

[54] **ATHLETIC MOUTH PROTECTOR
APPARATUS**

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[22] **Filed:** Jan. 31, 1972

[21] **Appl. No.:** 222,089

[52] **U.S. Cl.**..... 128/136, 264/222, 264/322

[51] **Int. Cl.**..... A61d 15/00

[58] **Field of Search**..... 128/136, 147, 351,
128/12; 32/17, 19; 264/322, 313, 222, DIG. 30

[56] **References Cited**

UNITED STATES PATENTS

2,669,988	2/1954	Carpenter	128/136
3,312,218	4/1967	Jacobs	128/136

3,692,025	9/1972	Greenberg	128/136
3,682,164	8/1972	Miller	128/136

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[57] ABSTRACT

Apparatus for protecting the mouth area of athletes engaged in contact sports. The apparatus includes a thermo-plastic base member that is heated to receive a bite from the user whereby his dental impressions are applied to such base member. The base member is formed with breathing orifices. Plugs are removably disposed within the breathing orifices to prevent collapse of such orifices while the bite takes place.

1 Claim, 6 Drawing Figures

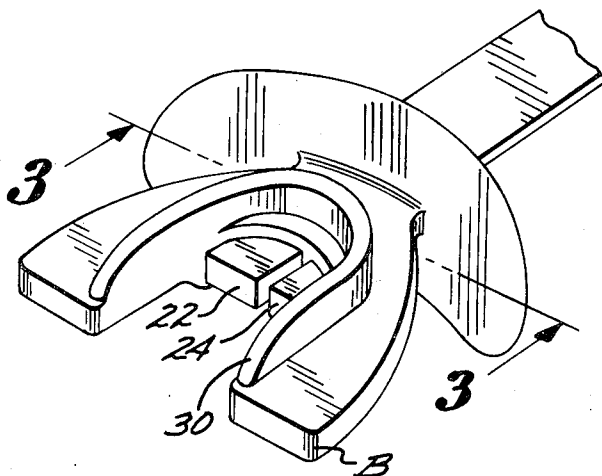


FIG. 1

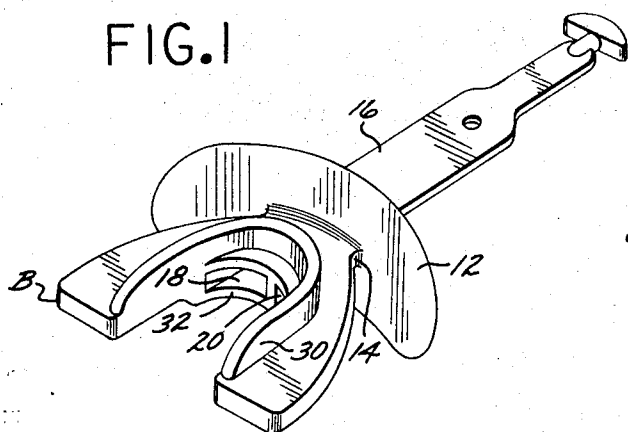


FIG. 2

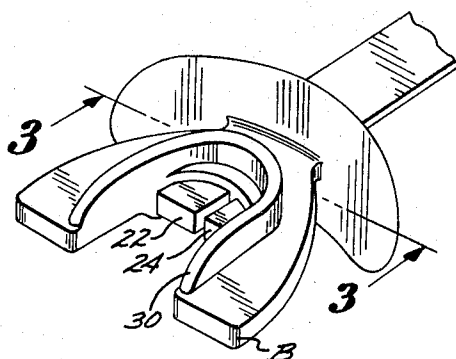


FIG. 3

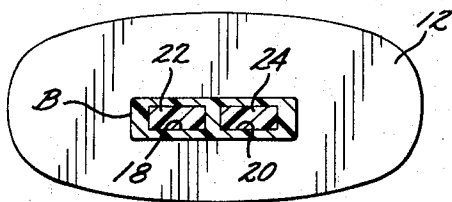


FIG. 4

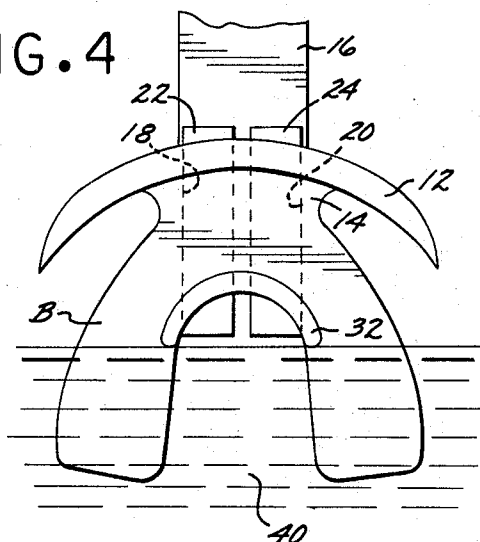


FIG. 5

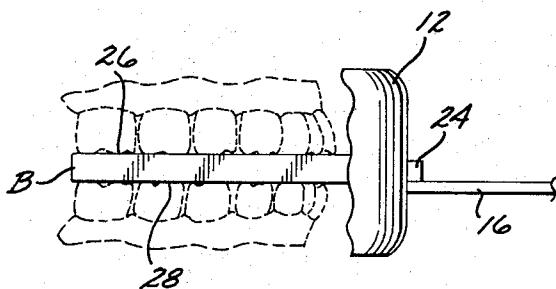
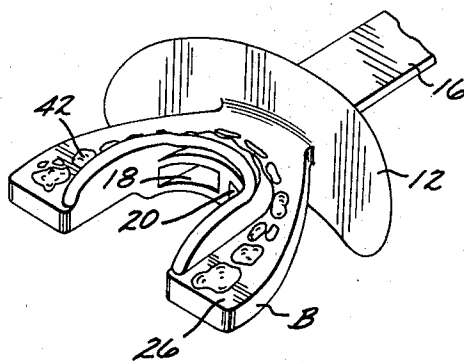


FIG. 6



ATHLETIC MOUTH PROTECTOR APPARATUS

BACKGROUND OF THE INVENTION

1. Field of the Invention:

The present invention relates to a dental appliance and more particularly to an athletic mouth protector.

2. Description of the Prior Art:

Various types of athletic mouth protectors are known to the art. The most effective of such protectors utilize a body formed of a thermo-plastic flexible composition which is heated to a temperature at which it can be bitten so as to receive and retain dental impressions of the user. Such protectors are not formed with breathing orifices since such orifices would be collapsed during the taking of the dental impression. Typical protectors of this type are shown in U. S. Pat. Nos. 2,705,492 and 3,124,129.

SUMMARY OF THE INVENTION

The athletic mouth protector apparatus of the present invention permits the use of a thermo-plastic flexible base member which receives and retains dental impressions, but is provided with breathing orifice means. In order to prevent collapse of such breathing orifices while the dental impressions are being made, removable plugs are disposed within such orifices. After the dental impressions have been made these plugs are removed so as to expose the breathing orifices.

DESCRIPTION OF THE DRAWINGS

FIG. 1 is a perspective view showing a preferred form of athletic mouth protector apparatus embodying the present invention;

FIG. 2 is a broken perspective view similar to FIG. 1;

FIG. 3 is a vertical sectional view taken on line 3—3 of FIG. 2;

FIG. 4 is a broken front view showing the apparatus undergoing heating prior to receiving dental impressions;

FIG. 5 is a broken side view showing the taking of dental impressions; and

FIG. 6 is a broken perspective view similar to FIG. 2 showing the apparatus ready for use by an athlete.

DESCRIPTION OF A PREFERRED EMBODIMENT

Referring to the drawings, a preferred form of athletic mouth protector apparatus embodying the present invention includes a generally U-shaped base member B that is adapted to receive and retain dental impressions. A lip shield 12 of generally oval and rearwardly curved configuration is connected to the base member B by a bridging member 14. A conventional helmet attachment strap 16 extends forwardly of the bridging unit 14 and shield 12. A pair of breathing orifices 18 and 20 extend from the mid-portion of the base member B forwardly completely through the bridging member 14 and lip shield 12. In FIGS. 2-5, a pair of plugs 22 and 24 are shown removably disposed within the breathing orifices 18 and 20.

More particularly, the base member B, lip shield 12, bridging member 14 and strap 16 are preferably, though not necessarily, of integral construction. Conveniently, the material from which these parts are formed is a thermoplastic, flexible composition of a type well-known to the art. By way of example, such compositions includes polyvinyl chloride, polyvinyl acetate, ethylene vinyl acetate, polyvinyl butyral, vinyl

alkyld, polyvinyl formal, vinylidene chloride, polyvinyl acetol, vinyl stearate, polyvinyl alcohol, vinyl paraffins and mixtures of these various types of synthetic plastics. The plastic chosen will be colored in any well-known manner and compounded to the proper hardness.

The base member B has an upper dental impression-receiving surface 26 and a lower dental impression-receiving surface 28. Upper and lower tooth buttresses 30 and 32 may be integrally formed along the inner periphery of these surfaces. The breathing orifices 18 and 20 are mirror images of one another and should be of sufficient size to permit normal breathing when the user of the mouth protector has his teeth engaged with the upper and lower surfaces 26 and 28 during athletic endeavors. The plugs 22 and 24 are of like construction and may be formed of any material which is not thermo-plastic at the same temperature range at which the base member B is thermo-plastic. Various suitable synthetic plastics may be used to form the plugs. The plugs should have a snug sliding engagement within their respective breathing orifices. The plugs 22 and 24 will be positioned within their respective breathing orifices 18 and 20 before the dental impressions are made in the upper and lower surfaces 26 and 28 of the base member B, as indicated in FIGS. 2-5.

To form the dental impressions the base member B is heated in any suitable manner for a time sufficient to render the material from which base member B is made thermo-plastic and yet not so hot as to burn the mouth of the user. Conveniently, this heating may be accomplished by supporting the base member B within a body of boiling water 40, as indicated in FIG. 4. The strap 16 affords a convenient handle for holding the base member B during this operation. When the base member B has become properly thermo-plastic, it is removed from the water 40 and inserted into the mouth of the user of the mouth protector. Such user then bites against the upper and lower surfaces 26 and 28 of base member B, as indicated in FIG. 5. This will serve to form dental impressions in the upper and lower portions of the base member 10 corresponding to the tooth configuration of the user. It is important to note that the plugs 22 and 24 prevent collapse of the breathing orifices 18 and 20 as the base member is receiving the user's bite. After the dental impressions have been made, plugs 22 and 24 will be withdrawn from their respective breathing orifices and the mouth protector will have the appearance shown in FIG. 6. Referring thereto it will be seen that the dental impressions 42 have been taken and the plugs 22 and 24 removed. The mouth protector is then utilized in a conventional manner by the athlete.

Various modifications and changes may be made with respect to the foregoing detailed description without departing from the spirit of the invention.

I claim:

1. Athletic mouth protector apparatus, comprising:

a horizontal, generally U-shaped base member of thermo-plastic flexible composition adapted to receive and retain dental impressions consisting of a planar surface with vertically extending buttress means;

a bridging member integral with the front portion of said base member and extending forwardly thereof; a vertical lip shield that curves rearwardly and is attached to the front of said bridging member;

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breathing orifice means extending from the mid-
portion of said base member forwardly through
said bridging member and lip shield;
plug means of a material which is not thermo-plastic
at the same temperature range as the material of
the U-shaped base member snugly removably dis-
posed within said breathing orifice means to sup-
port said orifice means against collapse while said

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base member is bitten so as to receive said dental
impressions, with said plug means being slidably
removed from said orifice means after said dental
impressions have been formed; and
a helmet attachment strap attached to said lip shield
and extending forwardly thereof.

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