

[54] **NECK BRACE FOR ATHLETES**
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719,676 4/1942 Germany 2/2

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 Sawall

[52] **U.S. Cl.**..... 2/2; 2/2; 2/3 R
 [51] **Int. Cl.**²..... **A41D 13/00**
 [58] **Field of Search**..... 2/2, 3 R

[56] **References Cited**

UNITED STATES PATENTS

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[57] **ABSTRACT**

A rigid vertical member is secured to the base of the athlete's helmet and extends downwardly therefrom into a telescoping support secured to the shoulder pad and which allows rotation of the helmet and head of the athlete upon an axis substantially close to the neck and parallel to the axis of the neck, and limits flexion and extension of the neck, thereby protecting the neck from trauma.

5 Claims, 5 Drawing Figures

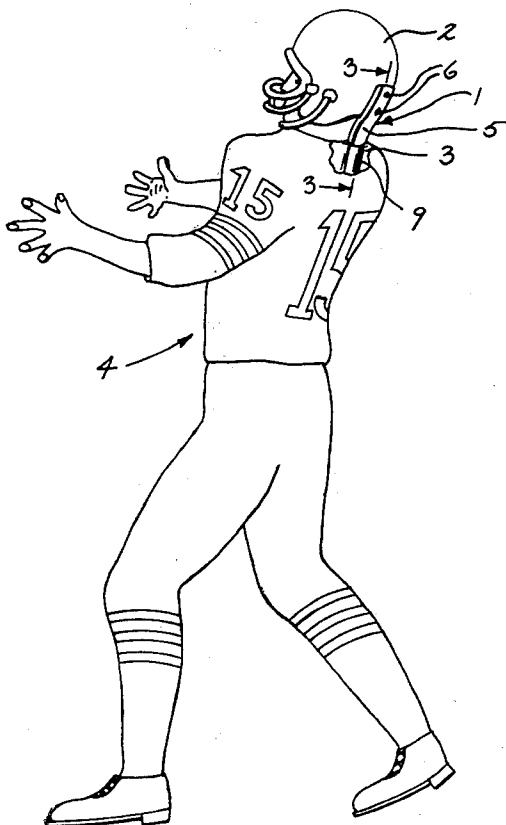


Fig. 1

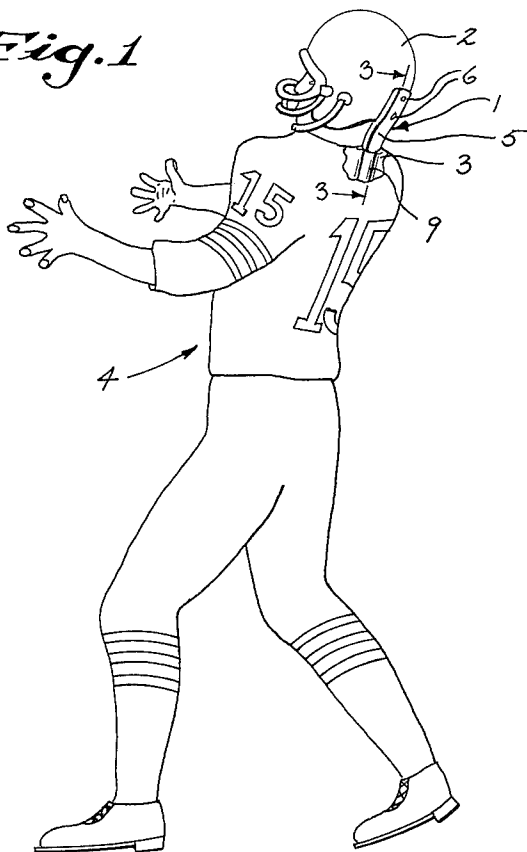
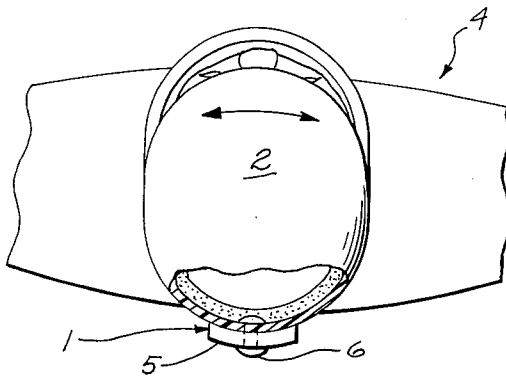


Fig. 2

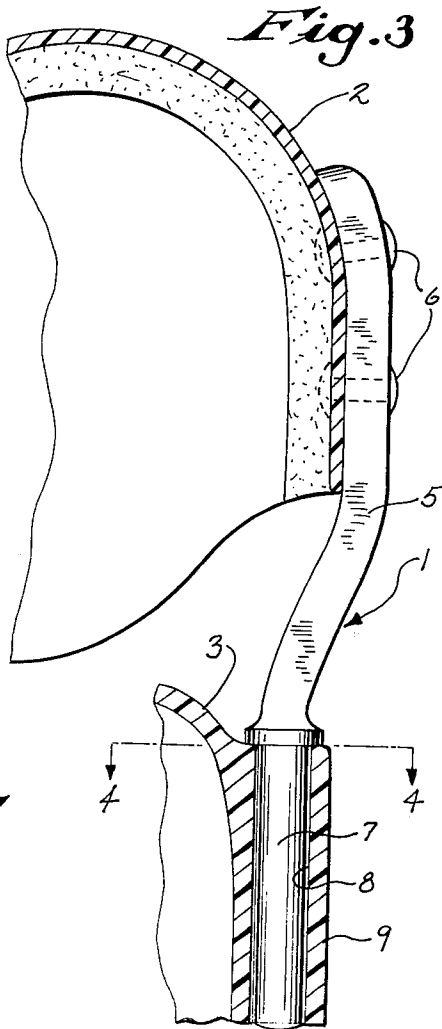


Fig. 3

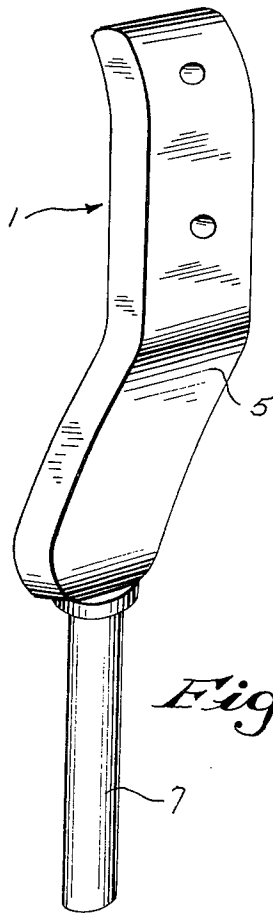


Fig. 5

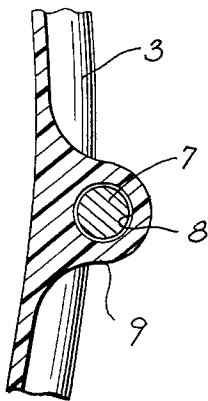


Fig. 4

NECK BRACE FOR ATHLETES

BACKGROUND OF THE INVENTION

This invention relates to a neck brace for athletes such as football players.

The general purpose is to protect the athlete from possible neck fractures or spinal cord injuries which may cause paralysis and even death.

Heretofore devices for this general purpose have either failed to give the desired protection or they have greatly restricted the ability of the athlete to turn his head as needed particularly in playing of football and other games.

SUMMARY OF THE INVENTION

The neck brace of the present invention generally comprises a vertically disposed rigid member disposed immediately posterior to the neck of the athlete, with the upper end of the member secured to the protective helmet and with the lower end of the member supported upon a bracket constituting a part of the suit or shoulder pad of the athlete.

The connection between the member and the bracket provides for free rotation of the member upon a vertical axis generally parallel to the neck and close to it, and limits forward and backward tilting of the head.

For this purpose the lower end of the member preferably has a reduced section in cylindrical form and which extends freely down into a tubular recess in the bracket which in effect telescopes the member and permits the member to rotate upon the vertical axis of the telescoping parts.

Abutment means in the form of a shoulder at the upper end of the cylindrical portion is adapted to rest upon the bracket and prevent backlash.

BRIEF DESCRIPTION OF THE DRAWING

FIG. 1 is a perspective elevation of an athlete wearing a neck brace embodying the invention;

FIG. 2 is an enlarged top plan view of the head and adjacent shoulder portions of the athlete of FIG. 1;

FIG. 3 is an enlarged detail vertical section showing the neck brace and adjacent portions of the helmet and the shoulder pad;

FIG. 4 is a section taken on line 4—4 of FIG. 3; and

FIG. 5 is a perspective view of the brace.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring to the embodiment illustrated in the drawings, the neck brace 1 comprises a rigid member ex-

tending between and joining the helmet 2 and the shoulder pad 3 of the athlete 4.

The brace is preferably molded of acrylic plastic or any suitable lightweight metal or alloy, and consists of two portions: an upper portion 5 curved to fit an adjacent part of the helmet 2 and secured thereto as by rivets 6, and a lower portion 7 which is cylindrical and fits into a sleeve 8 constituting a part of a bracket 9 on the shoulder pad 3.

A flange or downwardly facing shoulder 10 is disposed at the upper end of cylindrical portion 7 and is adapted to rest upon the top of bracket 9.

The construction illustrated protects the neck of the athlete against direct forces generally resulting in backlash and lateral stresses, thereby reducing the possibility of neck fractures and spinal cord injuries.

The construction provides for free rotation of the helmet upon the vertical axis of the cylinder 7 and sleeve 8, and which axis is disposed near and generally parallel to the axis of the neck upon which the athlete tends to turn his head.

The length of cylinder 7 and sleeve 8 should be sufficient to accommodate a limited forward tilting of the head without endangering the desired rigidity of lateral support of the helmet 2 by brace 1.

Various modes of carrying out the invention are contemplated as being within the scope of the following claims particularly pointing out and distinctly claiming the subject matter which is regarded as the invention.

I claim:

1. A neck brace for an athlete wearing a protective helmet and shoulder pads, comprising a rigid vertical member having its upper end fixed to the helmet and its lower end pivotally and extensibly supported by the shoulder pad to turn on a substantially vertical axis near the back of the neck of the athlete.

2. The neck brace of claim 1 in which the lower end portion is cylindrical to be telescoped by a sleeve secured to the shoulder pad of the athlete.

3. The neck brace of claim 1 in which abutment means between the brace and the shoulder pad prevents backlash of the neck of the athlete.

4. The neck brace of claim 3 in which said abutment means comprises a downwardly facing shoulder on the brace adapted to rest upon a portion of the shoulder neck.

5. The neck brace of claim 2 and a downwardly facing shoulder on the brace at the upper end of said cylindrical portion and adapted to rest upon the upper end of said sleeve to prevent backlash of the neck of the athlete.

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