The present invention provides a quick lace hand protection system including a hand protection device, such as a boxing glove, a plurality of quick lace receivers attached thereto, and a lace extending through the quick lace receivers. The received portion of the lace being received within a raised plane associated with the inside surface of the hand protection device.
QUICK LACE HAND PROTECTION SYSTEM

CROSS-REFERENCE TO RELATED APPLICATION

[0001] This application claims the benefit of the prior filed U.S. provisional application No. 61/760,530 filed Feb. 4, 2013, which is incorporated herein by reference.

FIELD OF THE INVENTION

[0002] Present disclosure relates to an apparatus for protecting individuals during combat sporting. More specifically, it discloses a device that protects the hands of an individual engaging in contests of hand-to-hand combat or training for the same.

BACKGROUND OF THE INVENTION

[0003] The use of hand protection in fighting contests undertaken for sport has been known since at least Ancient Greece. The gloves and the sport of boxing in antiquity, however, were very different from modern boxing. In those times fighters would tie strips of leather around their hands for protection. During the era of the Roman Empire fighters added metal to inflict greater damage with these “gloves,” sometimes called gladiatorial cestus. Boxing was banned near the end of the fourth century but experienced a revival by the seventeenth century. Most fights were fought with bare knuckles until gloves were mandated under the Marquess of Queensberry rules, published in the mid-nineteenth century.

[0004] Around the time the Queensberry rules were drafted, the modern boxing glove was invented. Today boxing gloves come in different styles and weights to accommodate different uses, such as speed gloves, bag gloves, sparring gloves, and fight gloves. Speed gloves tend to be relatively light vinyl or leather mittens designed to protect the athlete’s hands against scrapes and contusions. Bag gloves are cushioned to protect the athlete’s hands against the progressively stronger forces associated with striking heavier punching bags. Sparring gloves and fight gloves are designed to protect both athletes, from striking and from being struck, during bouts.

[0005] The modern boxing glove generally includes a leather mitt that extends distally from the athlete’s forearm, past the wrist, and to the end of the hand and is fixed in a clinched fist position. The glove contains compartments to separate the thumb from the four fingers. The outside face of the glove, which corresponds to the backside (or outside) of the arm, hand and fingers, contains padding to dampen the forces transferred between the athlete’s fist and the target of his punch. Similarly, when gloves are used defensively, the padding is used to dampen the forces transferred from the opponent’s strike to the athlete’s hands. Some gloves have padding only around the section containing the hand while other gloves have padding around the hand and wrist sections. The inside face of the glove, which corresponds to the inside of the arm, wrist and palm of the hand, generally contains less padding, if any, and generally only offers protection from cuts and scratches. The inside face of the glove also includes a slit that extends from the opening of the glove distally along the inside face to a point proximate to the bottom of the athlete’s palm. This slit defines two opposing sides of the inside face and is used for securing the glove to the athlete.

[0006] It is important for the boxing gloves to have a snug fit on the athlete’s arm and hand. Most gloves are secured to the athlete with either Velcro™ straps or string laces both of which pull the opposing sides of the inside face together. Traditionally the gloves include holes, which the string laces are laced through. The holes are typically paired together such that there are a plurality of pairs of opposing holes on the opposing sides of the inside face along the slit of the inside face. The holes extend through the glove from exterior, through the padding, to the interior of the glove. Thus, the laces are strung in a three-dimensional fashion. That is, the laces are strung between opposing holes across the slit and in a plane that generally lies parallel to the inside face of the gloves. The laces are also strung through the holes in a direction generally normal to the stringing plane, and thus also generally normal to the inside face of the glove, as the lace moves into and out of the holes.

[0007] In operation, the boxing glove must be prepared for the athlete to insert his arm, which requires loosening each section of the lace through each of the plurality of pairs of opposing holes. The athlete then slides his hand, wrist and forearm into the glove and then his coach, trainer or some other person assists the athlete in tying up the laces of the glove. Tying up the laces of the typical boxing glove requires the tying assistant to tighten each section of the lace through each of the plurality of pairs of opposing holes, beginning with the distal end of the glove and working proximally up the athlete’s arm.

[0008] Trainers and coaches spend a considerable amount of time lacing up boxer’s gloves. This process of lacing up boxing gloves is repeated twice for each boxer, a plurality of times per week for training over a plurality of months and years. Boxing training has become an increasingly popular way for the general public to exercise and maintain physical fitness. With this increased popularity gyms across the country are spending more and more time lacing up boxing gloves.

SUMMARY OF THE INVENTION

[0009] The present invention provides a quick lace hand protection system that includes a hand protection device having a first opening, a plurality of quick lace receivers and a lace. The quick lace receivers each include a base attached to the hand protection device and a cannula that is generally aligned with the first opening. The hand protection device includes a sizing separation that extends distally from the first opening. The quick lace receivers are attached to the hand protection device on opposing sides of, and proximate to, the sizing separation. The cannula of each quick lace receiver positioned on each respective side of the sizing separation generally extends in parallel alignment to one another. The cannula on the first side of the sizing separation and the cannula on the second side of the sizing separation are generally aligned such that the cannula extend in parallel directions. These two separated sets of parallel cannula define a raised plane that is generally proximate and parallel to the surface of the hand protection device and sizing separation. The lace is strung back and forth across the sizing separation and through the cannula of the separated quick lace receivers. The portion of the lace received by the quick lace receivers generally rests in the raised plane. In operation, the lace is pulled tight causing the separated quick lace receivers to be pulled together, which in turn pull the separated sides together. Pulling and tying the lace causes the hand protection device to be cinched to the individual wearer’s arm. In the preferred embodiment of the present invention, the lace is
pulled only once to tighten all of the pairs of quick lace receivers along the separated sides.

[0010] Various objects and advantages of the present invention will become apparent from the following description taken in conjunction with the accompanying drawings wherein are set forth, by way of illustration and example, certain embodiments of this invention.

[0011] The drawings constitute a part of this specification, include exemplary embodiments of the present invention, and illustrate various objects and features thereof.

BRIEF DESCRIPTION OF THE DRAWINGS

[0012] FIG. 1 is a perspective view and illustrates an embodiment of the device.

[0013] FIG. 2 is an end view and illustrates an embodiment of the device.

[0014] FIG. 3 is a detail view and illustrates an embodiment of the device.

[0015] FIG. 4 is a perspective view and illustrates an embodiment of the device.

DETAILED DESCRIPTION OF THE INVENTION

[0016] Referring to the drawings in more detail, the reference numeral generally depicts a quick lace hand protection system. The quick lace hand protection system broadly includes a hand protection device 20 for protecting an individual's hand, a plurality of quick lace receivers 10 and a lace 16 for securing the hand protection device 20 to the individual's hand.

[0017] Referring to FIG. 1, the illustrated embodiment of the quick lace hand protection system 1 the hand protection device 20 may comprise one of the plurality of types of boxing gloves, mixed-martial arts gloves, or other glove or mitten type devices that are tied or cinched onto the individual's hand and/or wrist. In the illustrated embodiment of the present invention the hand protection device 20 comprises a boxing glove. The hand protection device 20 has a sizing separation 22 that extends distally from an aperture 28 that extends through the proximate end of the hand protection device 20 to a distal point on the hand protection device 20. In the illustrated embodiment the distal point in approximately halfway between the aperture 28 and the distal end of the hand protection device 20.

[0018] Two opposing sidewalls, a first sidewall 24 and a second sidewall 26, define the sizing separation 22. The sidewalls 24 and 26 extend distally from the proximate end. In the illustrated embodiment, the sidewalls 24 and 26 extend distally from the aperture 28, generally parallel to one another, towards an end wall that extends from the end of the first sidewall 24 to the second sidewall 26. In one embodiment, the endwall may comprise the distal ends of the sidewalls 24 and 26 formed such that they intersect with one another. The sizing separation 22 enables a plurality of sized hands and wrists to use the same hand protection device 20. In operation, the sizing separation 22 provides an increased effective diameter of the aperture 28. The sizing separation 22 also provides a means for securing the device to the individual's wrist and forearm. In the illustrated embodiment of the present invention, the sizing separation 22 is the slit in the boxing glove that extends along the inside face of the glove from the aperture 28 to a point proximate to the individual's wrist. In another embodiment, the sizing separation 22 is elastic material that separates two sidewalls.

[0019] The quick lace receivers 10, each comprising a base 12 attached to a cannula 14, are spaced along, and attached to, the hand protection device 20 to secure the same to the individual's hand and wrist. In the illustrated embodiment of the present invention, the quick lace receivers 10 are spaced along the opposing first and second sidewalls 24 and 26 such that each quick lace receiver 10 along the first sidewall 24 has an opposing quick lace receiver 10' along the second sidewall 26. In the illustrated embodiment, the quick lace receivers 10 are attached to the outer surface of the boxing glove and are secured thereto by a means for attachment. In one embodiment, the means for attachment comprises stitching that attaches the quick lace receiver 10 to the boxing glove by thread. In another embodiment, the means for attachment is incorporated into the boxing glove where the boxing glove itself includes components that form the quick lace receivers 10. In the illustrated embodiment, the quick lace receivers 10 each comprise a strip of material rolled and sewn on one end to form the cannula 14 with the remaining unrolled portion comprising the base 12 that attaches to the boxing glove.

[0020] The cannulas 14 on the first and second sidewalls 24 and 26, along either side of the sizing separation 22, are generally aligned with the other cannulas 14 on the same sidewall. Each cannula 14 on the same sidewall is generally aligned to extend in a direction parallel to the direction the sizing separation 22 extends and generally extend in a parallel direction to one another. In one embodiment, the cannulas 14 each lie in, and thus define, a raised plane 30 that is above, and generally parallel to, the surface of the hand protection device 20. In another embodiment, the raised plane 30 is proximate to the surface of the hand protection device 20. In yet another embodiment, the cannulas 14 are positioned between the sidewalls 24 and 26 such that the raised plane 30 lies between the sidewalls 24 and 26.

[0021] The lace 16 is strung through the cannulas 14 in a two dimensional fashion. That is, the lace 16 is strung between quick lace receivers 10 on opposing sidewalls across the sizing separation 22. In one embodiment, the lace 16 is strung through the cannula 14 of the quick lace receiver 10 on the first sidewall 24 and then is strung across the sizing separation 22 and through the cannula 14 of one of the opposing quick lace receivers 10' and backwards to the next quick lace receiver 10 until the lace 16 is strung through all of the quick lace receivers 10 and 10'. The portion of the lace 16 that is strung through each of the quick lace receivers 10 generally rests within the raised plane 30. Thus, the lace 16 generally does not travel in a direction normal to the surface of the hand protection device 20 or the raised plane 30. This reduces the drag resistance on the lace 16 when pulled to cinch the hand protection device 20 to the individual's arm and obviates the need to cinch the lace 16 at each receiving interval (whether that is each set of quick lace receivers 10, each set of holes from prior art gloves, or other receiving element).

[0022] In operation of the illustrated embodiment, the lace 16 is strung through the cannula 14 such that the lace 16 rests in a loose position and presenting a first diameter associated with the aperture 28 and sizing separation 22. Pulling both ends of the lace 16 away from the boxing glove and holding the lace 16 in a tensioned position presents a second diameter associated with the aperture 28 and sizing separation 22, as illustrated in FIG. 4. When the lace 16 is pulled into the tensioned position the opposing quick lace receivers 10 and 10' are pulled towards one another and the bases 12 thereof pull the first and second sidewalls 24 and 26 towards one
another thereby presenting the second diameter, and decreasing the diameter of the hand protection device 20 generally, to secure the same to the individual’s forearm.

[0023] In operation of the quick lace hand protection system 1, the individual user slides his hand, wrist and forearm through the aperture 28 and into the hand protection device 20. The lace 16 is then pulled into the tensioned position cinching the hand protection device 20 to the individual and the lace 16 is then tied. In competitions, the operation includes the additional step of taping the laces—wrapping tape around the proximal end of the hand protection device 20 to cover the laces and that portion of the hand protection device 20 containing the same.

[0024] The present disclosure has described, and FIGS. 1-4 have depicted, several embodiments of the device 1 which provides a quick lace hand protection system. Having thus described and disclosed the subject matter, what is claimed as new and desired to be secured by Letters Patent is:

1. A quick lace hand protection system for protecting individuals during combat sporting contests and combat sport training, the system comprising:
   a hand protection device generally extending distally from a proximal end to a distal end for receiving one of said individual’s hands through an aperture located at and opening from said proximal end;
   said aperture having a first diameter for communicating said individual’s hand therethrough and said aperture having a second diameter for preventing communication of said hand therethrough;
   a plurality of quick lace receivers being attached to said hand protection device and each quick lace receiver having a cannula;
   a lace having a first end and a second end and extending from said first end to said quick lace receivers through said cannulas to said second end;
   said lace having a loose position wherein said aperture presents said first diameter and a tensioned position wherein said aperture presents said second diameter.

2. The quick lace hand protection system of claim 1 further comprising:
   said hand protection device including a palm surface corresponding to the inside side of said hand received therein;
   a first sidewall and a second sidewall extending distally from said aperture and along said palm surface and terminating at an endwall;
   said first and second sidewalls presenting a sizing separation therebetween;
   said sizing separation and together with said aperture presenting said first diameter for receiving one of said hands therethrough.

3. The quick lace hand protection system of claim 2 wherein said quick lace receivers are attached on said palm surface and proximately along said sizing separation.

4. The quick lace hand protection system of claim 2 wherein said tensioned position moves said first sidewall towards said second sidewall to present said second diameter.

5. The quick lace hand protection system of claim 3 further comprising:
   said quick lace receivers being spaced along said sizing separation such that a plurality of quick lace receiver pairs are presented;
   each of said pairs including a first quick lace receiver attached proximate to said sizing separation and associated with said first sidewall and further including an opposing quick lace receiver attached proximate to said sizing separation and being associated with said second sidewall.

6. The quick lace hand protection system of claim 5 wherein each of said cannula of said first quick lace receivers are aligned to one another.

7. The quick lace hand protection system of claim 5 wherein each of said cannula of said opposing quick lace receivers are aligned to one another.

8. The quick lace hand protection system of claim 5 further comprising:
   an alignment axis that extends between said proximal end and said distal end and being generally aligned with said longitudinal dimension associated with said hand protection device;
   said cannula of said first quick lace receivers extending in a direction generally parallel to said alignment axis; and
   said cannula of said opposing quick lace receivers extending in a direction generally parallel to said alignment axis.

9. The quick lace hand protection system of claim 8 wherein said sizing separation defined by said first and second sidewalls is generally oriented in the direction said alignment axis extends.

10. The quick lace hand protection system of claim 8 further comprising:
    a plane having a first parallel axis and a second parallel axis and each said axis being generally parallel to said alignment axis;
    said first parallel axis extending through the center point of each of said cannula of said first quick lace receivers;
    said second parallel axis extending through the center point of each of said cannula of said opposing quick lace receivers;
    said lace consisting of a first loose section, a second loose section and a received section, such that said first loose section including that portion of said lace extending from said first end to a first cannula and said second loose section including that portion extending from a first opposing cannula to said second end and said received section including that portion extending between said first loose section and said second loose section; and
    said received section of said lace being received within said plane.

11. The quick lace hand protection system of claim 10 wherein said plane is raised outward from said palm surface.