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PROTECTIVE MOUTHPIECE

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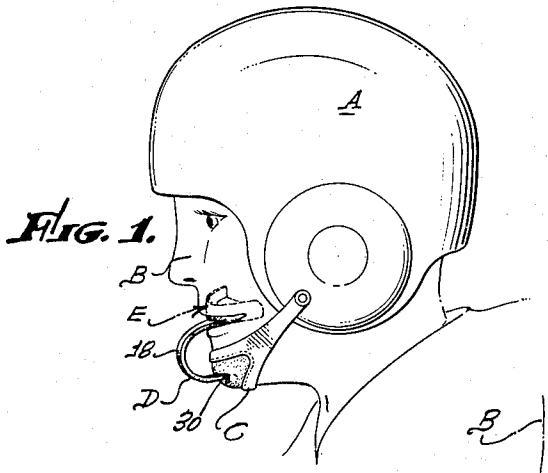


FIG. 1.

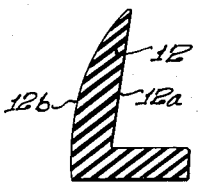


FIG. 4.

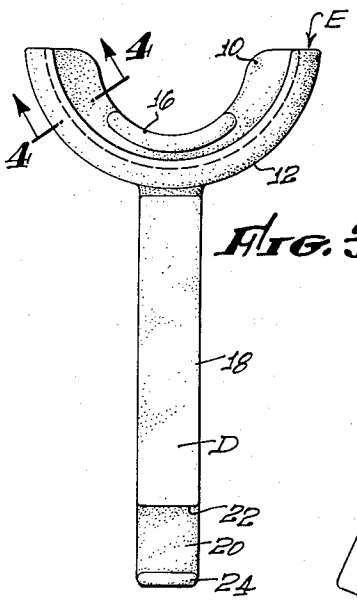


FIG. 3.

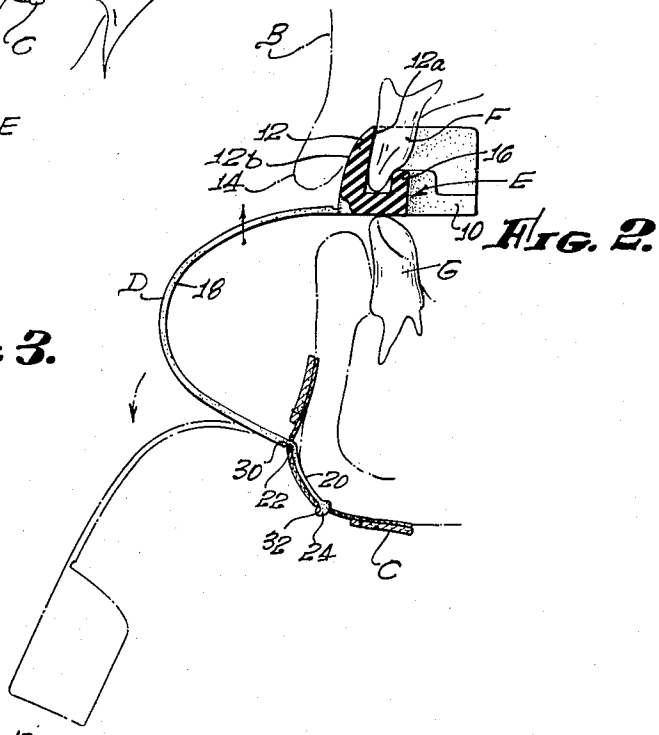


FIG. 2.

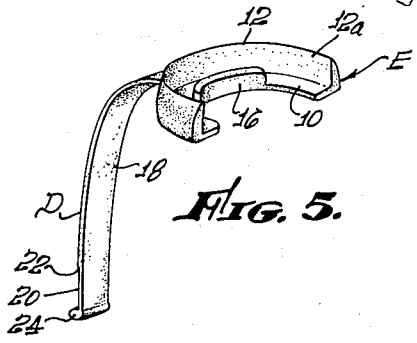


FIG. 5.

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PROTECTIVE MOUTHPIECE

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10 Claims. (Cl. 128—136)

The present invention relates generally to sporting goods, and more particularly to an improved mouth guard for football players, paratroopers, and others engaged in such strenuous physical activities.

Although the use of mouth guards to protect the teeth of persons engaged in physical activities, hereinafter referred to generally as players, is by no means new, devices of this type previously available have been found to be uncomfortable to wear, hampered the user's breathing, or seriously interfered with speech when in a protective position.

The major objects of the present invention are to provide a mouth guard that eliminates the disadvantages of previously available devices of this nature, is compact, light in weight, tends at all times to remain in a protective position, and can be easily and quickly removed from or positioned in a player's mouth.

Other objects of the invention are to supply a mouth guard that is easily and quickly cleaned, can be fabricated from standard commercially available materials, and due to its structural simplicity, can be retailed at a sufficiently low price as to encourage its widespread use in those sports involving danger to the teeth.

These and other objects and advantages of the invention will become apparent from the following description of a preferred form thereof, and from the accompanying drawing illustrating same in which:

Figure 1 is a side elevational view of the invention affixed to the chin strap of a football helmet shown in a protective position;

Figure 2 is an enlarged vertical cross-sectional view of the device showing the manner in which it serves to protect the wearer's teeth;

Figure 3 is a top plan view of the invention;

Figure 4 is a vertical cross-sectional view of the device taken on line 4—4 of Figure 3; and

Figure 5 is a rear perspective view of the invention.

Referring now to Figure 1 of the drawing, it will be seen that a helmet A is positioned on the head B of a player and is removably held in this protective position by a chin strap C. The invention as best seen in Figures 3 and 5, includes a resilient band D that can be removably affixed to strap C, and due to the resiliency thereof, tends at all times to maintain a semi-circular resilient, tooth protector E in a protective position relative to the player's upper teeth F and lower teeth G. In practice it has been found desirable to mold band C and protector D as an integral unit from rubber, or other material having similar resilient qualities.

In detail the tooth protector E includes a flat semi-circular cushion **10**, which when the invention is in use, is positioned between the user's upper teeth F and lower teeth G. A rib **12** extends upwardly from the forward curved edge portion of cushion **10**. The interior face **12***a* of rib **12** tapers slightly upwardly and rearwardly, to the extent that it can be positioned in contact with the forward faces of the upper teeth F. The exterior face **12***b* of rib **12** curves downwardly and forwardly,

and is of such configuration as to be comfortable when the invention is positioned as shown in Figure 2, with the upper portion of face **12***b* in contact with the interior surface of the upper lip **14**.

A curved, straight-walled second rib **16** is formed at substantially the center of cushion **10** and in alignment with band D, which rib is so laterally spaced from rib **12** that teeth F tend to be gripped therebetween. Band D, as may best be seen in Figure 5, extends outwardly from cushion **10** in substantial alignment with rib **16**. Due to the resiliency of the material from which it is fabricated, band D assumes the forwardly and downwardly extending position shown in Figure 5, when the cushion **10** is held in a substantially horizontal position. Band D is formed with a first portion **18** that extends outwardly from cushion **10** and then develops into a second portion **20** which is thinner than the portion **18**. A transverse shoulder **22** is defined by the junction of band portions **18** and **20**. Second band portion **20** has a transversely disposed tab **24** formed on the free end thereof.

At substantially the lower central portion of chin strap C two spaced parallel slits **30** and **32** are formed through which the second band portion **20** is threaded. Band portion **20** is disposed on the interior surface of strap C, with tab **24** being situated on the exterior surface thereof. Tab **24** is longer than slit **32** whereby it cannot without the exertion of considerable force be moved inwardly through the slit.

In Figure 2 it will be seen that band portion **18** is thicker than the width of slit **30** and that shoulder **22** prevents downward movement of the first band portion therethrough. Band portions **22** and **24** are of such length that when the protector E is disposed on the teeth F in a protective position, the band D bows upwardly and outwardly as shown in solid line in Figure 2. When band D is thus positioned it serves two functions; first, prevents inadvertent separation of protector E from chin strap C, and second, at all times urges protector E upwardly into a protecting position on the teeth F. When protector E is manually removed from the mouth, the protector simply hangs downwardly on the lower end of band D as shown in phantom line in Figure 2.

In use, the operation of the invention is extremely simple, and inasmuch as it has been explained in detail hereinabove, need not be repeated.

From experience it has been found that the majority of accidents to athlete's teeth are not actual loss of teeth from a sudden blow, but chipping or cracking thereof when the unprotected teeth F and G are suddenly and jarringly brought together. Resilient cushion **10** completely prevents such contact of teeth F and G, and the rib **12** protects the longer, more vulnerable upper teeth F against a sudden blow. In particular, it is to be noted that the mouthpiece provides the above-described protection, yet permits the user to talk freely and to breath in an unhampered manner.

Although the form of the invention herein shown and described is fully capable of achieving the objects and providing the advantages hereinbefore mentioned, it is to be understood that it is merely illustrative of the presently preferred embodiment thereof and that we do not mean to limit ourselves to the details of construction herein shown and described other than as defined in the appended claims.

We claim:

1. A protective mouthpiece for the upper and lower teeth of a person wearing a helmet having a chin strap affixed thereto, including: a resilient generally semi-circular cushion that is adapted to be positioned between said upper and lower teeth; first resilient means that extend upwardly from at least a portion of the forward edge of

said cushion and cover at least a portion of said upper teeth; second resilient means that extend upwardly from at least a portion of the rearward edge of said cushion, which first and second means are so laterally spaced that they tend to grip at least a portion of said upper teeth therebetween; and third resilient means affixed to said cushion, having attaching means for connection with a chin strap.

2. A mouthpiece as defined in claim 1 in which said first means is a curved rib of the same general shape as the edge portion of said cushion from which it projects.

3. A mouthpiece as defined in claim 1 in which said second means is a curved rib of the same general shape as the rearward edge portion of the cushion from which it projects.

4. A mouthpiece as defined in claim 1 in which said third resilient means is a resilient band of such length as to bow forwardly when the lower end portion thereof is attached to a chin strap.

5. A mouthpiece as defined in claim 1 in which said third resilient means is a resilient band, and said attaching means is a transversely disposed tab provided on the outer end portion of said band that can be inserted through at least one slit of smaller dimensions than said tab formed in a chin strap.

6. A mouthpiece as defined in claim 1 in which said third resilient means is a resilient band that is formed with a free end portion of narrower thickness than the balance of said band which defines a transverse shoulder at the junction therewith, which band has a transversely disposed tab formed on the extremity thereof, with said shoulder and tab serving to define said attaching means for connection with a chin strap having two spaced slits formed therein when said free end portion is threaded through said slits.

7. A protective mouthpiece for the upper and lower

teeth of a person wearing a helmet having a chin strap affixed thereto, including: a resilient generally semicircular cushion that is adapted to be positioned between said upper and lower teeth; a first rib formed of resilient material that extends upwardly from the forward edge portion of said cushion, which rib is of such height as to be positioned between the interior surface of the upper lip and the exterior surfaces of said upper teeth; a second rib formed of resilient material that extends upwardly from at least a portion of the rearward edge portion of said cushion, which first and second ribs are so laterally positioned that a cavity is formed therein in which said upper teeth are situated; and resilient means connected to said cushion and having attaching means for connection with a chin strap.

8. A mouthpiece as defined in claim 7 in which said means is a resilient band and said attaching means is a transversely disposed tab formed on the outer end of said band that can be inserted through at least one slit of smaller dimensions that said tab formed in a chin strap.

9. A mouthpiece as defined in claim 7 in which said means is a resilient band that is formed with a free end portion of narrower thickness than the balance of said band which defines a transverse shoulder at the junction therewith, which band has a transversely disposed tab formed on the extremity thereof, with said shoulder and tab serving to define said attaching means for connection with a chin strap having two spaced slits formed therein.

10. A mouthpiece as defined in claim 7 in which said cushion, first and second ribs and said means are formed as an integral unit.

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