member **44** with which it is aligned. As such, at least along the break line, in the at rest position of the catching glove **10**, the outer member **42** is spaced from the inner member **44**. As a result, when the goalkeeper moves the catching glove **10** to the closed position, as the front portion folds along the break line, the outer member **42** moves toward the inner member **44** thereby reducing the space between the outer member **42** and the inner member **44**, as can be seen in FIG. **5**B for the portion of the front portion **14** corresponding to the cross-section taken along line **5-5** of FIG. **1**. As the hand **12** of the goalkeeper abuts the inner member **44**, it is not pushed out of the catching glove **10** by the movement of the outer member **42** as the catching glove **10** is moved to the closed position.

[0128] With reference to FIGS. **1**, **6**, **11** and **12**, the outer member **42** will now be described in more detail. The outer member **42** includes a unitary impact resistant member **100**. It is contemplated that a unitary impact resistant member **100** could be a single part forming a whole, such as a molded plastic part using a single plastic, or could be made from different parts that are integrally formed to form a unit, such as different plastics that are injected simultaneously or sequentially into one or more molds to form a unitary part. In the present embodiment, the unitary impact resistant member **100** spans an entirety of the cuff region **20**, the thumb region **22**, the finger region **24** and the palm region **26**. It is contemplated that in some embodiments, the unitary impact resistant member **100** could span less than the entirety of one or more of these regions **20**, **22**, **24**, **26** such that unitary impact resistant member spans a majority of the cuff region **20**, a majority of the thumb region **22**, a majority of the finger region **24** and a majority of the palm region **26**. For example, it is contemplated that in some embodiments the unitary impact resistant member **100** could span at least 95 percent of the cuff region **20**, the thumb region **22**, the finger region **24**, and the palm region **26**. It is contemplated that for some aspects of the present technology in embodiments where

the unitary impact resistant member **100** does not cover an entirety of the regions **20**, **22**, **24**, **26**, that additional impact resistant members and/or impact absorption members could be provided to cover the area of these regions **20**, **22**, **24**, **26** not covered by the impact resistant member **100**. It is contemplated that in some embodiments, the unitary impact resistant member **100** could not extend in the cuff region **20** and that one or more separate impact resistant members could be provided in the cuff region **20**. In the present embodiment, the unitary impact resistant member **100** is made from plastic that is molded. In one embodiment, the plastic is polycarbonate (PC). Other examples of plastics that could be used for making the unitary impact resistant member **100** include, but are not limited to, acrylonitrile butadiene styrene (ABS), PC-ABS blend, polyketone (PK), PC siloxane copolymer, other PC blends, thermoplastic, thermoplastic composite, and high-density polyethylene (HDPE). It is contemplated that the unitary impact resistant member **100** could be made from other material, such as composite materials for example. It is contemplated that the unitary impact resistant member **100** could be molded by thermoforming, compression molding, pressure molding, or injection molding. It is also contemplated that the unitary impact resistant member **100** could be made by a process other than molding, such as, for example, machining and 3D printing.

[0129] The unitary impact resistant member **100** can be folded from a rest position shown in FIG. **11**, which corresponds to the position of the unitary impact resistant member **100** when the caching glove **10** is in the at rest position, to a plurality of folded positions as the catching glove **10** is moved to its closed position, such as the folded position that the unitary impact resistant member **100** has when the outer member **42** is folded as shown in FIG. **5**B. As can be seen in FIG. **11**, a strip of fabric **102** is bonded or otherwise connected to a front of the unitary impact resistant member **100** along the break line to help improve resistance to fatigue wear resulting from the multiple cycles of folding and unfolding of the unitary impact resistant member **100** resulting from the catching glove **10** being opened and closed. It is contemplated that another strip of fabric could be bonded or otherwise connected to a back of the unitary impact resistant member **100** along the break line instead of or in addition to the strip of fabric **102**. It is contemplated that the strip of fabric **102** could be omitted.

[0130] A facing **104** is connected to a front of the unitary impact resistant member **100**. In the present embodiment, the facing **104** is made from synthetic polyurethane and is laminated on the front of the unitary impact resistant member **100**. As such, text and images can be printed on the facing **104**. It is contemplated that the facing **104** could be made from a material other than synthetic polyurethane. It is also contemplated that the facing **104** could be connected to the front the unitary impact resistant member **100** by means other than lamination.

[0131] A foam backing **106** having a shape complementary to the shape of the unitary impact resistant member **100** is connected to the back of the unitary impact resistant member **100**. In the present embodiment, the foam backing **106** is laminated to the back of the unitary impact resistant member **100**. It is contemplated that the foam backing **106** could be connected to the back of the unitary impact resistant member **100** by means other than lamination.

[0132] A foam backing **108** is connected to the back of the foam backing **106** over part of the finger region **24** and part of the palm region **26**. A foam backing **110** is connected to the back of the foam backing **106** over part of the cuff region **20**, part of the thumb region **22**, and part of the palm region **26**. As can be seen in FIG. **12**, the area of the foam backing **106** around the break line is not covered by the foam backing **108**, **110**.

[0133] FIGS. **12**B and **12**C illustrate a unitary impact resistant member **200** that is an alternative embodiment of the unitary impact resistant member **100** described above. In the unitary impact resistant member **200**, the laterally outer portions **202** are thicker than the central portion **204** that includes the break line. Intermediate portions **206** located between the central portion **204** and the laterally outer portion **202** provide a transition from the thickness of the central portion **204** to the thickness of the laterally outer portion **202**. The thinner central portion **204** makes it easier to close

the catching glove **10**. In one embodiment, the laterally outer portions **202** have a thickness T**1** of 2 mm and the central portion **204** has a thickness T**2** of 1 mm, but other thicknesses are contemplated. In an alternative embodiment, it is contemplated that the intermediate portions **206** could be omitted, that the central portion **204** could extend up to the laterally outer portions, that the central portion **202** is thinnest at the break line and gradually increase in thickness up to the laterally outer portions **202**.

[0134] In another alternative embodiment of a unitary impact resistant member (not shown), the unitary impact resistant member is made from different parts that are integrally formed to form a unit, such as different plastics that are injected simultaneously or sequentially into one or more molds to form a unitary part. In such an embodiment, the central portion of the unitary impact resistant member (corresponding to the central portion **204** described above) is made from a material that is more flexible than the material used for the laterally outer portions of the unitary impact resistant member (corresponding to the laterally outer portions **202** described above). In such an embodiment, it is contemplated that the laterally outer portions and the central portion could have the same thickness as in the unitary impact resistant member **100**, or could have different thicknesses as in the unitary impact resistant member **200**.

[0135] Turning now to FIGS. **13** and **14**, the inner member **44** will be described in more detail. The inner member **44** has a body **112** made from foam. It is contemplated that in alternative embodiments, the inner member **44** could be made from felt, infused fabric, or gel or polymer infused foam. Strips of fabric **114** are stitched to a front and back of the body **112** along the break line to help improve resistance to fatigue wear resulting from the multiple cycles of folding and unfolding of the body **112** resulting from the catching glove **10** being opened and closed. It is contemplated that the strips of fabric **114** could be connected to the body **112** by means other than stitching. It is contemplated that the strip of fabric **114** on the front or on the back of the body **112** could be omitted. It is also contemplated that the strips of fabric **114** could be omitted. A fabric strip **116** is connected to the back of the body **112** over part of the finger region **24** and part of the palm region **26**. Another fabric strip **118** is connected to the back of the body **112** over part of the thumb region **22**, and part of the palm region **26**. As can be seen in FIG. **14**, the area of the body **112** around the break line is not covered by the fabric strips **116**, **118**. The fabric strips **116**, **118** are stitched to the body **112**, but it is contemplated that they could be connected to the body **112** by other means. The fabric strips **116**, **118** have hooks of hook and loop fasteners used to selectively removably connect a hand covering **120**B to an inner side of the front portion **14** as will be described in more detail below. A fabric edge piece **122** is stitched around a contour of the body **112**.

[0136] With reference to FIGS. **18**B and **19**B, the hand covering **120**B is a glove **120**B configured to receive the hand **12** of the goalkeeper. The glove **120**B has four finger stalls **124** to receive the fingers **32**, **34**, **36**, **38** of the hand **12**, a thumb stall **126** for receiving the thumb **30** of the hand **12** and a palm portion **128** for receiving the palm **40** of the hand **12**. The finger stalls **124** can move independently from each other. Four fabric strips **130** are connected to the front of the four finger stalls **124**. It is contemplated that more than one fabric strip **130** could be provided for each finger stall **124**. It is contemplated that only one, two or three the finger stalls **124** could be provided with a fabric strip **130**. A fabric strip **132** is connected to the front of the thumb stall **126**. It is contemplated that more than one fabric strip **132** could be provided for the thumb stall **126**. A fabric strip **134** is connected to the front of palm portion **128**. It is contemplated that more than one fabric strip **134** could be provided for the palm portion **128**. It is also contemplated that the fabric strip **134** could be omitted. The fabric strips **130**, **132**, **134** have loops of hook and loop fasteners used to selectively removably connect the glove **120**B to the inner side of the front portion **14** as will be described in more detail below. More specifically, the fabric strips **130** of the finger stalls **124** selectively connect to the fabric strip **116**, the fabric strip **132** of the thumb stall **126** selectively connects to the fabric strip **118**, and the fabric strip **134** of the palm portion **128** selectively

connects to one or both of the fabric strips **116**, **118** depending on how the glove **120**B is positioned on the back of the inner member **44**. It is contemplated the fabric strips **116**, **118** could have the loops of the hook and loop fasteners and that the fabric strip **130**, **132**, **134** could have the hooks of the hook and loop fasteners. It is contemplated that in some embodiments, means other than hook and loop fasteners could be used to removably selectively connect the glove **120**B to the inner member **44**.

[0137] To put on the catching glove **10** for the first time, the goalkeeper moves the finger cover **58** in the finger donning position and the thumb cover **60** in the thumb donning position. The goalkeeper puts their hand **12** in the glove **120**B that has been detached from the inner member **44**. The goalkeeper then puts their gloved hand **12** against the back of the inner member **44** such that the fabric strips **130**, **132**, **134** engage the fabric strips **116**, **118** as described above. As the area of the fabric strip **116** is larger than the area of the fabric strips **130** of the finger stalls **124**, the goalkeeper can place the finger stalls **124** in a plurality of finger positions. Similarly, as the area of the fabric strip **118** is larger than the area of the fabric strips **132** of the thumb stall **126**, the goalkeeper can place the thumb stall **126** in a plurality of thumb positions. As a result, the goalkeeper can attach the glove **120**B to the inner side of the front portion **14** such that their hand **12** is in a comfortable position. The inner member **44** is shaped such that the goalkeeper can attach the glove **120**B in a position where their hand **12** is in a relaxed position when the catching glove **10** is in the at rest position. As shown in FIG. **17**, at this step, with the finger cover **56** in the finger donning position, the finger stalls **124** of the glove **120**B are uncovered, and with the thumb cover **60** in the thumb donning position, the thumb stall **126** is uncovered. The goalkeeper can then fasten the strap **77** around their wrist **28** and/or forearm **30**. Finally, the goalkeeper moves the thumb cover **60** to the thumb covering position to cover the thumb stall **126**, moves the finger cover **56** to the finger covering position to cover the finger stalls **124** and the palm portion **128**, and then fastens the thumb cover **60** and the finger cover **56** in their respective covered positions using the buckles **74**, **80** and strip of hook and loop fasteners **76**, **82**. The hand **12** of the goalkeeper and the glove **120**B are now inside the space defined between the front portion **14** and the rear portion **16** and the catching glove **10** is ready to use by the goalkeeper.

[0138] To remove the catching glove **10**, the goalkeeper can repeat the steps described above in the reverse order. However, the goalkeeper can keep the glove **120**B attached to the inner member **44** and slide their hand **12** out of the glove **120**B such that the glove **120**B will already be in the desired position for the next time the catching glove **10** is to be used. It is also contemplated that, alternatively, the goalkeeper could simply loosen the strap **77** and possibly the strip of hook and loop fasteners **76** used to fasten the finger cover **56** and slide their hand **12** out of the glove **120**B and catching glove **10**, thus leaving the glove **120**B attached to the inner member **44**.

[0139] By removably connecting the glove **120**B to the inner member **44**, the glove **120**B can be easily removed for cleaning. The removable attachment method also allows different hand coverings to be used in the catching glove **10** without having to change the other parts of the catching glove **10**. For example, catching gloves that are of the same type as the catching glove **120**B but being of a different size could be used to fit different hand sizes. Different kinds of hand coverings, such as for example the hand coverings **120**A, **120**C and **120**D shown in FIGS. **18**A, **18**C, **18**D, **19**A, **19**C and **19**D, could also be used without having to change the other parts of the catching glove **10**.

[0140] The hand coverings **120**A, **120**C and **120**D will now be described. For simplicity, the elements of the hand coverings that are similar to those of the glove **120**B have been labeled with the same reference numerals as those of the glove **120**B and will not be describe again in detail. The hand covering **120**A is a glove **120**A that is similar to the glove **120**B, but has additional padding **136** provided on the back of the finger stalls **124**, the thumb stall **126** and the palm portion **128**. The hand covering **120**C is a glove **120**C in which three finger stalls **124** are connected to each other. The leftmost finger stall **124** (with reference to the orientation in FIG. **18**C) is sized to

receive both the ring finger **36** and the pinky **38**. In the glove **120**C, as single strip of fabric **138** covers the three finger stalls **124** and a single strip of fabric **140** covers the thumb stall **126** and the palm portion **128**. The hand covering **120**D is a glove **120**D that is larger in size than the glove **120**B. The hand covering **120**D has a shroud **142** on a back thereof and a loop of fabric **144** connected to the palm portion **128**. In another embodiment not illustrated herein, the hand covering is a mitten. The mitten is similar to the glove **120**C, but instead of having three finger stalls **124**, the mitten has a single large finger stall in which all four fingers **32**, **34**, **36**, **38** can be inserted.

[0141] Turning now to FIGS. **7**A and **7**B, differences between an at rest position of a prior art catching glove **300** and the at rest position of the catching glove **10** will be described. For purposes of the present explanations, although they are constructed differently, it is considered the that the catching glove **300** and the catching glove **10** have the same perimeter. As would be understood, the catching glove **300** is illustrated in a smaller scale than the catching glove **10**. The perimeter is to be measured as indicated in Rule 11.6 of the 2021-2022 Official Rules of the National Hockey League® (National Hockey League (2021) *Official Rules* 2021-2022). A projection of the perimeter of the catching glove **300** in the at rest position (shown in solid lines in FIG. **7**A) onto a plane disposed in front of the catching glove **300** has an at rest surface area. A projection of the perimeter of the catching glove **300** onto the plane in a position of the catching glove **300** providing a largest possible surface area corresponds to a maximum surface area of the catching glove **300**. The maximum surface area of the catching glove **300** is bound by the dotted line **302** in FIG. **7**A. A projection of the perimeter of the catching glove **10** in the at rest position (corresponding to the catching glove in FIG. **7**B) onto a plane disposed in front of the catching glove **10** has an at rest surface area. A projection of the perimeter of the catching glove **10** onto the plane in a position of the catching glove **10** providing a largest possible surface area corresponds to a maximum surface area of the catching glove **10**. The maximum surface area of the catching glove **10** is bound by the dotted line **150** in FIG. **7**B. The planes disposed in front of the catching gloves **300**, **10** onto which the perimeters of the catching gloves **300**, **10** are projected correspond to the drawing page in this case. As can be seen in FIG. **7**A, the prior art catching glove **300** has an at rest surface area that is significantly smaller that the maximum surface area of the catching glove **300**. The prior art catching glove **300** has an at rest surface area that is 85% or less than the maximum surface area of the catching glove **300**. As such, in order to increase the likelihood of catching, or at least blocking, a hockey puck, a goalkeeper using the catching glove **300** needs to force the catching glove **300** open by forcing their hand open in order to try and put the catching glove **300** in the position that will provide the maximum surface area. As previously explained, this brings fatigue to the hand of the goalkeeper. However, as can be seen in FIG. **7**B, the catching glove **10** has an at rest surface area that is 100% of the maximum surface area of the catching glove **10** (i.e., the at rest surface area and the maximum surface area are the same). As such, the goalkeeper does not need to exert any force to put the catching glove **10** in the position that will provided the maximum surface area as this is the at rest position of the catching glove **10**. It is contemplated that in some alternative embodiments, the at rest surface area of the catching glove **10** is at least 90 percent of the maximum surface areas of the catching glove **10**. It is contemplated that in some alternative embodiments, the at rest surface area of the catching glove **10** is at least 95 percent of the maximum surface areas of the catching glove **10**. Even in these embodiments where the at rest surface area of the catching glove **10** is smaller than the maximum surface area of the catching glove **10** by 10 percent or less, the goalkeeper does not have to extend their hand **12** by as much as in the prior art to get the maximum surface area, and even in cases where the goalkeeper keeps the catching glove **10** in the at rest position, the at rest position is still a good position for catching or blocking a hockey puck since the at rest surface area is close to the maximum surface area.

[0142] In addition to the catching glove **10** having an at rest surface area that is the same as or very close to the maximum surface area, the unitary impact resistant member **100** normally biases the catching glove **10** toward the at rest position of the catching glove **10**. The material used in the

construction of the unitary impact resistant member **100** is resilient and, as such, acts like a spring causing the catching glove **10** to "pop open" to the at rest position after the goalkeeper has closed the catching glove **10** with their hand **12** and releases the closing force. Therefore, in addition to not exerting the hand **12** of the goalkeeper to keep the catching glove in the position providing the maximum surface area, the construction of the catching glove **10** also helps the goalkeeper to return the catching glove **10** to this position (i.e., the at rest position). It is contemplated that in alternative embodiment, instead of having the unitary impact resistant member **100**, the catching glove **10** could have a multi-part construction providing impact resistance similar to that of the prior art, but having a resilient impact resistant member extending from one side of the break line to the other that biases the catching glove **10** toward the at rest position. It is also contemplated that instead of or in addition to the impact resistant member **100** biasing the catching glove **10** toward the at rest position, a rear resilient member disposed in the rear portion **16** could bias the catching glove **10** toward the at rest position. In one such embodiment, the rear resilient member extends in both the finger cover **56** and the thumb cover **60**.

[0143] Turning now to FIGS. **8** to **10** a shape of the front portion **14** of the catching glove **10** will be described in more detail. The front portion **14** is shaped to define a puck reflection area **160**, bound by dotted line **162** in FIG. **9**. A shot hockey puck making contact with the front portion **14** inside the puck reflection area **160** has a high likelihood of being reflected into the trap **18** to be caught, hence the name puck reflection area **160**. In the present embodiment, the shape of the puck reflection area **160** is defined by the unitary impact resistant member **100**. In the at rest position of the catching glove **10**, the puck reflection area **160** has a generally parabolic cross-section as illustrated by line P in FIGS. **7**B and **8**. As can be seen in FIG. **7**B, in the at rest position of the catching glove **10**, the vertex V of the parabolic cross-section taken along line P is disposed on a finger side of a glove length line L of the catching glove **10** (i.e. on a same side of the glove length line L as the finger region **24**). The glove length line L is the shortest line extending from the heel **84** of the catching glove **10** to a point M on the trap **18** being furthest from the heel **84**, with the length line L following a contour of the front portion **14** and the trap **18**, with the catching glove **10** being in the at rest position.

[0144] The puck reflection area **160** is shaped such that, in the at rest position of the catching glove **10**, for each incident line **164** being normal to a plane defined by a front surface of the cuff region **14** and passing through the puck reflection area **160**, a corresponding reflection line **166** extends through the trap **18**. The reflection line **166** extends from a point of intersection **168** between its corresponding incident line **164** and the puck reflection area **160**. For each trio of an incident line **166**, its corresponding reflection line **166** and its corresponding normal line **170**, the three lines **164**, **166**, **170** are in a common plane. The incident line **164** and its corresponding reflection line **166** are at equal angles from a corresponding normal line **170** that is normal to the puck reflection area **160** at the point of intersection **168**.

[0145] In FIG. **9**, the catching glove **10** is illustrated in the at rest position and has been oriented such that the plane defined by the front surface of the cuff region **14** corresponds to the drawing page. Three examples of incident lines **164**A, **164**B and **164**C are shown. Since the incident lines **164**A, **164**B, **164**C are perpendicular to the drawings page, they have been shown by X's, with the lines **164**A, **164**B, **164**C being at the centers of the X's. Each of the incident lines **164**A, **164**B, **164**C has a corresponding reflection line **166**A, **166**B, **166**C respectively, a corresponding point of intersection **168**A, **168**B, **168**C respectively, and a corresponding normal line **170**A, **170**B, **170**C respectively. As can be seen, each of the reflection lines **166**A, **166**B, **166**C extends through the trap **18**. For ease of understanding, FIG. **10** schematically illustrates the lines **164**A, **166**A, **170**B in their common plane. As can be seen in FIG. **10**, the angle A**1** between the reflection line **166**A and the normal line **170**A is equal to the angle A**2** between the incident line **164**A and the normal line **170**A.

[0146] It is understood that during use of the catching glove **10**, hockey pucks will often not be

shot onto the puck reflection area **160** along an incident line that is normal to the plane defined by the cuff portion **20**. It is also understood that even for a hockey puck shot onto the puck reflection area **160** along an incident line that is normal to the plane defined by the cuff portion **20**, the hockey puck will likely not reflect along a reflection line **166** as described above, but will deviate from the reflection line **166** due to impact absorption by the front portion **14** and due to the orientation of the hockey puck when it impacts the puck reflection area **160**. However, by shaping the front portion to have an outer surface providing a puck reflection area **160** as described above, the likelihood of the hockey puck being reflected into the trap **18** is high.

[0147] In some embodiments, the puck reflection area **160** is at least 80 percent of a total outer surface area of the thumb region **22**, the finger region **24** and the palm region **26**. In some embodiments, the puck reflection area **160** is at least 90 percent of the total outer surface area of the thumb region **22**, the finger region **24** and the palm region **26**. In some embodiments, the puck reflection area **160** is at least 95 percent of the total outer surface area of the thumb region **22**, the finger region **24** and the palm region **26**. In some embodiments, the puck reflection area **160** corresponds to the total outer surface area of the thumb region **22**, the finger region **24** and the palm region **26**.

[0148] Modifications and improvements to the above-described embodiments of the present invention may become apparent to those skilled in the art. The foregoing description is intended to be exemplary rather than limiting. The scope of the present technology is therefore intended to be limited solely by the appended claims.

Claims

1. A goalkeeper catching glove comprising: a front portion defining a cuff region, a thumb region, a finger region, and a palm region, the palm region being concave, the palm region extending between the thumb region and the finger region, and between the cuff region and the finger region, and the front portion comprising a unitary impact resistant member, the unitary impact resistant member spanning at least a majority of the thumb region, at least a majority of the finger region, and at least a majority of the palm region; a rear portion connected to the front portion, the front portion and the rear portion defining therebetween a space for receiving a hand of a goalkeeper; and a trap connected to at least one of the front portion or the rear portion, the trap extending between the thumb region and the finger region.

2. The goalkeeper catching glove of claim 1, wherein the unitary impact resistant member spans at least 95 percent of the thumb region, the finger region, and the palm region.

3. The goalkeeper catching glove of claim 2, wherein the unitary impact resistant member spans the cuff region, the thumb region, the finger region, and the palm region.

4. The goalkeeper catching glove of claim 1, wherein: the unitary impact resistant member is foldable between a rest position and a plurality of folded positions; and the unitary impact resistant member is normally biased toward the rest position.

5. The goalkeeper catching glove of claim 1, wherein the unitary impact resistant member is made from plastic.

6. The goalkeeper catching glove of claim 5, wherein the unitary impact resistant member is made from one of: polycarbonate (PC), acrylonitrile butadiene styrene (ABS), PC-ABS blend, polyketone (PK), PC siloxane copolymer, PC blend, thermoplastic, thermoplastic composite, and high-density polyethylene (HDPE).

7. The goalkeeper catching glove of claim 6, wherein the unitary impact resistant member is made from PC.

8. The goalkeeper catching glove of claim 1, wherein the unitary impact resistant member is a molded unitary impact resistant member.

9. The goalkeeper catching glove of claim 1, wherein the front portion further comprises a facing

connected to a front of the unitary impact resistant member.
10. The goalkeeper catching glove of claim 9, wherein the facing is laminated on the front of the unitary impact resistant member.
11. The goalkeeper catching glove of claim 10, wherein the facing is made from synthetic polyurethane.
12. The goalkeeper catching glove of claim 1, wherein the front portion further comprises a foam backing connected to a back of the unitary impact resistant member.
13. The goalkeeper catching glove of claim 12, wherein the foam backing is laminated on the back of the unitary impact resistant member.
14. The goalkeeper catching glove of claim 1, wherein the front portion further comprises an inner member connected to the unitary impact resistant member, the inner member being disposed between the unitary impact resistant member and the rear portion.
15. The goalkeeper catching glove of claim 14, wherein the inner member is made from foam.