

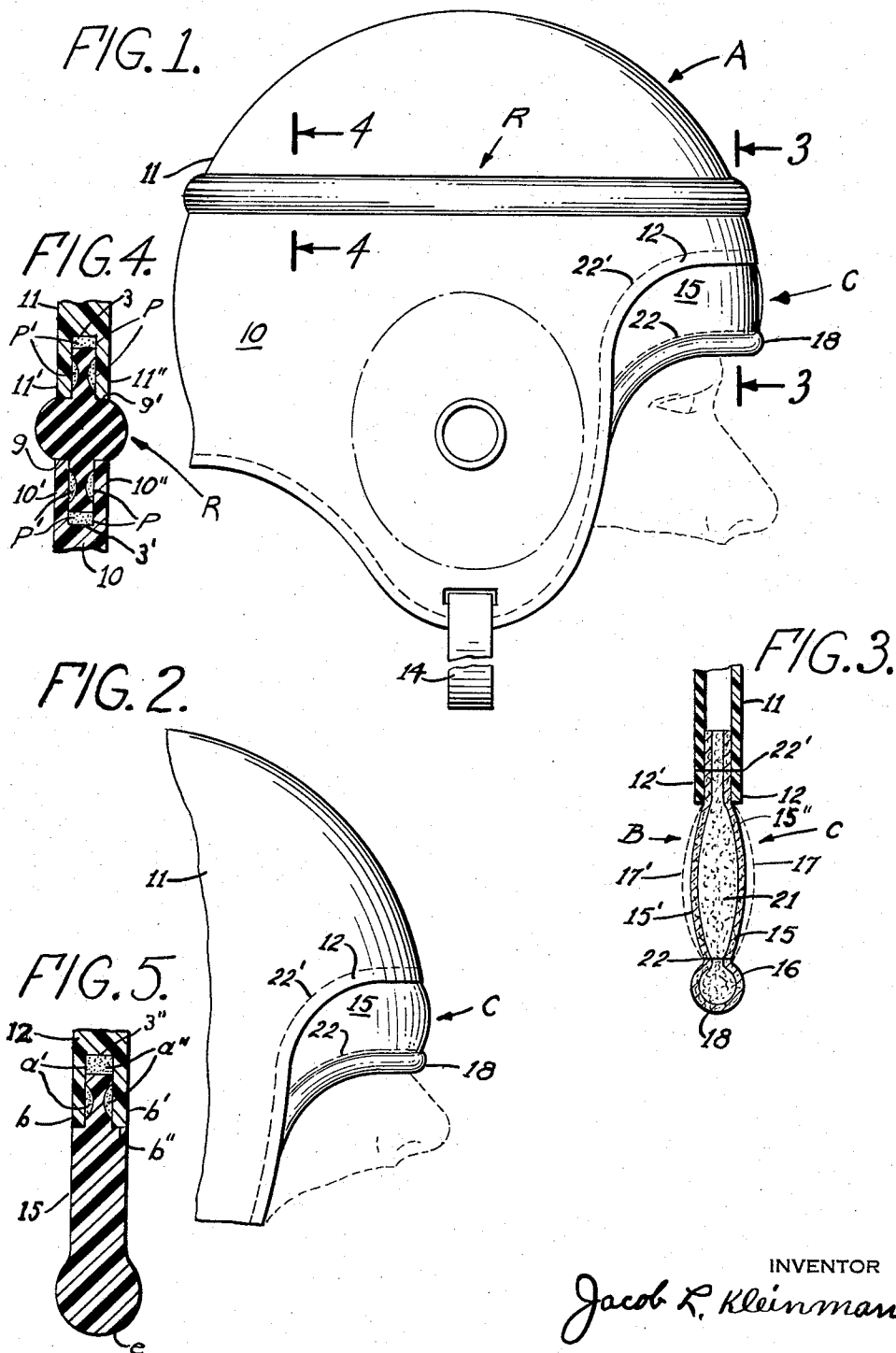
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HELMETS

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HELMETS

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4 Claims. (Cl. 2—3)

This invention relates to the construction of helmets in general, and more particularly to a type known as football helmets, and is similar in structure to that shown in my copending applications S.N. 338,090, filed Feb. 20, 1953, allowed Oct. 17, 1956, now Patent No. 2,793,365, dated May 28, 1957; and S.N. 360,717, filed June 10, 1953, allowed Nov. 21, 1956, now Patent No. 2,793,366, dated May 28, 1957; which were filed as continuation in part of my then pending application S.N. 304, filed Jan. 2, 1948; issued Feb. 24, 1953, Patent No. 2,629,095.

In accordance with my invention, I produce a helmet comprising an individual base-unit and an individual crown-section, wherein the upper edge portion of the base-unit is provided with an upwardly projecting U-shaped section, and the edge portion of the crown-section is provided with a downwardly projecting U-shaped end section; these U-shaped sections face each other and are each adapted to become interlocked with a portion of a resilient element forming a partition therebetween for cushioning and rebounding the movements of the crown-section when the latter is being struck by an object; and wherein the front portion of the helmet is provided with a soft-bridge section made of pliable, resilient or rebounding material; to prevent direct contact between the hard front portion of the helmet and the wearer's nose, while such helmet is being shoved over the wearer's face.

My novel construction is capable of being utilized in connection with various types of helmets, for example; army helmets, navy helmets, marine helmets, aviation helmets, football helmets, workmen's helmets, miner's helmets and helmets for various other purposes.

For a clearer understanding of the importance of the accomplishments or features of my present invention I desire to point out the following:

The present type of football helmets are made of a hard material, for example; such as fiber, plastic, Bakelite or other types of hard material, and usually consists of a one-piece skull structure. Such skull structure is provided with an inner net for resting upon the wearer's head and with a strap element for securing such helmet into desired position upon such wearer's head.

While the inner net is being used for the purpose of keeping the upper portion of the helmet-skull away from the wearer's head for protective reasons or purposes, yet, it does not fully accomplish such purposes; because the shock of a blow received by the helmet-skull jolts the entire helmet and affects the wearer's head to a great extent. Particularly so, when the helmet is being shoved over the wearer's face, in which case the hard front edge portion of such helmet may injure the wearer's nose.

My present structure completely eliminates such hazardous occurrences. The fact that in my structure the crown-section is secured to the base-unit by a pliable or resilient element, will cause the travel of shock (caused by a blow upon the crown-section) to be checked or discontinued when reaching such pliable element. Furthermore, the pliable or resilient element provides a sort of a spring-cushioning effect whereby the crown-section

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(while receiving a blow or knock) would vibrate for a few seconds and thus absorbing the shock of such blow; thereby protecting the wearer's head against possible injuries.

5 The same is true with respect to my soft-bridge structure:

It is a well known fact that during the course of play, or other activities, the wearer's helmet is, frequently, moved or shoved swiftly over his face; at which time the front portion of such helmet hits the wearer's nose. Occasionally such swift shoving of the helmet is so forceful that it injures the wearer's nose; often times even fracturing same. It is naturally understood that such matter is quite hazardous, annoying and objectionable to the wearer.

My invention, however, eliminates the above-mentioned hazardous and objectionable matter. My soft-bridge section carried by the front portion of the frame structure will cushion the touch of such front portion against the wearer's nose, and will prevent direct contact between the hard front portion of such helmet and the wearer's nose, thereby eliminating or minimizing possible injuries to such wearer.

I also wish to point out the fact that the padded front edge, of the ordinary type of helmets, have the same effect upon the wearer's nose as that of a padded glove on a fighter's fist upon his opponent. For proper cushioning effect there must be a resilient, or pliable, structure extending a suitable distance below the hard edge portion of the helmet; of a quality or nature whereby such pliable structure may rebound such hard edge portion and prevent its forceful impact against the wearer's nose. Only in such a manner can the above-mentioned hazards be eliminated.

There is, therefore, thus produced, in accordance with my invention, a helmet which is fully shockproof; and wherein the front portion thereof is provided with practical means for cushioning the touch of such front portion of the helmet against the wearer's nose for the prevention of possible injuries thereto.

The variety of possible applications of my novel construction in connection with different types of helmets, as hereinabove indicated, is so prolific that for the purpose of illustrating the invention the specific embodiment of my invention in its application to a helmet exhibiting the greatest difficulties has been selected. Such a helmet is one which necessarily must conform most rigidly to the contours of the head and face of the wearer and one which has the field of greatest possible commercial use. For this purpose I have selected for illustration of my novel construction, a helmet of the type constituting a football helmet, so that the principles of construction of my invention may be best illustrated in a head protecting structure known as helmets.

The objects of the present invention are attained by the novel construction which will be hereinafter described in connection with a specific embodiment of the invention.

For a fuller understanding of the nature and objects of the herein invention, reference is had to the following detailed description in connection with the accompanying drawing, in which:

Fig. 1 is a view of my helmet in normal position upon the wearer's head while participating in a game;

Fig. 2 is a view showing the helmet having been shoved over the wearer's face during play with the front portion upon the nose;

Fig. 3 is a cross-sectional view taken along the line 3—3 of Fig. 1, showing the structure of the soft-bridge section;

Fig. 4 is a cross-sectional view taken along the line 4—4 of Fig. 1, showing the resilient member connecting the crown-section to the base-portion; and

Fig. 5 is a view showing a modified structure of that shown in Fig. 3.

I am showing the several figures or views for illustrative purposes only and not for limitation purposes.

Referring more particularly to the drawing, in which similar reference characters identify similar parts in the several views, in my novel helmet structure.

Arrow A indicates the completed head-covering member or helmet structure comprising a base-portion 10 having a front portion 12; numeral 11 indicates the crown section which is secured to the base portion by a suitable resilient or pliable element as indicated by the arrow R.

The edge portion of the crown-section 11 is provided with a U-shaped or channeled section or pocket 3 having two spaced apart facing side walls 11' and 11'', and the upper edge portion of the base-unit 10 is provided with a channeled section or U-shaped portion or pocket 3' having two facing spaced apart side walls 10' and 10''; these U-shaped portions face each other for a purpose which will be hereinafter explained.

A resilient or pliable element or strip (arrow R, Fig. 4), provided with two oppositely disposed flange portions, is positioned between the base-unit 10 and the crown-section 11 having one of its flange portions positioned within the U-shaped portion or pocket 3 of the crown-section 11, and having its other flange portion positioned within the pocket or grooved section 3' of the base-unit 10. Each of these flange portions are provided with grooved sections which, in combination with the inner faces of the walls 10' and 10'', and 11' and 11'', form pockets P for housing therein a suitable glue or cementitious element P' to hold each of such flange portions secured within its respective pocket or grooved section 3 or 3'.

The resilient element indicated by arrow R may be made of any desirable material; for example, rubber, plastic, or foam made of plastic material, or of foam rubber, or of any other suitable material; and shaped or formed in any suitable or desirable manner to provide a shock-absorbing or cushioning rim around the head-covering member. The object of this portion of the invention is to secure the resilient or rebounding element into its position by means of friction fit or by means of cement; so as to eliminate the necessity of stitchings or sewing for such purpose.

The inner lining or net structure, although a portion of the helmet structure, but not being claimed as my invention will not be described. It being understood that various types of lining or net structures may be utilized in connection with my present invention.

The front portion 12 is provided with a soft-bridge section 15 having an enlarged end portion 18. Such bridge section 15 extends downwardly from the front portion 12 to a suitable degree enabling the bridge section 15 to perform the desired function.

Such soft-bridge section 15 may be made of various suitable material; for example, pliable plastic materials, or foam made of plastic material, or of foam rubber, or of pliable leathered material; or the kind.

The soft-bridge section 15 may be made or formed of a shape for example as shown in Fig. 5, wherein the body portion of such bridge section 15 comprises a single piece of pliable or yieldable plastic material adapted to yield or "give" to a desired degree when positioned upon the wearer's nose while the helmet is being shoved over the player's face. Such bridge section 15 may be secured to the helmet in any suitable manner; for example, to the outer face or inner face of the helmet structure, or between the skull and its lining; as a matter of fact, the bridge section 15 may be made of any suitable size or shape and be secured to the helmet in any desirable manner; the object of this portion of the invention is the provision of the pliable or yieldable extending portion located at the front portion of the helmet for cushioning

the touch of such front portion upon the wearer's nose while the helmet is being shoved upon such wearer's face.

If desired, the plastic bridge section 15 (Fig. 5) may be provided with a flange portion adapted to be positioned within a pocket or grooved section 3'' formed in the lower edge portion 12 of the front portion of the helmet structure. This flange portion is provided with cut-out portions which, in combination with the wall portions b and b', form pockets a' for housing therein a suitable glue or cementitious element a'' to hold such flange portion secured in its position within the channeled section 3''.

The flange portion located within the channeled portion 3'' does not extend into the full depth of such channeled portion, thereby enabling the shoulder portions of the walls b and b' to come into close contact with the shoulder portions of the bridge section 15 as shown at b''. The same is true with respect to the flange portions located within the grooved sections P as shown at 9 and 9' (Fig. 4).

As above stated, the disclosures herein are for illustrative purposes only and not for limitation purposes; for example, if desired, the soft-bridge structure 15 may consist of a pliable element 16, folded in a manner forming two spaced apart wall sections 15' and 15'' (Fig. 3) encasing therebetween a resilient material such for example, as cotton, foam rubber, or foam made of plastic, or sponge rubber, or similar material 21. The lower portion thereof may be sewn together by stitchings 22 forming a padded resilient end portion as indicated by numeral 18; the upper portion of same may be positioned between the plastic skull 11 and its lining 12' and be sewn together by stitchings 22'. Thus securing the bridge section 15 into desired position and providing same with bulged wall portions as indicated by arrows B and C. So that when the helmet is being shoved over the wearer's face, the soft resilient end portion 18 will engage the wearer's nose (Fig. 2) and cause the bulged resilient wall portions 15' and 15'' to spread sidewardly, as indicated by the dotted lines 17 and 17', thus cushion the touch of the front portion of the helmet against the wearer's nose.

The soft-bridge structure may be utilized in connection with various types of helmets. Either with a two piece helmet structure as shown in Fig. 1, or with a one piece helmet as shown in Fig. 2. That is, a helmet comprising a single skull structure.

The plastic bridge section 15 (Fig. 5) may be provided with an enlarged end portion e or with an end portion of any other suitable shape or style; as aforesaid, the disclosures herein are for illustrative purposes only and not for limitation purposes.

From the above it will be seen that I have invented and perfected a helmet structure of a new and unique design, containing features which are novel, useful and practical, and provide a maximum degree of safety to the user and is therefore of commercial value, and although I have shown certain preferred forms or illustrations in order to explain and describe the novelty of my invention, yet, by showing such structure, I do not, by any means, limit myself to these structures, nor to the terms used in describing same, as they are for illustrative purposes only. And that various changes of style, shape, or form of structure may be resorted to, and I desire it to be understood that I have same in mind, and seek protection by Letters Patent. It being understood that various changes in detail of structure may be resorted to without departing from the spirit of this invention.

I claim:

1. In a helmet structure, a head-covering member made of rigid material adapted to be positioned upon the wearer's head and to encompass the crown portion, sides and back portions of the said wearer's head, the

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front section of the said head-covering member having a transversely extending edge portion adapted to extend across the upper portion of the said wearer's forehead and downwardly at the side portions thereof to form an open front section for receiving the said wearer's face, the inner face of said head-covering member having a lining extending to the said transversely extending edge portion, a pliable bridge section of padded material, the upper portion of said pliable bridge section positioned between the said transversely extending edge portion and the said lining and secured thereto, the said pliable bridge section extending downwardly below the said front edge portion forming a continuation thereof and adapted to cover a substantial portion of the said wearer's forehead, the lower portion of said pliable bridge section adapted to engage the said wearer's nose when the said helmet is shoved over the wearer's face.

2. In a structure as set forth in claim 1, wherein the said pliable bridge section comprises a pliable covering and yieldable inner material adapted to cushion the touch between the said bridge section and the wearer's nose.

3. In a helmet structure, a head-covering member made of rigid material adapted to be positioned upon the wearer's head and to encompass the crown portion side and back portions of the said head, the front section of the said head-covering member having a transversely extending edge portion adapted to extend across

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the upper portion of the said wearer's forehead and downwardly at the side portions thereof to form an open front section for receiving the said wearer's face, a yieldable bridge section, the upper portion of said yieldable bridge section secured to the said transversely extending edge portion, said yieldable bridge section extending downwardly below the said edge portion forming a continuation thereof and adapted to cover a substantial portion of said wearer's forehead, the lower portion of said bridge section adapted to engage the said wearer's nose when the said helmet is shoved over the wearer's face, said lower portion being pliable to cushion the touch between such lower portion and the said wearer's nose.

4. In a structure as set forth in claim 3, wherein the said bridge section is secured to the said transversely extending edge portion by means of gluing process.

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