United States Patent [19]

Dunning

[11] **3,900,897**

[45] **Aug. 26, 1975**

[54] **ATTACHING MEANS FOR A FACEMASK**

[76] Inventor: **Fred R. Dunning,** 3800 Oakes Rd., Brecksville, Ohio 44141

[22] Filed: **Mar. 13, 1974**

[21] Appl. No.: **450,861**

[52] **U.S. Cl.** **2/9**
[51] **Int. Cl.**[2] **A42B 3/00**
[58] **Field of Search** 2/9, 10

[56] **References Cited**

UNITED STATES PATENTS

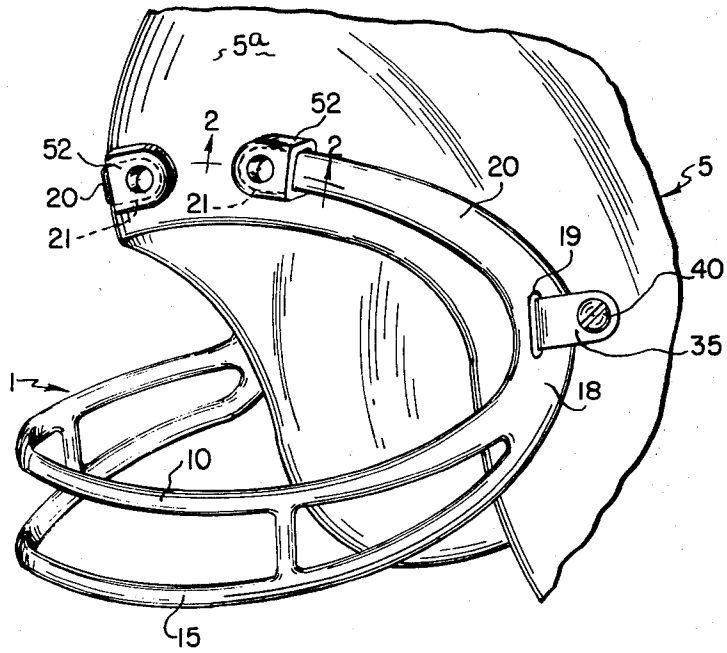
3,729,746	5/1973	Humphrey	2/9
D204,927	5/1966	Dunning	2/9 X

Primary Examiner—Richard J. Scanlan, Jr.
Assistant Examiner—Peter Nerbun
Attorney, Agent, or Firm—Baldwin, Egan, Walling & Fetzer

[57] **ABSTRACT**

A resilient attachment for a football facemask of one-piece construction formed of a base material such as aluminum and coated with a suitable plastic-like coating. The facemask is resiliently attached to a football helmet by the attaching means and capable of substantially absorbing shock effective to prevent injury to the player.

6 Claims, 3 Drawing Figures



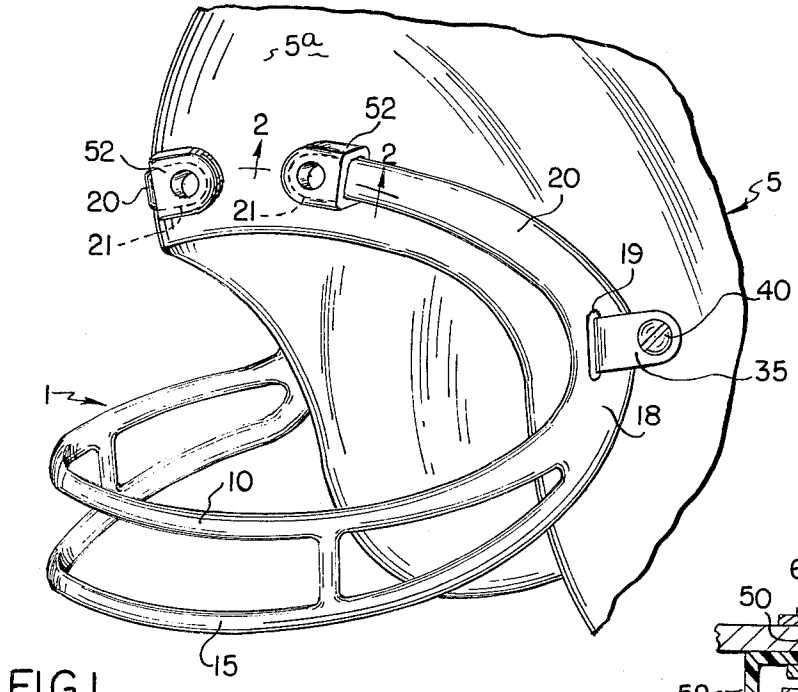


FIG.1

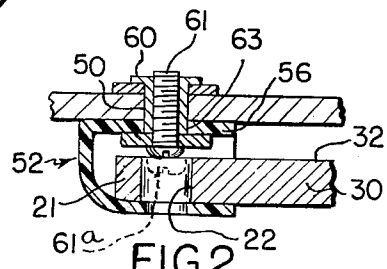


FIG.2

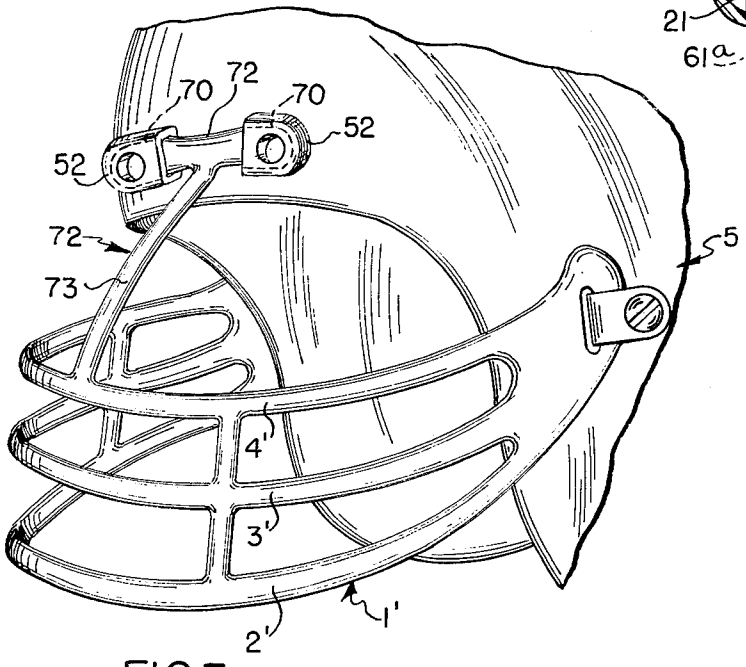


FIG.3

ATTACHING MEANS FOR A FACEMASK

BACKGROUND OF INVENTION

The present invention is directed to a resilient attaching means for use with a football facemask such as the type of facemask disclosed in the present applicant's U.S. Pat. Nos. **3,319,261**; Des. **204,927**; Des. **204,730**; Des. **204,731**; and Des. **207,479.**

Also, the resilient attaching means of the present invention is a further improvement over the present applicant's copending application Ser. No. **316,126,** filed on Dec. **18, 1972** (now abandoned).

The resilient facemask attaching means of this invention distinguishes over the present state of the art, and more particularly over the facemask attaching means of the aforementioned copending application, Ser. No. **316,126** by the provision of resilient boot or shoe-like members that are adapted to be attached to the player's helmet, and into which terminal portions of the facemask are inserted, said terminal portions being otherwise unsecured to the helmet and thus freely movable within the confines of said boot or shoe-like members to absorb the shock of any blows applied to the facemask.

OBJECTS OF THE INVENTION

It is an object of the present invention to provide improved resilient attaching means for resiliently attaching a facemask to a football helmet or like headgear, which attaching means provides substantially effective shock absorbency to a blow applied to the facemask.

Another object of the present invention is to provide an attaching means for resiliently attaching a facemask to a football helmet or the like and wherein certain parts of the facemask are insertable into boot or shoe-like members, being otherwise free to move therein to absorb the shock of a blow applied to the facemask.

These and other objects will become apparent from the specification that follows, the appended claims, and the drawings in which:

DESCRIPTION OF DRAWINGS

FIG. **1** is a partial front elevational view showing a facemask attached to a conventional football helmet by the resilient attaching means embodying the present invention;

FIG. **2** is a sectional view taken along the line **2—2** indicated in FIG. **1**; and

FIG. **3** is a partial front elevational view showing another embodiment of facemask attached to the football helmet using the attaching means of the present invention.

The present invention provides a unique, resilient attaching means for resiliently attaching a facemask such as, for example, a football facemask to the front portion of a conventional football helmet, being thus positioned to absorb the shock of a blow struck on said facemask.

As seen in the drawings a typical football facemask is identified in its entirety at **1** and is intended to be resiliently attached to a conventional football helmet **2.** In the form shown in FIG. **1** the mask comprises an upper arcuately curved bar **10** and a lower arcuately curved bar **15.** The bars **10** and **15** extend across the face opening of the helmet to protect the face of the player, the side ends of the bars converging together to

define an integral side fastening portion **18,** each portion having an elongated slot **19** therein.

Each side end portion of the mask is formed integrally with an upper extending arm or head portion **20** continuing upwardly from said portion **18** and which is intended to lie along the surface of the forehead part *5a* of the helmet **5.** As best seen in FIGS. **1** and **2,** each head portion **20** is, in turn, terminated in an end terminal or foot **21.** Each foot may be formed with a hole **22,** if desired.

As herein shown, the mask is preferably made of a suitable base material, such as aluminum core **30** that is coated with a tough durable plastic coating **32.** The core may be preferably made from a high strength, durable, shock resistant, stampable aluminum alloy of a high aluminum content such as aluminum alloy **2024** T-**3.** However, as is apparent, the facemask may be made of any other suitable plastic or metal materials.

As herein shown, each side portion **18** of the facemask is resiliently attached to the adjacent side surface of the helmet **5** by means of an elongated strap **35** which is looped through the slot **19** and wrapped around the side end portion **18** as best seen in FIG. **1.**

Suitable fastening means such as screw **40** extended through the side portion of the helmet and threadably engaging a mating nut (not shown) resiliently fasten strap **35** to the helmet so that a relatively small amount of movement is realized at said connection upon a blow being struck to the facemask capable of absorbing the shock resulting therefrom.

To this extent, the facemask and fastening means thus far disclosed are similar to the structure disclosed in my copending application Ser. No. **316,126.**

The improvement of the attaching means of the present invention is best seen in FIGS. **1** and **2,** wherein each foot terminal **21** on the end of the arm **20** of the facemask is resiliently attached to the front overlying forehead portion *5a* of the helmet **5.**

For this purpose the helmet is provided with a pair of apertures **50** spaced apart so that one of said apertures underlies one of said terminals **21.**

Each terminal **21** as aforesaid, may be formed with aperture **22** and which approximately mates with each helmet aperture **50.**

The resilient attaching means for each terminal end **21** of each arm **20** comprises a boot or shoe-like member **52** made of a suitable resilient material, as for example, rubber, and which is mounted upon the exterior surface of the helmet **5** over the aperture **50.** The boot member **52,** is somewhat box-like in configuration having an open-end **53** for providing access to the interior chamber **54** thereof. As preferably formed, the boot member **52** has a back wall **56** adapted to lie against the helmet surface, said wall being configured preferably to the contour of said helmet surface.

Suitable fastening means are used to attach the boot member to the helmet. In the present assembly, this is accomplished by an interiorly threaded nut **60,** somewhat T-shaped in cross-section which is projected through the helmet aperture **50** from inside the helmet and which threadedly receives a screw **61,** extending through a hole **63** formed in the wall part **56** of the boot **52.**

A suitable washer **65** interposed between the head of the screw **61** and the adjacent interior surface of the wall part **56** provides sufficient bearing surface for said

fastening means to adequately bind the boot member 52 to the helmet surface.

In like manner, a suitable washer 68 may be interposed between the head of nut 60 and the interior helmet surface to provide adequate binding surface for the fastening means and to attach the latter to the helmet.

Each boot member 52 is thus mounted on the helmet surface as best seen in FIG. 1.

Upon mounting the facemask 1 to the front of the helmet 5, the terminal end 21 on each arm 20 is inserted through the open end 53 and into the boot chamber 54 as seen in FIG. 2.

The boot member 52 is constructed preferably of rubber-like material as to have sufficient resiliency to retain the terminal end 21 of the arm 20 therein while yet permitting said end to be movable within said chamber in response to a blow applied to the facemask 1.

With this attaching means it is seen that the facemask is enabled to move at each of its attaching portions, i.e., at each side 18 and terminal ends 21, in response to a blow applied to the facemask whereby to absorb the shock resulting therefrom without sustaining injury to the player.

It may be desirable to provide the screw 61 with an enlarged head as shown at 61*a* in dotted lines in FIG. 2 that extends partially into the hole 22, said head being of such diameter as to be spaced inwardly from the wall defining said hole 22.

With this modified screw 61 the terminal end 21 of the mask is still free to move within the boot member 52 however a blow applied to the mask is of such magnitude as to cause excessive movement, the terminal end moves against the head of the screw, the latter acting somewhat like a bumper. It has been determined that a blow of magnitude of 200–250 G's may be of sufficient force to cause this excessive movement of the terminal ends of the face mask.

In FIG. 3, the resilient attaching means of the present invention is shown adapted to mount a facemask 1′ to the helmet 5 wherein the boot members 52 are reversibly mounted on the helmet as compared to the manner shown in FIG. 1. In this manner, the open end 53 of each boot member 52 faces the center of the helmet or toward each other so as to receive one of the terminal ends 70 formed on each opposed end of the top crossbar 71 of T bar 72.

The boot member 52 is likewise of such configuration as to provide a resilient entrapment of the terminal ends 70 of the bar 71 in the same manner intended for the attaching means as shown in FIGS. 1 and 2.

The facemask 1′ in FIG. 3 is generally known in the art as a "full cage" type of facemask having three spaced horizontal bars 2′, 3′ and 4′ which extend across the front of the helmet so as to fully protect the face of the player. The top bar 4′ is integrally formed with the bottom end of the stem 73 of said T-bar and which extends upwardly therefrom to be in a position to protect the nose and eyes of the player. The top of the stem part 73 is integrally formed with the cross-bar 71 to thereby provide an integral one-piece facemask 1′.

Having described several embodiments of attaching means for attaching a facemask to a helmet it will be realized that the attaching means incorporated herein provide a resilient four-terminal attachment for the facemask which is capable of absorbing the shock of any blow applied to the helmet. Further, the attaching means of the terminal ends on the upper terminal parts of the facemask, i.e., terminal ends 21 and 70 as exemplarily shown, are not directly attached to the helmet but are entrapped with resilient boot members and are free to move therein in response to a blow applied to the facemask being thus able to absorb the shock of said blow.

What is claimed is:

1. Attaching means for resiliently attaching a football facemask to the front of a helmet wherein the facemask is formed with at least one bar adapted to extend across the front of the helmet adapted to provide protection to the face of the wearer and side attaching portions on the ends of said bar disposed along the side surfaces of said helmet and an arm connectable with said bar and disposed along the forehead part of the helmet and wherein said arm terminates in at least one free end, said attaching means comprising; strap means connectable with said side attaching portions of said facemask and said helmet, a hollow boot member generally boxlike in configuration to define a chamber therein securely fastened to the forehead part of said helmet, opening means formed in said boot member to provide access to said chamber, said chamber being of such contour as to freely accept therein the free end of said arm, and said free end being otherwise free to move relative to said helmet.

2. Attaching means as defined in claim 1 and wherein the boot member is of sufficient rigidity as to retain the free end of said arm therein without additional attachment of said arm to said helmet during normal use of the helmet and facemask.

3. Attaching means as defined in claim 1 and wherein the arm of the facemask is provided with a pair of spaced free ends disposed at the forehead part of the helmet, and a pair of hollow boot members is securely fastened to the forehead part of the helmet, each of said boot members receiving one of said free ends of said facemask arm.

4. Attaching means as defined in claim 1 and wherein the arm of the facemask is generally T shaped in configuration with the stem portion connecting with the facemask bar, and the crossbar of said arm terminating in opposed free ends, each of which is receivable in one of a pair of boot members attached to the forehead part of the helmet.

5. Attaching means as defined in claim 1 and wherein the boot member has a back wall lying against the surface of the helmet and securely attached to the forehead part of said helmet.

6. Attaching means as defined in claim 1 and wherein the facemask is provided with an arm connectable with each end of the facemask bar and extendable upwardly along the front of the helmet and terminates in a free end, and a pair of boot members securely attached to the forehead part of said helmet in proximity to and for receiving each said free ends of said arm.

* * * * *