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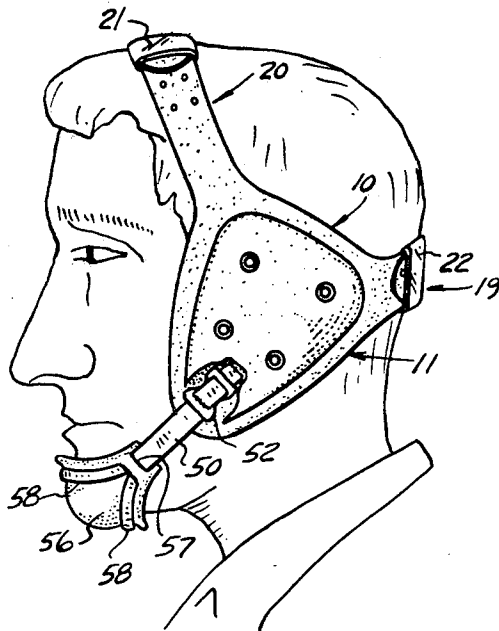
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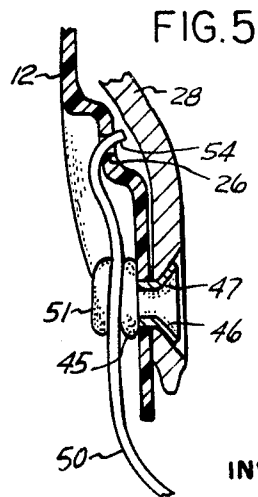
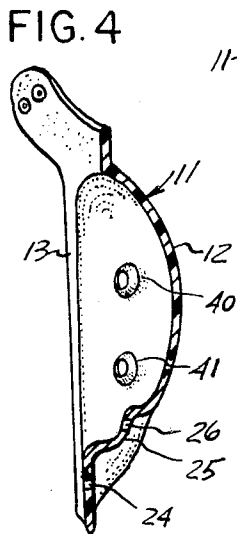
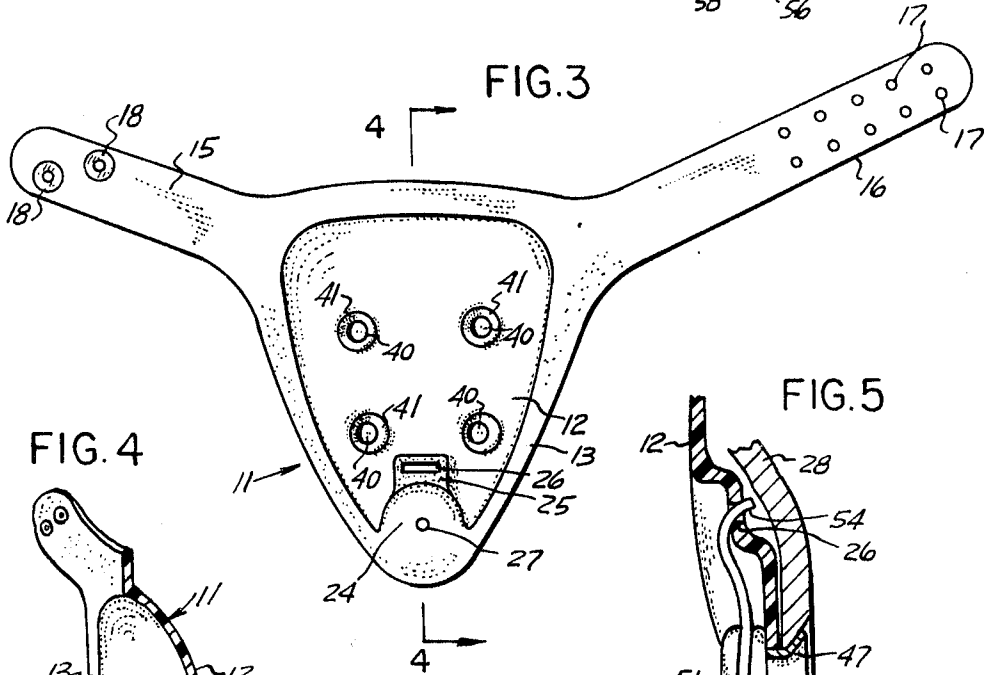
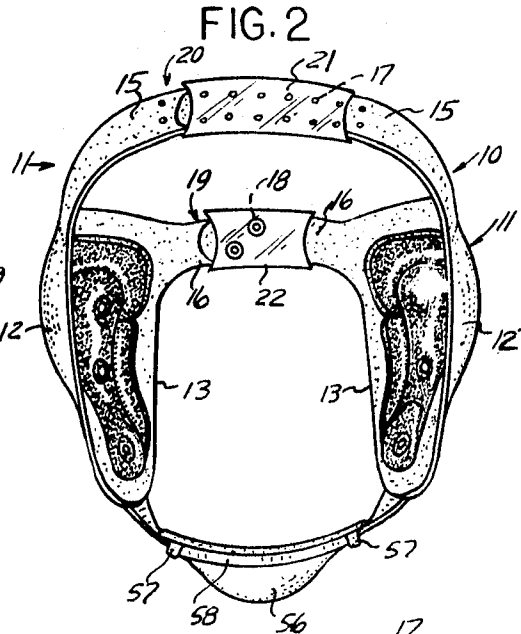
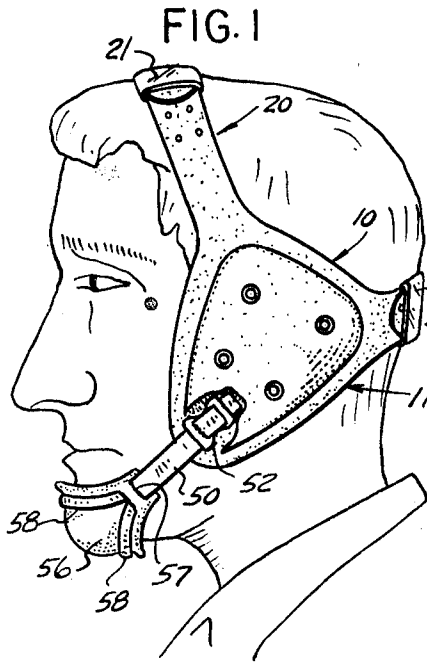
[54] **WRESTLING HELMET**
9 Claims, 10 Drawing Figs.

[52] U.S. Cl. 2/3
 [51] Int. Cl. **A63b 71/10**
 [50] Field of Search 2/3, 6, 9

[56] **References Cited**
UNITED STATES PATENTS
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ABSTRACT: A wrestling helmet formed of a pair of roughly inverted triangular-shaped bulged ear guards, each having an upper and rear strap member integral with its upper corners, the strap members being adjustably interconnected for positioning the guard over the wearer's ears with the rear strap at the rear of the head near the base of the skull and the upper strap extending over the top of the head slightly rearwardly of the forehead. The lower corners of the guards are interconnected by a chinstrap whose opposite ends are snap fastened to the guards within recessed sockets and ear padding is arranged within the bulged portions of the guards.





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FIG. 6

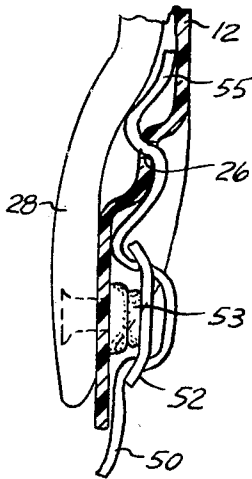


FIG. 7

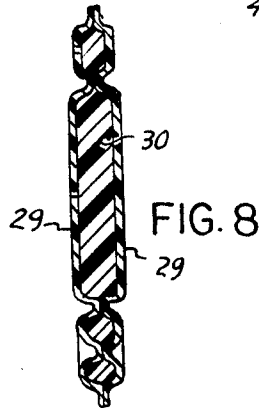
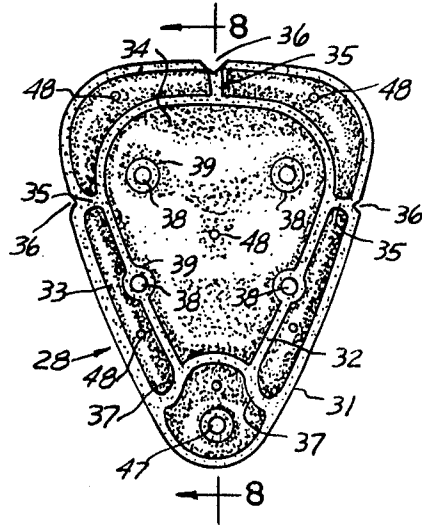


FIG. 8

FIG. 9

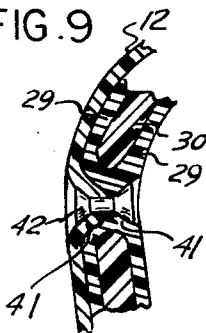
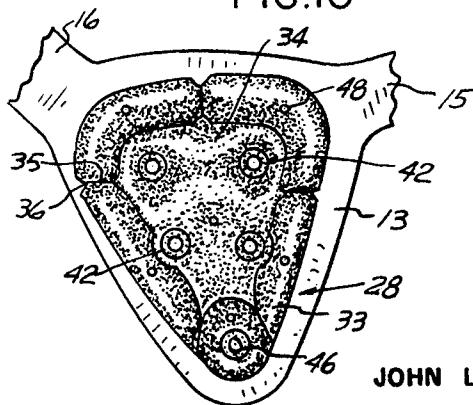


FIG. 10



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WRESTLING HELMET

BACKGROUND OF INVENTION

Helmets used in wrestling are essentially ear protectors, designed to cover and protect the ears against injury. These helmets are generally constructed of a pair of ear guards, one for each ear of the wearer, with the guards being interconnected by suitable straps.

Examples of this type of helmet are shown in the prior art U.S. Pats. to Keen No. 2,898,596 of Aug. 11, 1959 and Roberts No. 2,886,818 of May 19, 1959.

Such prior types of wrestling helmets have been characterized by being relatively bulky, with a number of straps, particularly including a forehead strap, wherein the helmet may be grasped during the wrestling activity and twisted upon the wearer's head. Forehead straps particularly, tend to apply heavy pressures upon the sinus area of the head causing headaches and the like after wrestling activities.

Thus, there has been a need for a lower profile helmet, that is, one which is not bulky but lays close to the head, with a minimum number of straps and supports to avoid the possibility of the helmet being grasped during the wrestling activity and particularly eliminating the problems caused by forehead straps which have been required in the past in order to keep the relatively bulky helmets on the wearer's head and prevent relative movement therewith.

SUMMARY OF INVENTION

The invention herein contemplates forming a wrestling helmet out of two guards or parts, each identically formed, but mirror images, made of thin, relatively stiff but somewhat flexible plastic material. Each of the guards are roughly inverted triangular in shape with outwardly bulged ear-receiving cup portions surrounded by flanges which abut the head around the ears and with each having an integral upper strap half and rear strap half, the two corresponding strap halves being adjustably interconnected for size adjustment. The lower corners of the guards are interconnected by a chinstrap, preferably utilizing a chin cup of the type disclosed in my prior application, Ser. No. 878,159 filed Nov. 19, 1969.

Preferably, the chinstrap is connected by snap fasteners to the guard halves with the fasteners located in recessed portions or sockets so as to avoid catching or grasping unintentionally. The ear receiving cups are provided with a padding which protects the ears against blows and in addition covers and protects the opposite ends of the chinstrap.

Broadly, the invention herein contemplates a three strap connection for the approximately triangular shaped guards, with one strap being located around the base of the skull, the second over the top of the head but rearwardly of the forehead and the third along the point of the wearer's chin. With this type of connection, the helmet is tightly held in place, resisting twisting, and moreover there are no exposed portions to grasp during the wrestling activity.

Thus, an object of this invention is to provide a low profile, nonbulky ear protecting helmet out of thin sheet material, with the three-strap connection to the head and particularly with the avoidance of a strap across the forehead, and with protective padding for the ears to avoid injury due to blows thereto.

These and other objects and advantages of this invention will become apparent upon reading the following description, of which the attached drawings form a part.

DESCRIPTION OF DRAWINGS

FIG. 1 is a side elevational view of the helmet positioned upon the wearer's head.

FIG. 2 is a front elevational view of the helmet.

FIG. 3 is an elevational view of one of the two guards making up the helmet.

FIG. 4 is a cross-sectional view of the guard taken in the direction of arrows 4-4 of FIG. 3.

FIG. 5 is an enlarged cross-sectional view of the lower edge of one of the guards with the chinstrap in place, and

FIG. 6 is an enlarged cross section of the lower edge of the other guard, with the chinstrap in place.

FIG. 7 is an elevational view of the ear pad, and

FIG. 8 is a cross-sectional view of the ear pad taken in the direction of arrows 8-8 of FIG. 7.

FIG. 9 is a fragmentary cross-sectional view of a portion of the guard and pad fastened together.

FIG. 10 is an elevational view of the inside face of one guard with the pad in place.

DETAILED DESCRIPTION

FIG. 1 illustrates a wrestling helmet 10 formed of two identical but mirror image, roughly inverted triangular-shaped guards 11, each having outwardly bowed ear cups 12 surrounded by marginal flanges 13.

The guards are each made out of thin, relatively stiff but somewhat flexible sheet plastic, such as a suitable polyvinyl or polyethylene material which resiliently flexes but which remains relatively stiff and self-sustaining in the absence of pressure.

Integral with the upper corners of the guards are upper strap members 15 and rear strap members 16, provided with either rows of holes 17 or male snap fastener halves 18 so that the corresponding pairs of upper and rear strap members may be fastened together by snap fastening the snap fastener halves into preselected holes for size adjustment to thereby provide an adjustable rear strap 19 and an upper strap 20.

The rear strap passes around the rear of the head, at the base of the skull, and the upper strap goes over the upper portion of the head, rearwardly of the forehead.

To protect against accidental disengagement of the snap fastener halves 18 from the respective holes 17, thin, flat, tubular sleeves 21 and 22 respectively may be closely and slidably fitted over the upper and rear straps to cover and protect the snap fastener halves as shown in FIG. 2.

The lower portion of the ear cups 12 are depressed to form depressed sockets 24 whose bases are coplanar with the guards' marginal flanges 13. Above each socket is a depressed downwardly opening short groove 25 provided with a slot 26 in its base. The purpose of this construction will be described later.

In addition, a hole 27 is formed in the base of each socket (see FIG. 3).

Each ear cup is provided with a pad 28 to protect against impact. Each pad is formed of a pair of thin sheets 29 of flexible plastic material, between which is positioned a thick, resilient foam pad or sheet 30. The thin sheets are squeezed together and heat sealed along the pad peripheral edge 31 and in addition are squeezed together and heat sealed along a continuous inner line 32, spaced inwardly of the peripheral edge to thereby form an outer padding bulge 33 and an inner central padding portion 34.

Transverse seal lines 35 are also formed by squeezing together the outer sheets 29 and heat sealing them at spaced lines extending between the peripheral edge 31 and inner line 32. Darts or notches 36 are provided in the edge along these transverse seal lines 35.

In addition, lower transverse seal lines 37 are formed in the same manner (see FIG. 7).

A number of holes 38 are pierced through the pad and the edges defining the holes are squeezed together and heat sealed to form countersinks 39 on each of the opposite faces of the pad. Preferably, the heat sealing is accomplished by squeezing the sheets 29 towards each other so that they are joined in a plane centrally located between the two opposite faces of the pad so that the pad is thereby reversible with either face being suitable for facing against the wearer's ear.

The pads are positioned within the ear cups 12 and are so sized as to not overlap or cover the marginal flange 13 which thereby contacts the wearer's head for better gripping against the head.

To fasten the pads to the cups, each cup is provided with holes 40 corresponding in location to the holes 38 in the pads and the sheet area around the holes 40 are countersunk to form inwardly, conically shaped depressions 41.

Rivets 42 are inserted through the aligned holes 38 and 40 and their heads are recessed in the respective countersinks.

At the lower corners of the guards, conventional snap fastener halves 45 are mounted by means of stud or rivet head portions 46 formed thereon and extending through the holes 27 and through lower holes 47 in the adjacent pad (see FIG. 5).

As can be seen, the pad is divided into a number of bulged or puffed sections by the heat-sealing line and each of these sections is ventilated by one or more air holes 48.

The lower corners of the guards are interconnected by a chinstrap 50, preferably also made of plastic material similar to or identical to that used for the guards. A snap fastener half 51 is secured to one end of the chinstrap (see FIG. 5) and a slidable buckle 52, having a snap fastener half 53 is slidably mounted upon the opposite end of the strap (see FIG. 6). When the respective snap fastener halves are joined, they are substantially recessed below the outermost surface of the guards to avoid accidental grasping or disengagement.

To insure against accidental disengagement even further, the free opposite ends 54 and 55 respectively of the chinstrap are tucked into the slots 26 formed in the grooves 25.

Preferably, the chinstrap should pass around and be engaged with the point of the wearer's chin. Thus, preferably a chin cup 56, as disclosed in my above-mentioned application for patent, may be used, this being in the form of a thin plastic cup having slots 57 at its opposite ends for receiving the strap and with the strap 50 preferably being slit along its length and between its opposite ends so that the slit formed sections 58 are arranged at the horizontal edges of the cup.

In operation, the wearer unsnaps the snap fastener half 51, places the helmet upon his head in the manner illustrated in FIG. 1, and then replaces the snap fastener. Adjustments as to size may be made by adjusting the position of the buckle 52 and adjusting the upper and rear strap lengths by moving the snap fastener halves into preselected holes to give the correct strap length.

As can be seen, the helmet here closely conforms to the wearer's head and being made of thin plastic sheet material, without any exposed graspable surfaces or edges, is almost impossible to dislodge or twist during the strenuous wrestling activities. The plastic sheet material is relatively slippery to the touch so that there is low friction and therefore no great danger of the helmet frictionally holding on to any adjacent object like the floor mat or the opponent's clothing or the like.

Having fully described an operative embodiment of this invention, I now claim:

1. A wrestling helmet comprising a pair of identical, mirror image, roughly inverted triangular shaped guards formed of thin, relatively stiff, but flexible sheet material, with each guard having a central outwardly bowed ear receiving cup formed therein and a flat marginal edge flange surrounding the cup;

an outwardly and upwardly extending narrow strap member formed integral with each of the flanges at the upper opposite corners thereof;

means interconnecting the corresponding pairs of strap members to provide an upper strap and a rear strap for positioning the guards on the opposite sides of the wearer's head for receiving his ears within the cups, with the flanges engaging the head around the ears, and with the rear strap extending around the rear of the head near the base of the skull and with the upper strap extending over the top front of the head, near, but rearwardly of the forehead;

and the lower corners of the guards being interconnected by a releasable chinstrap engaging the point of the wearer's chin for thereby locking the helmet to the head, with the helmet being otherwise free of securement to the head.

2. A helmet as described in claim 1, and including the lower portions of each ear-receiving cup being depressed inwardly to form downwardly and outwardly opening sockets formed of a lower flat portion coplanar with the flanges and with raised portions at the sides and upper edges of said flat portions;

and fixed snap fastener halves secured to said flat portions, and corresponding snap fastener halves secured to the opposite ends of the chinstrap for snap fastening to the fixed halves, with the snap fasteners and strap ends thereby being recessed into said sockets.

3. A helmet as defined in claim 2, and at least one of said chinstrap snap fastener halves being slidably secured to the chinstrap for adjusting the length of the chinstrap between the lower corners of the guards, and including the ear cup portions above the sockets being bent inwardly to form short, shallow grooves opening downwardly into their respective sockets and outwardly, and with a transverse slot formed in the base of each groove for receiving the opposite end portions of said chinstrap.

4. A construction as defined in claim 1, and said means for interconnecting said strap portions comprising rows of holes formed in one of each pair of strap members and a pair of spaced apart male snap fastener halves secured to the other one of each corresponding pair of straps for snap fastening into selected ones of said holes for thereby adjusting the length of the straps;

and a flattened tube formed of thin sheet material snugly surrounding each corresponding pair of straps where they are interconnected, the tubes being slidably mounted upon the straps for normally covering the snap fastener halves but for exposing same for release.

5. A construction as defined in claim 1, and including a pad fastened within and lining each ear cup and secured to the guard, with the flange being uncovered by the pad.

6. A construction as defined in claim 5, and said pads comprising flat sheets of thin, heat-sealable plastic between which is arranged a sheet of resilient foam plastic material with said flat sheets being heat sealed together around their peripheral edges and tightly squeezed together and heat sealed together along a continuous line spaced inwardly from their peripheral edge to form an outer padded border and a central padded portion;

and said sheets being squeezed together and heat sealed together along several spaced lines extending from the outer peripheral edge to the continuous line, wherein the pad may be reversibly inserted into an ear cup and will generally conform to the outward bowing of the cup for lining the cup.

7. A construction as defined in claim 6, and including an edge notch formed on the peripheral edge of the pad at at least some of said spaced lines, for thereby permitting the peripheral edge of the pad and the padded border to closely conform to the contours of the ear cup.

8. A construction as defined in claim 6, and including several spaced apart holes extending through the central portion of the pad with the sheet edges defining the holes being squeezed and heat sealed together to form tapered countersinks receiving, and thereby recessing, on the inside surface of the pad, the heads of rivets extending through the holes and also receiving inwardly depressed countersink portions surrounding corresponding holes formed in the cups and through which the rivets extend, with the opposite heads of the rivets thus being recessed in the cup countersinks.

9. A wrestling helmet comprising a pair of identical, roughly inverted triangular-shaped guards formed of thin, relatively stiff, but flexible sheet material, with each guard having a central outwardly bowed ear-receiving cup formed therein and outwardly and upwardly extending narrow strap members formed integral with each of the upper, opposite corners of the guards;

means interconnecting the corresponding pairs of strap members of each guard to provide an upper strap portion and a rear strap portion, with the rear strap portion

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passing around the base of the skull of the wearer's head
 an the upper strap extending over the top of the head,
 rearwardly of the forehead;
 and the lower corners of the guards being interconnected by
 a releasable chinstrap; 5
 and a pad fastened within and lining each ear cup and
 secured to the guard;
 and the lower portions of each cup being depressed in-
 wardly to form downwardly and outwardly opening
 sockets, with an outwardly opening depressed groove 10
 formed above and opening downwardly into each socket
 and a transverse slot formed in the base of each groove;

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snap fastener halves fixedly mounted upon the guards
 within said sockets and corresponding snap fastener
 halves mounted upon the ends of the chinstrap with at
 least one of said corresponding snap fastener halves being
 adjustably positionable along the chinstrap;
 with the opposite free ends of the chinstrap normally being
 inserted through the groove slots, so that the ends of the
 chinstrap extend into the cups beneath the pads so as to
 be covered by the pads, and the snap fasteners are
 recessed below the outer surfaces of the cups.