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(54) **MOUTHGUARD AND LIPGUARD ASSEMBLY**

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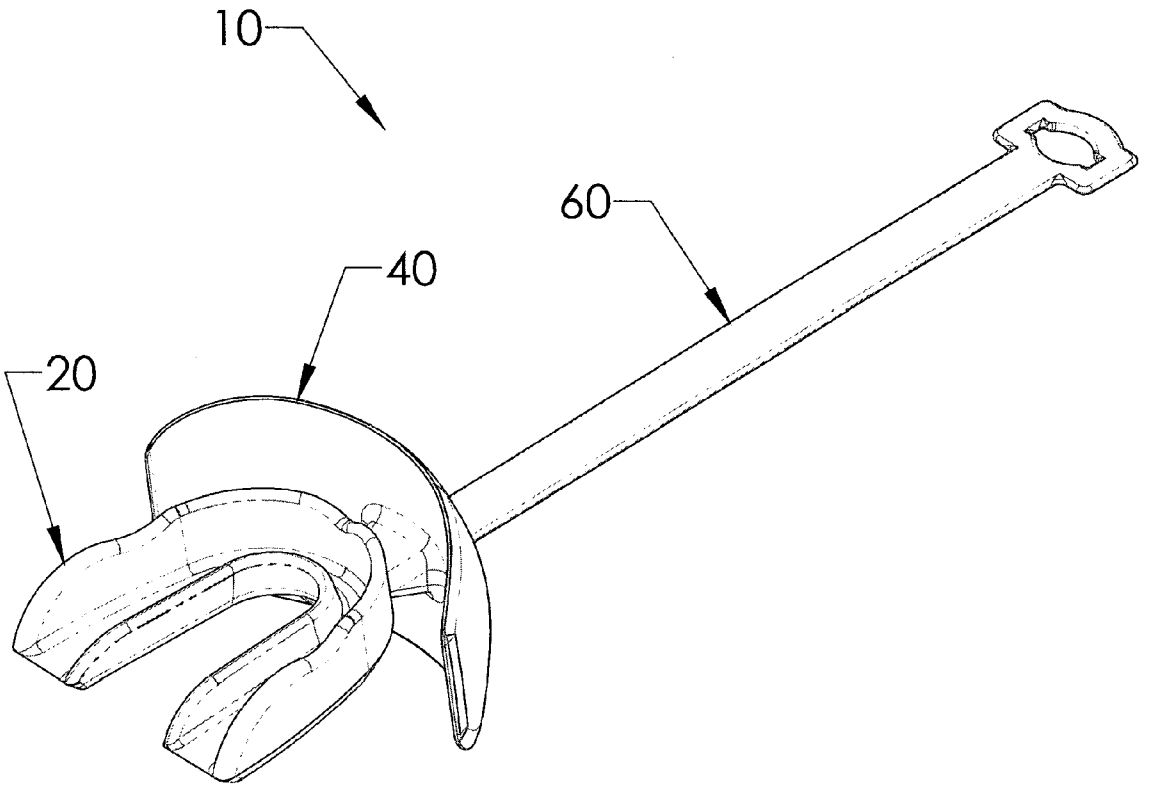
(57) **ABSTRACT**

A protective assembly having a mouthguard adapted to protect a user's teeth, a lipguard for protecting the user's lips releasably connectable to the mouthguard, and a tether strap releasably connectable to the lipguard and having an additional portion connectable to a point of the user's equipment, for example a facemask of a helmet. The mouthguard can have a standard form or be manufactured as a custom-fitted molding.



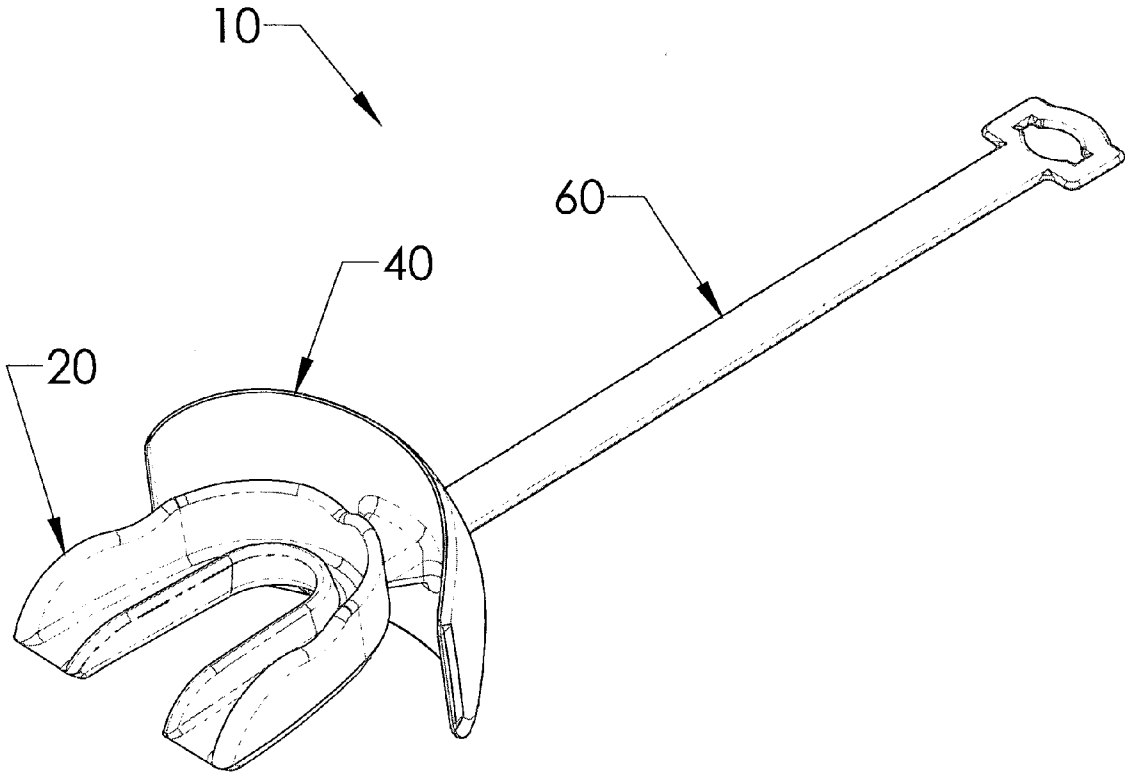


FIG. 1

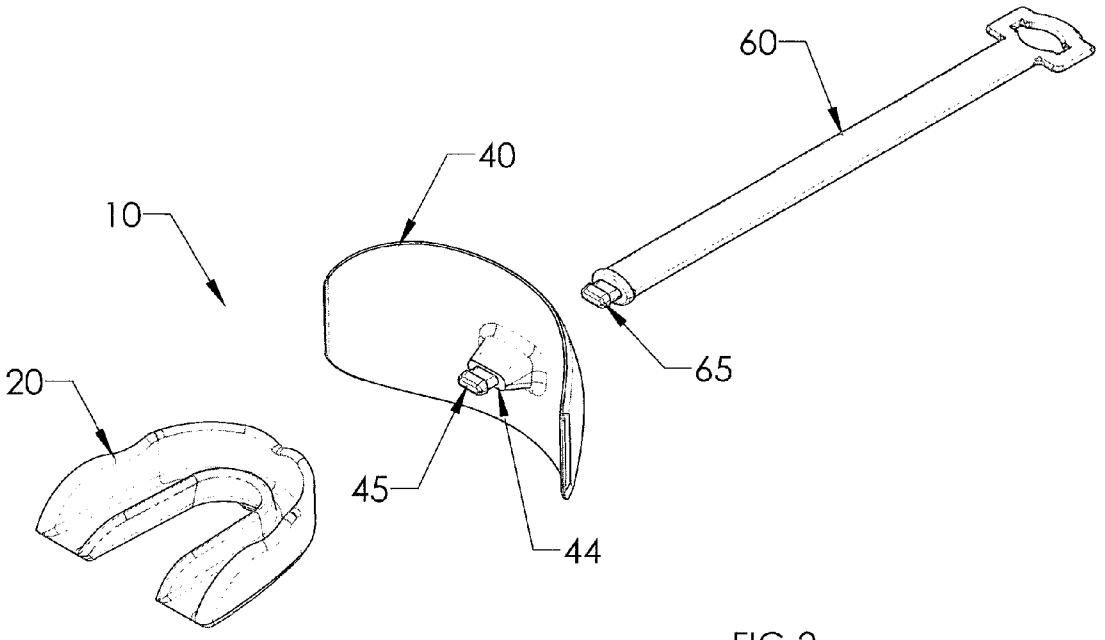


FIG.2

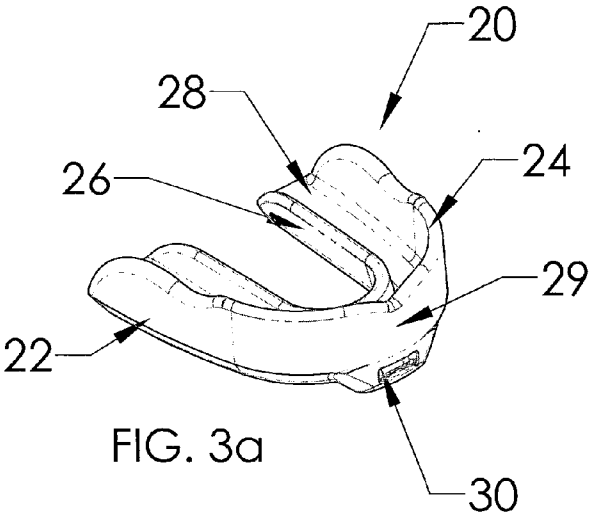


FIG. 3a

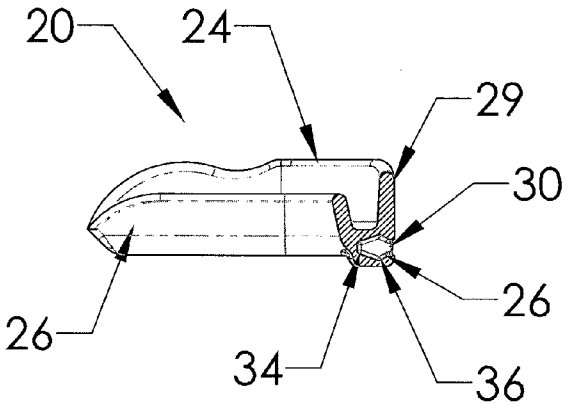


FIG.3c

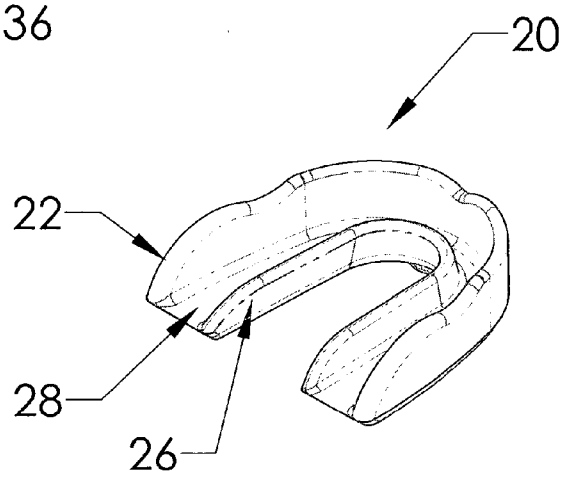


FIG. 3b

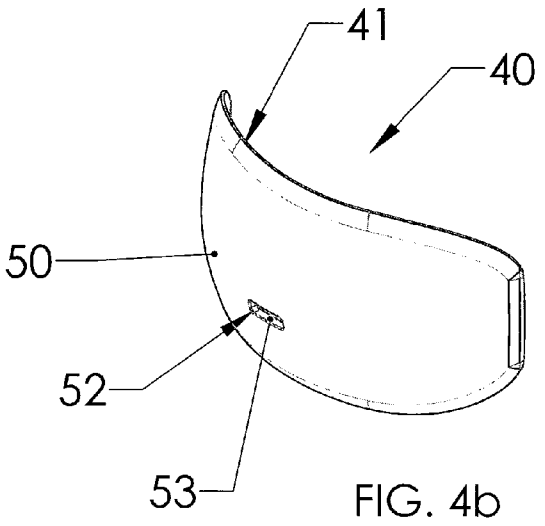


FIG. 4b

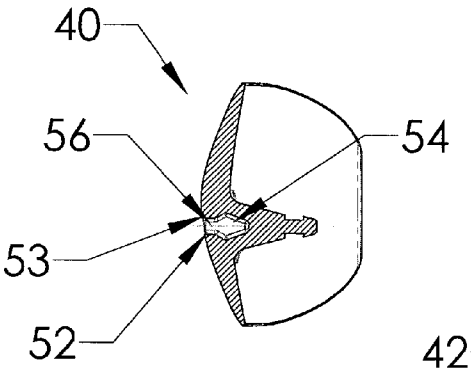


FIG. 4c

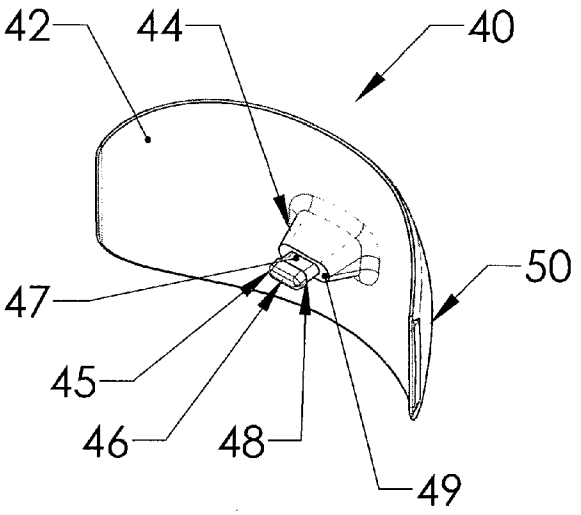


FIG. 4a

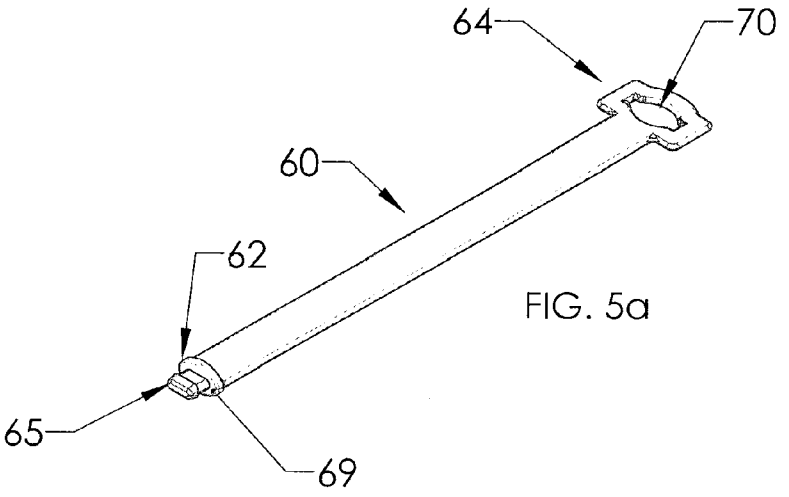


FIG. 5a

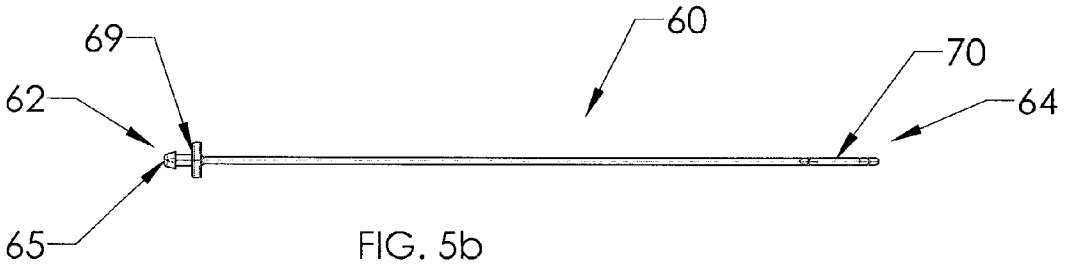


FIG. 5b

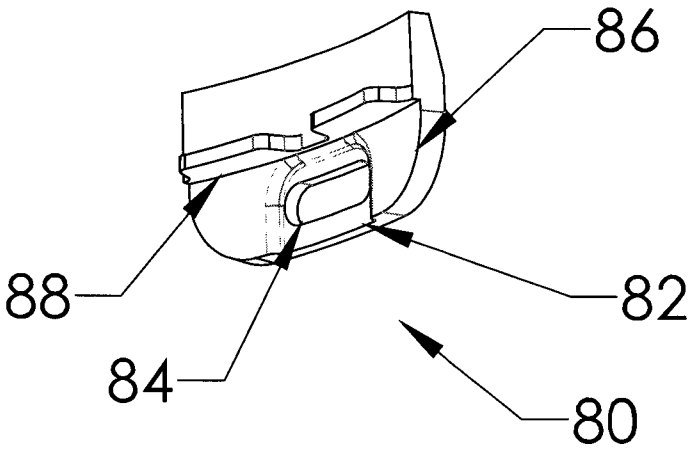


FIG. 6b

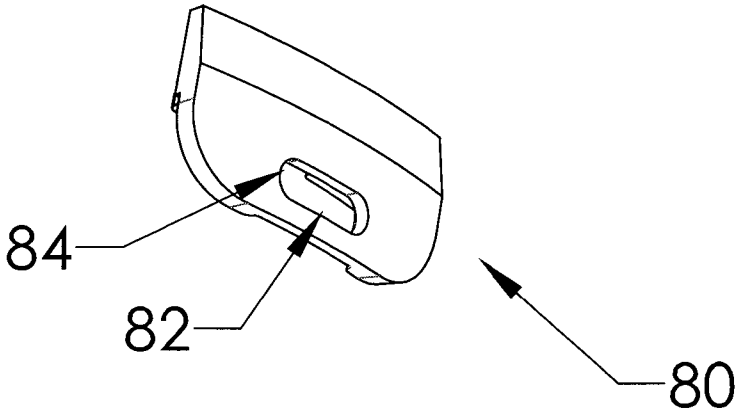


FIG. 6a

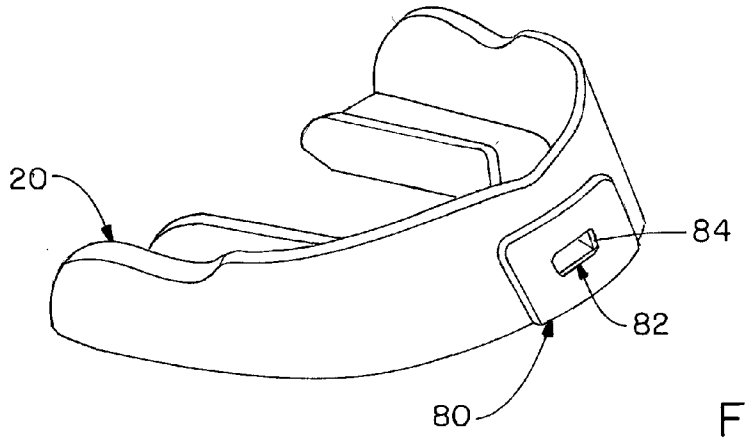


FIG.-7

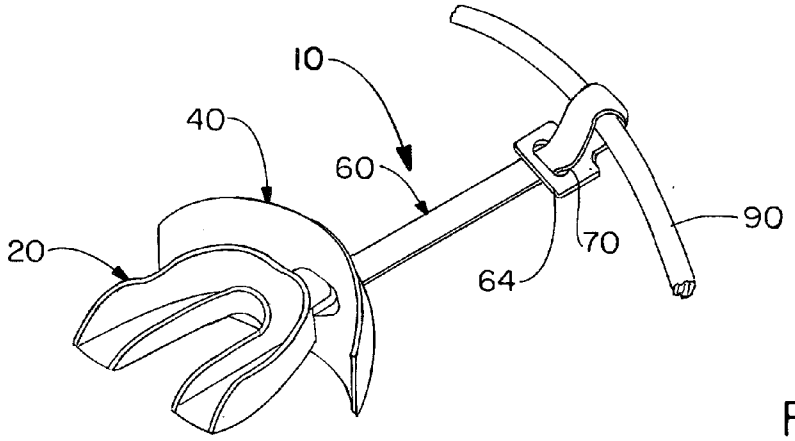


FIG.-8

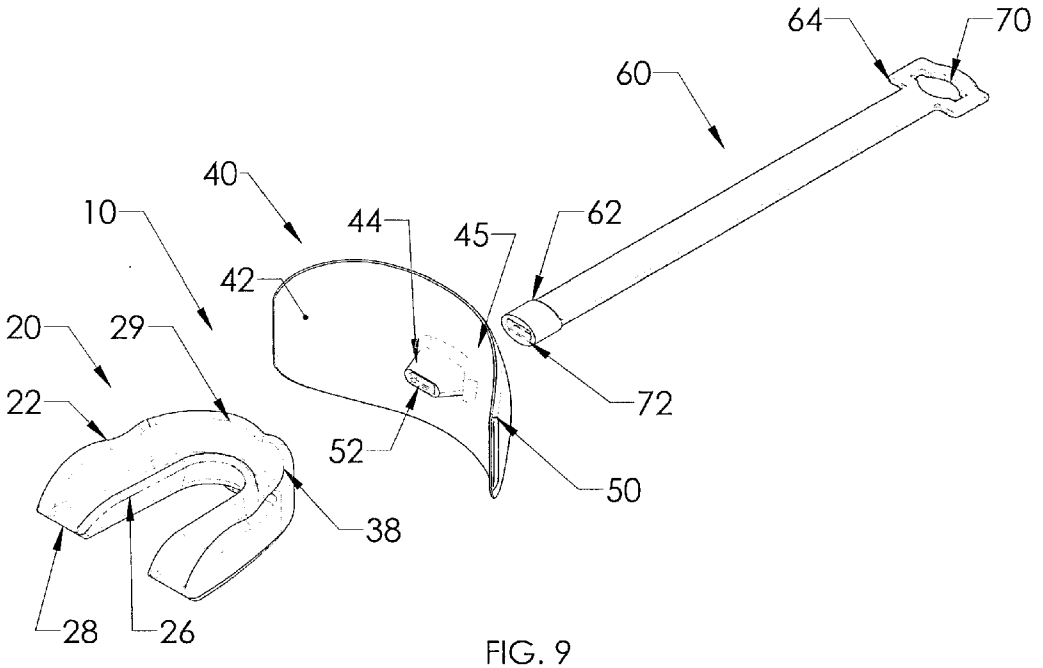


FIG. 9

MOUTHGUARD AND LIPGUARD ASSEMBLY

FIELD OF THE INVENTION

[0001] The present invention relates to a protective assembly comprising a mouthguard adapted to protect a user's teeth, a lipguard for protecting the user's lips releasably connectable to the mouthguard, and a tether strap releasably connectable to the lipguard and/or directly to the mouthguard and having an additional portion connectable to a part of the user's equipment, for example a facemask of a helmet. The mouthguard can have a standard form or be manufactured as a custom-fitted molding.

BACKGROUND OF THE INVENTION

[0002] Mouthguards are worn by a user, in particular an athlete, during a competition or sporting activity, for example during a game or practice, in order to reduce the chance of injury and to protect the teeth and gums. Often, mouthguards are worn while playing football which includes physical contact between players during almost every play, that can result in one or more teeth being broken, chipped, cracked, or even knocked out.

[0003] Mouthguards can be classified in one manner as tethered or untethered. Untethered mouthguards generally consist of the mouthguard per se. Tethered mouthguards can be utilized in situations where the competition includes protective equipment, such as a helmet or other headgear. Providing the mouthguard with a tether that can be connected to a portion of the user's equipment reduces the chance that the mouthguard will be lost or mistaken for another user's mouthguard. Another advantage of a tethered mouthguard is that the tether can be utilized to insert and remove the mouthguard so that germs from a user's hand do not contact the mouthguard that it is inserted to a person's mouth to prevent illness or disease.

[0004] Many different types of tethered mouthguards are known in the art, see for example U.S. Pat. Nos. 3,485,242, 4,997,905, 5,234,005, 5,353,810, 5,365,946, 5,692,523, 5,755,233, D496,498, 7,353,828, 7,708,018, 8,074,658, D663,485 and U.S. Publication Nos. 2012/0111343 and 2012/0279506.

[0005] Still other tethered mouthguards include a lip protector. U.S. Pat. No. 3,692,025 to Greenberg relates to a plastic guard of general U-shape and channel cross-section for insertion in the mouth to receive a set of teeth including a strap extending from the outer lower anterior portion of the guard and a protector for the lips and the surrounding facial areas slidable on the strap and frictionally retainable thereon in adjusted position to accommodate different lip thicknesses and jaw formations.

SUMMARY OF THE INVENTION

[0006] In view of the above, it would be desirable to provide a protective assembly comprising a mouthguard releasably connected to a lipguard, the lipguard releasably connected, on a second side opposite the first side connected to the mouthguard, to a tether strap that can be connected to a user's equipment, for example a part of a helmet such as a facemask. Release or separation between two components occurs when a threshold retention force is exceeded.

[0007] An object of the present invention is to provide a tether strap with a male fitting that has a dimensional size that is smaller, preferably having a head that is slightly smaller in width and height, than a head of a male fitting of the lipguard, which allows an assembly comprising the tether strap male fitting operatively connected to the lipguard female fitting to have a lower threshold retention force when compared to the threshold retention force of an assembly comprising the male fitting of the lipguard operatively connected to the female fitting of the mouthguard thereby allowing the tether strap to release from the lipguard quicker than release of the male fitting of the lipguard from the female fitting of the mouthguard, for example when a protective device, such as a helmet, to which the tether strap is operatively connected is pulled off during use, thereby allowing the lipguard and mouthguard to remain connected in place for protection.

[0008] Yet another object of the invention is to provide a tether strap directly connected to the mouthguard, wherein the relatively small size or relevant dimensions of the male fitting of the tether strap allow for release or separation between the tether strap and mouthguard at a lower threshold retention force in comparison to the threshold retention force present between the male fitting of the lipguard and the female fitting of the mouthguard.

[0009] Yet a further object is to provide an assembly wherein the dimensions of the female fitting of the lipguard can be adjusted in comparison to the female fitting of the mouthguard in order to ensure that the tether strap is released from the lipguard prior to the lipguard being released from the mouthguard due to differences in retention force.

[0010] Still another object of the present invention is to provide a protective assembly including a mouthguard, a lipguard, and a tether strap, wherein at least two of the components include a male fitting adapted to mate with a female fitting present on at least two of the components. In a preferred embodiment, the lipguard includes both a male fitting and a female fitting, with one of the fittings connectable to the mouthguard and the other to the tether strap.

[0011] Yet another object of the present invention is to provide a mouthguard comprising at least two different components, for example a body and an insert that are permanently connected, wherein the insert is structured to be releasably connected to a lipguard.

[0012] A further object of the present invention is to provide a mouthguard that can be releasably connected to a lip protector by a single attachment point, whereby the lip protector is maintained at a fixed distance from the mouthguard under a normal condition, wherein external forces are not placing stress on one of the components in a direction toward the other component.

[0013] Yet another object of the present invention is to provide a lip protector having a boss extending outwardly from a first side and having an end including a male fitting. Additionally, the lip protector includes a second side with a female fitting extending inwardly into the body of the lip protector and into the boss on the first side of the lip protector, adapted for accepting a portion of a tether strap.

[0014] Accordingly, in one aspect of the invention, a protective mouthguard and lipguard assembly is disclosed, comprising a mouthguard having an outer wall connected to a tray adapted to contact one or more teeth of a user, the mouthguard outer wall having a first, outer surface including a female fitting; a lipguard having a first side adapted to face a user, the first side including a male fitting adapted to be removably insertable into the female fitting of the mouthguard and retained by a friction fit, the mouthguard having a second side including a female fitting; and a tether strap having a first end

including a male fitting removably insertable into the female fitting of the lipguard and retained by a friction fit.

[0015] In another aspect of the invention, a protective mouthguard and lipguard assembly is disclosed, comprising a mouthguard having an outer wall and an inner wall connected by a tray adapted to contact one or more teeth of a user, the mouthguard having a first, outer surface including a female fitting; a lipguard having a first side adapted to face a user, the first side including a boss having a male fitting adapted to be removably insertable into the female fitting of the mouthguard and connected until a first threshold retention force is exceeded, the mouthguard having a second side including a female fitting; and a tether strap having a first end including a male fitting removably insertable into the female fitting of the lipguard and connected until a second threshold retention force is exceeded, wherein the second threshold retention force is lower than the first threshold retention force.

[0016] In yet another aspect of the invention, a protective mouthguard and lipguard assembly is disclosed, comprising a mouthguard having an outer wall and an inner wall connected by a tray adapted to contact one or more teeth of a user, the mouthguard having a first surface including a male fitting; a lipguard having a first side adapted to face a user, the first side including a female fitting into which the male fitting of the mouthguard is insertable and adapted to be retained until a threshold retention force is exceeded, the lipguard having a second side including a male fitting; and a tether strap having a first end including a female fitting into which the male fitting of the lipguard is removably insertable and retained until a second threshold retention force is exceeded.

BRIEF DESCRIPTION OF THE DRAWINGS

[0017] The invention will be better understood and other features and advantages will become apparent by reading the detailed description of the invention, taken together with the drawings, wherein:

[0018] FIG. **1** is a perspective view of one embodiment of the mouthguard and lipguard assembly of the present invention including a mouthguard releasably connected to a lipguard which in turn is releasably connected to a tether strap;

[0019] FIG. **2** is an exploded view of the embodiment illustrated in FIG. **1** particularly illustrating male fittings present on the lipguard and tether strap;

[0020] FIG. **3***a* is a front right perspective view of one embodiment of a mouthguard of the present invention particularly illustrating a female recess;

[0021] FIG. **3***b* is a right rear perspective view of the mouthguard illustrated in FIG. **3***a;*

[0022] FIG. **3***c* is a cross-sectional side view of the mouthguard illustrated in FIG. **3***a;*

[0023] FIG. **4***a* is a right rear perspective view of one embodiment of a lipguard of the present invention particularly illustrating one embodiment of a boss including a male fitting;

[0024] FIG. **4***b* is a front left perspective view of the embodiment illustrated in FIG. **4***a;*

[0025] FIG. **4***c* is a cross-sectional view through the central portion of the lipguard illustrated in FIG. **4***a;*

[0026] FIG. **5***a* is a right rear perspective view of one embodiment of a tethered strap of the present invention;

[0027] FIG. **5***b* is a side view of the embodiment illustrated in FIG. **5***a;*

[0028] FIG. **6***a* is a front left perspective view of one embodiment of an insert for a mouthguard; and

[0029] FIG. **6***b* is a left rear view of the embodiment illustrated in FIG. **6***a;*

[0030] FIG. **7** is a perspective view of one embodiment of a mouthguard of the present invention having an insert fixedly connected thereto, wherein the insert includes a female fitting adapted to accept a male fitting of a lipguard or a tether strap;

[0031] FIG. **8** is a perspective view similar to the assembly illustrated in FIG. **1** with the tether strap connected to a portion of a protective device, in particular a portion of a face mask; and

[0032] FIG. **9** is an exploded view of one embodiment of a mouthguard and lipguard assembly of the present invention including a lipguard having a female fitting on a first side adapted to face a user and a tether strap also including a female fitting, said female fittings adapted to be connected to male fittings on the mouthguard and the second side of the lipguard, respectively.

DETAILED DESCRIPTION OF THE INVENTION

[0033] Referring now to the drawings, FIG. **1** illustrates a right rear perspective view of a mouthguard and lipguard assembly **10** including a mouthguard **20** operatively and releasably connected to a lipguard **40**, that is in turn operatively connected to a tether strap **60**. FIG. **2** is an exploded view of FIG. **1** particularly illustrating a male fitting **45** present on the lipguard **40** and a male fitting **65** on tether strap **60**.

[0034] FIGS. **3***a* to **3***c* illustrate one embodiment of a mouthguard **20** of the present invention. The mouthguard **20** includes a generally U-shaped body **22** having an outer, labial wall **24** and an inner, lingual wall **26** interconnected by a channel or tray **28** adapted to receive the user's teeth. In particular, some or all of the user's upper teeth are accommodated on the upper surface of tray **28** and some or all of the user's lower teeth may contact the lower surface of the tray **28** when the mouthguard **20** is in use.

[0035] The front surface **29** of the outer wall **24** includes a female fitting **30**, for example in the form of a recess or socket, that accepts and releasably accommodates a male fitting **45** of the lipguard **40** as described further herein. Preferably the shape of the female fitting **30** generally conforms to and/or accepts the desired shape of the male fitting **45** of the lipguard **40** inserted thereinto.

[0036] In order to create a releasable or breakaway connection between the mouthguard **20** and lipguard **40**, the open end or aperture **32** of the female fitting **30** allows the head **46** of the male fitting **45** to pass into and out of the female fitting **30** with a desired resistance. Stated in another manner, a friction fit is formed between the mouthguard **20** and lipguard **40**, in particular between female fitting **30** and male fitting **45**. Connection between the male fitting **45** and the female fitting **30** is broken once a threshold retention force is exceeded. Fitting inner wall **34** is sized and shaped to accommodate the head **46** of male fitting **45** after insertion and in some embodiments has a greater volume than the male fitting to facilitate the desired release requirements between the mouthguard **20** and lipguard **40** of the assembly **10**.

[0037] In a preferred embodiment, the fitting inner wall **34** includes a restriction **36**, generally a narrowing of the fitting wall **34**, adapted to contact the barb **48** on the head **46** of the male fitting **45** and thus retain the lipguard **40** until the threshold retention force is exceeded, at which time the lipguard **40** is separated from the mouthguard **20**. In one embodiment of the invention, the aperture **32** of female fitting **30** is generally

horizontally oriented and restriction **36** extends outwardly relative to the aperture at an angle of from about 10° to about 50°, preferably from about 20° to about 40°, and most preferably at an angle of about 30° in order to accommodate head **46** of male fitting and provide the desired retention force. In one embodiment, the female fitting has a depth, measured horizontally, that ranges generally from about 3 to about 15 mm, desirably from about 4 to about 12 mm, and preferably from about 6 to about 10 mm.

[0038] The mouthguard **20** of the present invention can be formed from one or more different materials and also can comprise one or more layers in order to achieve a desired structure for a user. Various materials are known in the art that can be utilized including, but not limited to, thermoplastics, rubbers and thermoplastic elastomers such as polyolefin polymers and copolymers for example polyethylene, and ethylene vinyl acetate (EVA); thermoplastic polyurethanes; nylons; olefin block copolymers; styrenic block copolymers, and the like, and blends or combinations thereof. The mouthguard can incorporate various additives such as known to those of ordinary skill in the art, for example antimicrobial agent, softeners, fillers, colorants, stabilizers, flavorants, and combinations thereof. In various other embodiments, the mouthguard can include electronics that can measure and/or relay information such as impact forces, directions of impacts, and body temperatures.

[0039] The mouthguard **20** of the present invention can be a non-custom or standard unit in which the mouthguard is formed of a standard size, generally including a tray and is not fitted to a particular user's teeth. The mouthguard is injection molded in one embodiment. In a preferred embodiment, the mouthguard **20** is a custom-fitted unit modified to have indentations of the particularly user's teeth impressed therein by any suitable process. For example, the mouthguard can be formed in one embodiment by immersing the mouthguard in boiling water, removing it while it is formable, placing over the user's teeth or a mold of the user's teeth to form teeth impressions therein and thereafter allowing it to cool or immersing the mouthguard in cold water to fix or set the impressions in the tray. In a further embodiment, the mouthguard can be formed by pressure laminating the insert in between layers of dental plastics over dental casts formed from dental impression molds.

[0040] One embodiment of the lipguard **40** is particularly illustrated in FIGS. **4***a* through **4***c* of the invention. Lipguard **40** generally has an arcuate shape and may also be made of the same or a different material as mouthguard **20**. Thus, the lipguard **40** can be formed from one or more different materials and also can comprise one or more layers in order to provide a desired structure. The materials listed hereinabove for the mouthguard **20** are herein incorporated by reference. The lipguard is injection molded in a preferred embodiment. The lipguard **40** includes a generally concave rear or first side **42** and a convex front or second side **50**. Lipguard **40** is designed to cover the upper and lower vermillion and adjacent tissues. When the lipguard **40** is mounted on the mouthguard **20**, the concave rear, first side **42** faces toward the mouthguard **20** and the convex, front, second side **50** faces away from the mouthguard **20** and generally towards tether strap **60**.

[0041] The first side **42** of lipguard **40** includes a post or boss **44** extending outwardly, generally from the central portion of first side **42**. Boss **44** includes a distal end comprising a protrusion or male fitting **45** adapted to releasably mate with female fitting **30** of mouthguard **20**. Male fitting **45** includes a head **46** at a distal end connected by neck **47**, narrower in both vertical height and lateral width than the head **46**, to the main body of boss **44**. The head **46** includes a barb **48** that contacts the restriction **36** and provides the friction fit. Boss **44** also includes a seat **49** that is adapted to contact front surface **29** of mouthguard **20** when the lipguard **40** is operatively connected to mouthguard **20**. In order to provide a desired spacing between body **41** of lipguard **40** and the front surface **29** of mouthguard **20**, for example such that the lips of the user can be accommodated, the height or length of the boss between first side **42** and seat **49** of lipguard **40** ranges generally from about 5 to about 15 millimeters, desirably from about 7 to about 13 millimeters and preferably is from about 9 to about 11 millimeters measured perpendicular to the plane of the body at the area of connection to the boss. Neck **47** can have a vertical height that ranges generally from about 0.5 to about 8 mm, desirably from about 1 to about 5 mm, and preferably is about 2.54 mm. The length of neck **47** ranges generally from about 1 to about 10 mm, desirably from about 2 to about 6 mm, and preferably from about 3 to about 5 mm. The head **46** has a length, generally measured horizontally, that ranges generally from about 0.5 to about 10 mm, desirably from about 1 to about 5 mm, and preferably from about 1.5 to about 3.5 mm. The maximum vertical height of the head **46** is at least 10% greater, desirably at least 25% greater, and preferably at least 45% greater than the vertical height of the neck.

[0042] The front or second side **50** of lipguard **40** includes a recess or female fitting **52** as illustrated in FIGS. **4***b* and **4***c* generally located on the opposite side of boss **44** or first side **42**. The depth of female fitting **52** extends into a portion of boss **44**, in some embodiments. Similar to female fitting **30** of mouthguard **20**, the female fitting **52** of lipguard **40** is in the form of a recess or socket that accepts and releasably accommodates a male fitting, in particular male fitting **65** of tether strap **60**. In order to create the releasable connection between lipguard **40** and tether strap **60**, the open end or aperture **53** of female fitting **52** allows the head **66** of male fitting **65** to pass into and out of the female fitting with the desired resistance. Inner wall **54** is shaped to accommodate head **66** of fitting **65** and in some embodiments has a greater volume then the male fitting **65** to facilitate the desired release requirements between the lipguard **40** and tether strap **60** of assembly **10**. In one embodiment the female fitting **52** of lipguard **40** and female fitting **30** of mouthguard **20** have identical dimensions. In a further embodiment, the one or more dimensions are within 80%, 90%, or 95% of each other.

[0043] In some embodiments, the female fitting **52** of lipguard **40** is dimensionally larger than the female fitting **30** of mouthguard **20** in order to ensure release of the tether strap **60** from the lipguard **40** prior to releasing the lipguard **40** from the mouthguard **20**, due to differences in retention force based on the relative sizes of the male and female fittings.

[0044] When it is desirable to provide different retention forces between the mouthguard and lipguard and the lipguard and tether strap, the dimensions of one or more of the two female fittings and two male fittings are varied.

[0045] In one embodiment, the inner wall **54** of lipguard **40** includes a restriction **56**, which is generally a narrowing of the fitting wall, preferably near the open end or aperture **53** and is adapted to contact the barb **68** on head **66** of the male fitting **65** and thus retain the tether strap **60** in contact with the lipguard **40** until a threshold retention force is exceeded, at which time the lipguard and tether strap are disconnected.

[0046] One embodiment of a tether strap **60** is illustrated in FIGS. **5***a* and **5***b*. The tether strap includes a first end **62** and a second end **64**. First end **62** includes a projection or male fitting **65** adapted to releasably mate with the female fitting **22** of lipguard **40**, or in some embodiments the female fitting **30** of mouthguard **20**. The second end **64** includes a closed loop **70** that allows the first end **62** to be inserted therethrough in order form a second closed loop to tether the tether strap **60** to, for example, a portion of a helmet, such as a bar of the facemask. Seat **69** has a width and height greater than the open end or aperture **53** of female fitting **52** and therefore acts as a stop and prevents the first end **62** from being inserted further into the female fitting **52**.

[0047] The tether strap **60** can be formed from one or more different materials, in one or more layers. Various materials utilized in the art include, but are not limited to, thermoplastics, rubbers, and thermoplastic elastomers such as, but not limited to those described above with respect to mouthguard **20**, herein incorporated by reference. The tether strap is injection molded in a preferred embodiment.

[0048] As indicated hereinabove, in one embodiment the male fitting **65** of tether strap **60** is dimensionally smaller in size than the male fitting **45** of lipguard **40** to facilitate release of the first end **62** of tether strap **60** from the female fitting **52** of lipguard **40** when compared to the release of male fitting **45** of lipguard **40** from female fitting **30** of mouthguard **20**. This feature allows the mouthguard to stay in place below the threshold retention force between the lipguard **40** and mouthguard **20** and thereby continued protection of the lips of the user. Stated in another manner, the threshold retention force between the male fitting **65** of tether strap **60** and the female fitting **52** of lipguard **40** is lower in a preferred embodiment than the threshold retention force between the male fitting **45** of lipguard **40** and female fitting **30** of mouthguard **20**. That said, in the embodiment where the male fitting **65** of tether strap **60** is dimensionally smaller in size than the male fitting **45** of lipguard **40**, one or more of the applicable dimensions of the male fitting, including, but not limited to, vertical height of the head, vertical height of the neck, horizontal width of the head or horizontal width of the neck can be varied for example and can have a difference of at least 3%, desirably at least 5%, and preferably greater than or equal to 10%.

[0049] Due to the releasable friction fit between the first end **62** of tether strap **60** and the female fitting **52** of lipguard **40**, once a threshold retention force is exceeded, the tether strap **60** is withdrawn from the female fitting **52** of lipguard **40**.

[0050] FIGS. **6***a* and **6***b* illustrate one embodiment of an insert **80** that can be utilized in conjunction with mouthguard **20**. FIG. **7** illustrates one embodiment of insert **80** connected to mouthguard **20**. The insert includes a female fitting having an aperture **84** leading to an inner wall **86**. One or more projections **88** are present on an inner surface of the insert to aid in securing the insert to mouthguard **20**. The outer surface of insert **80** generally has a convex shape, while the inner surface has a generally concave shape or appearance and further includes the inner wall **86** and one or more projections **88**. As illustrated in FIG. **7**, the one or more projections **88** are adapted to have the upper surface thereof placed against a lower surface of the mouthguard so that a reliable fit can be achieved in each case.

[0051] The insert can be formed from one or more materials as described hereinabove. The insert **80** is used in custom mouthguards fabricated from thermoforming dental plastics over dental cast of varying stones and plasters made from an individual's mouth using dental impression materials to form a mold. Preferably a single sheet of dental plastic is thermoformed over the dental cast. The insert is attached to the first formed layer on the incisal edge of the anterior teeth at the midline. Then a second layer of dental plastic is formed over the first layer with the attached insert, seal or laminating the insert between the two layers of plastics. Additional layer(s) of dental material then can be added if necessary. The formed layers of the dental material are then trimmed and formed in a mouthguard form. The layers of formed dental plastic that sealed or laminated the insert between the layers of dental plastics are cut away from the aperture **84** in the attachment to restore the female fitting **82** of the insert allowing the lip guard **40** and/or the tether strap **60** to be attached to the insert-containing mouthguard **20**.

[0052] FIG. **8** illustrates assembly **10** of the present invention including mouthguard **20** connected to lipguard **40** which in turn is connected to tether strap **60**. The second end **64** of tether strap **60** is illustrated looped around a portion of a user's equipment, in particular a portion of a face mask **90**.

[0053] FIG. **9** illustrates another embodiment of the present invention wherein mouthguard **20** is provided with a male fitting **38** projecting outwardly from the front surface **29**. Male fitting **38** of mouthguard **20** is releasably matable with the female fitting **52** of lipguard **40** which, in this embodiment, is located on first side **42** of lipguard **40**. Female fitting **52** is located on boss **44** in this embodiment. As also illustrated in FIG. **9**, the male fitting **45** is located on the second side of lipguard **40** and releasably mates with the female fitting **72** present on tether strap **60** at first end **62**.

[0054] In accordance with the patent statutes, the best mode and preferred embodiment have been set forth; the scope of the invention is not limited thereto, but rather by the scope of the attached claims.

What is claimed is:

1. A protective mouthguard and lipguard assembly, comprising:

a mouthguard having an outer wall connected to a tray adapted to contact one or more teeth of a user, the mouthguard outer wall having a first, outer surface including a female fitting;

a lipguard having a first side adapted to face a user, the first side including a male fitting adapted to be removably insertable into the female fitting of the mouthguard and retained by a friction fit, the mouthguard having a second side including a female fitting; and

a tether strap having a first end including a male fitting removably insertable into the female fitting of the lipguard and retained by a friction fit.

2. The protective mouthguard and lipguard assembly according to claim **1**, wherein the mouthguard further includes an inner wall, wherein the outer wall and the inner wall are connected by the tray, and wherein the lipguard first side includes a boss extending outwardly from the first side and wherein the male fitting is connected to a distal end of the boss.

3. The protective mouthguard and lipguard assembly according to claim **2**, wherein the male fittings of the tether strap and lipguard each have a head having a greater vertical height than a neck.

4. The protective mouthguard and lipguard assembly according to claim **3**, wherein the head of the male fitting of the tether strap is smaller than the head of the male fitting of

the lipguard such that less force is required to remove the male fitting of the tether strap from the female fitting of the lipguard as compared to removing the male fitting of the lipguard from the female fitting of the mouthguard.

5. The protective mouthguard and lipguard assembly according to claim **4**, wherein the tether strap has a second end including a loop, wherein the tether strap first end includes a seat to which the neck is connected whereby the seat is dimensionally larger than an aperture of the female fitting such that the seat contacts the second side of the lipguard when the male fitting of tether strap is inserted into the female fitting of the lipguard, and wherein the lipguard first end includes a seat to which the neck is connected whereby the seat is dimensionally larger than an aperture of the mouthguard female fitting such that the seat contacts the outer side of the mouthguard when the male fitting of the lipguard is inserted into the female fitting of the mouthguard.

6. The protective mouthguard and lipguard assembly according to claim **5**, wherein the first side of the lipguard has a concave shape and the second side of the lipguard has a convex shape, and wherein the boss has a length between the first side and the seat of the lipguard that ranges from about 5 to about 15 mm.

7. The protective mouthguard and lipguard assembly according to claim **1**, wherein the first, outer surface including a female fitting is present on an insert that is fixedly connected to a front surface of the mouthguard.

8. A protective mouthguard and lipguard assembly, comprising:

a mouthguard having an outer wall and an inner wall connected by a tray adapted to contact one or more teeth of a user, the mouthguard having a first, outer surface including a female fitting;

a lipguard having a first side adapted to face a user, the first side including a boss having a male fitting adapted to be removably insertable into the female fitting of the mouthguard and connected until a first threshold retention force is exceeded, the mouthguard having a second side including a female fitting; and

a tether strap having a first end including a male fitting removably insertable into the female fitting of the lipguard and connected until a second threshold retention force is exceeded, wherein the second threshold retention force is lower than the first threshold retention force.

9. The protective mouthguard and lipguard assembly according to claim **8**, wherein the male fittings of the tether strap and lipguard each have a head having a greater vertical height than a neck.

10. The protective mouthguard and lipguard assembly according to claim **9**, wherein the head of the male fitting of the tether strap is smaller than the head of the male fitting of the lipguard.

11. The protective mouthguard and lipguard assembly according to claim **10**, wherein the tether strap has a second end including a loop, wherein the tether strap first end includes a seat to which the neck is connected whereby the seat is dimensionally larger than an aperture of the female fitting such that the seat contacts the second side of the lipguard when the male fitting of tether strap is inserted into the female fitting of the lipguard.

12. The protective mouthguard and lipguard assembly according to claim **11**, wherein the lipguard first end includes a seat to which the neck is connected whereby the seat is dimensionally larger than an aperture of the mouthguard female fitting such that the seat contacts the outer side of the mouthguard when the male fitting of the lipguard is inserted into the female fitting of the mouthguard.

13. The protective mouthguard and lipguard assembly according to claim **12**, wherein the first side of the lipguard has a concave shape and the second side of the lipguard has a convex shape, and wherein the boss has a length between the first side and the seat of the lipguard that ranges from about 5 to about 15 mm.

14. The protective mouthguard and lipguard assembly according to claim **13**, wherein the first, outer surface including a female fitting is present on an insert that is fixedly connected to a front surface of the mouthguard.

15. A protective mouthguard and lipguard assembly, comprising;

a mouthguard having an outer wall and an inner wall connected by a tray adapted to contact one or more teeth of a user, the mouthguard having a first surface including a male fitting;

a lipguard having a first side adapted to face a user, the first side including a female fitting into which the male fitting of the mouthguard is insertable and adapted to be retained until a threshold retention force is exceeded, the lipguard having a second side including a male fitting; and

a tether strap having a first end including a female fitting into which the male fitting of the lipguard is removably insertable and retained until a second threshold retention force is exceeded.

16. The protective mouthguard and lipguard assembly according to claim **15**, wherein the second threshold retention force is lower than the first threshold retention force.

17. The protective mouthguard and lipguard assembly according to claim **16**, wherein the male fittings of the mouthguard and lipguard each have a head having a greater vertical height than a neck, and wherein the head of the male fitting of the lipguard is smaller than the head of the male fitting of the mouthguard.

18. The protective mouthguard and lipguard assembly according to claim **17**, wherein the lipguard first side includes a boss extending outwardly from the first side, and wherein the female fitting is connected to a distal end of the boss.

19. The protective mouthguard and lipguard assembly according to claim **18**, wherein the first side of the lipguard has a concave shape and the second side of the lipguard has a convex shape, and wherein the boss has a length between the first side and the seat of the lipguard that ranges from about 5 to about 15 mm.

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