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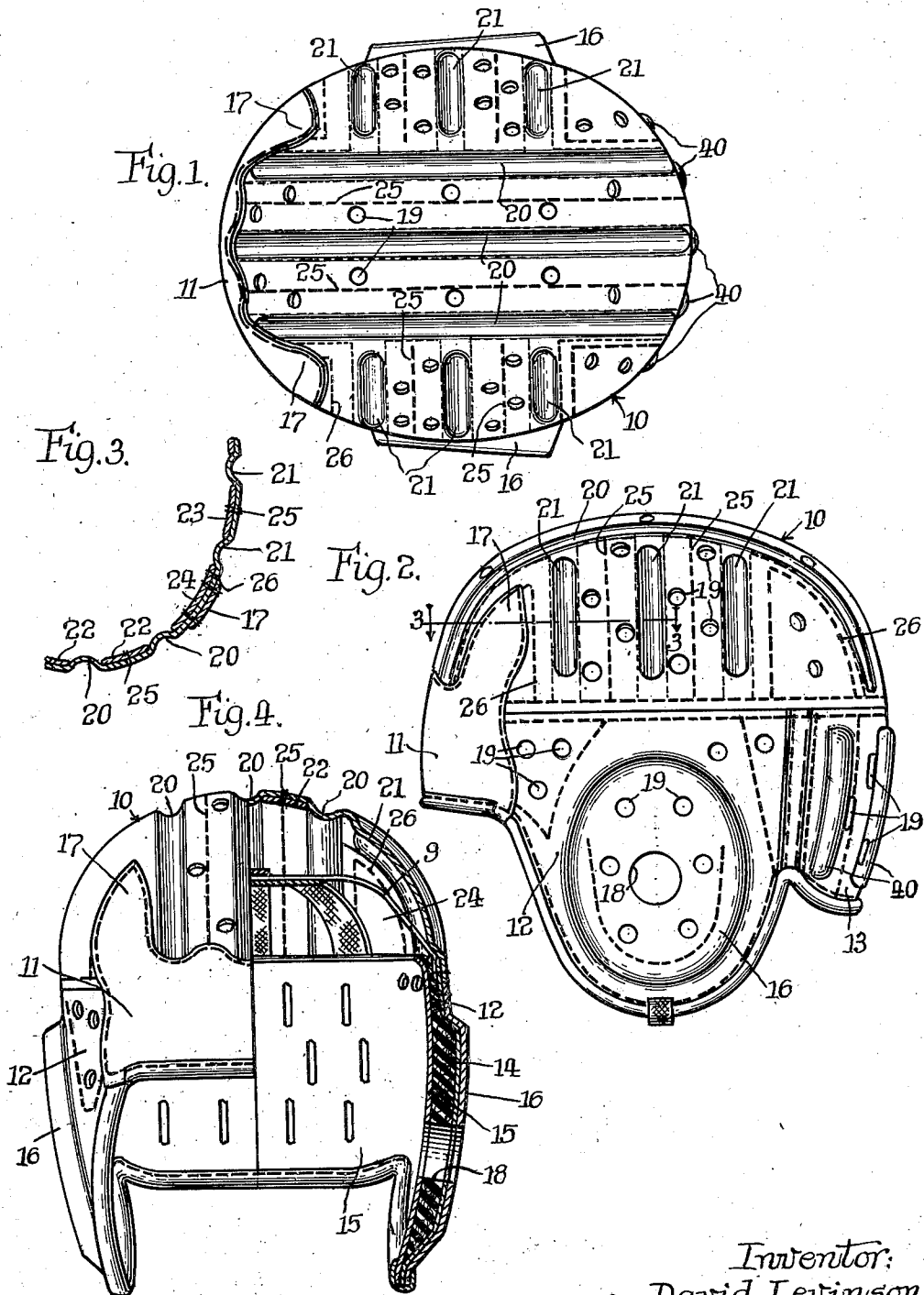
D. LEVINSON

2,081,335

HEAD GUARD

Filed July 17, 1935

2 Sheets-Sheet 1



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2 Sheets-Sheet 2

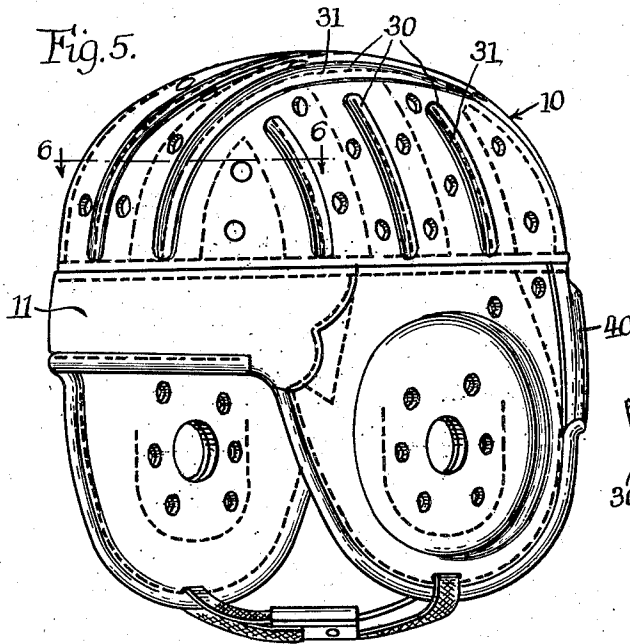


Fig. 6.

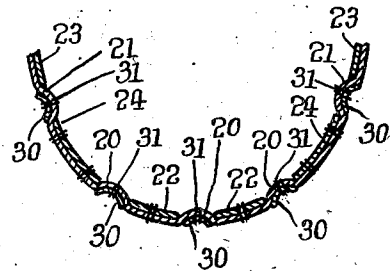


Fig. 7.

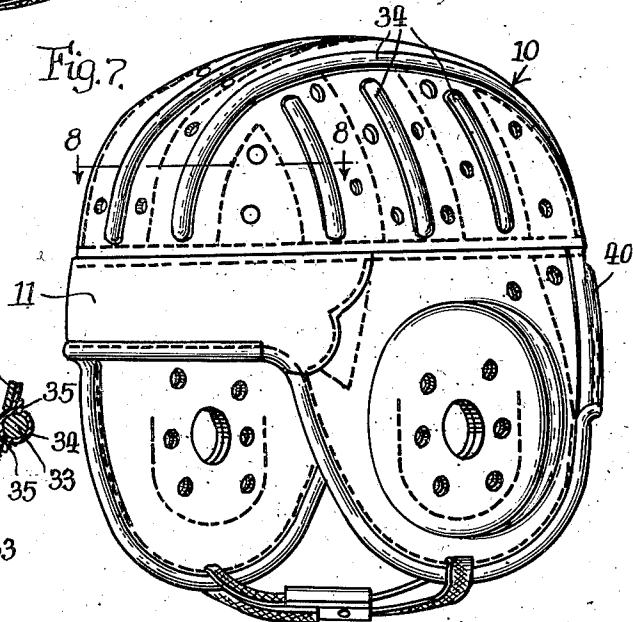
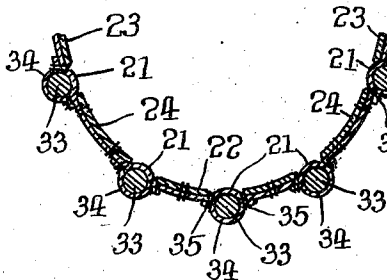


Fig. 8.



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UNITED STATES PATENT OFFICE

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HEAD GUARD

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6 Claims. (Cl. 2—3)

The invention relates generally to head guards and more particularly to the type of head guard which is used in such sports as football, polo, hockey, and by aviators, motorcycle racers or the like.

The general object of the invention is to provide a head guard of the foregoing type which affords the maximum of protection to the wearer, which will withstand hard usage, and which has a construction attaining these qualities and at the same time lending itself to decorative features desired by the trade.

More specifically, the object is to provide a head guard having a crown portion of a stiff unitary construction, shaped to cooperate with additional stiffening means in a manner whereby the maximum protection is afforded to the wearer and whereby the head guard is given an appearance enhancing its saleability.

Other objects and advantages will become apparent from the following description taken in connection with the accompanying drawings, in which:

Figure 1 is a plan view of a head guard embodying the features of the invention.

Fig. 2 is a side view of the head guard shown in Fig. 1.

Fig. 3 is a fragmentary section taken on the line 3—3 of Fig. 2.

Fig. 4 is a front view, partially in section, of the head guard shown in Fig. 1.

Fig. 5 is a perspective view of a modified form of head guard.

Fig. 6 is a fragmentary section taken on the line 6—6 of Fig. 5.

Fig. 7 is a perspective view of another modified form of head guard.

Fig. 8 is a fragmentary section taken on the line 8—8 of Fig. 7.

Head guards of the type used in football or the like generally comprise a crown having a lower portion extending from the lower edge of the crown to cover and protect the forehead, sides and back of the head. As generally constructed in present day practice, the lower portion is padded to fit snugly against the head, while the crown is adapted to fit around the head at its lower edge but to be spaced from the head thereabove. To afford protection, the crown is made stiff, or substantially rigid, so that, when a blow is received thereby, the force thereof is distributed over the head, and the latter is protected against a localized effect of a blow.

As heretofore constructed, the crown portion is usually made up of a plurality of sections of

leather sewn together by turned seams in which the edges of the sections are bent inwardly and stitched together. With this construction, there is not an inherent stiffness, since the seams themselves lack rigidity and a turned seam limits the thickness and stiffness of leather to that which may be neatly bent or turned inwardly at the seam. To provide the desired stiffness, adequate reinforcing had to be resorted to. Moreover, with seams of this character, the stitching is subjected to stresses which cause the thread to break when it becomes rotted by perspiration.

The present invention provides a crown structure which is inherently rigid without resort to heavy reinforcing. However, it lends itself readily to reinforcing and thereby attains a stiffness and rigidity not heretofore attainable except by the use of excessive material. The crown structure also avoids any stitching subject to heavy stresses so that the effect of rotting is minimized. To these ends, the crown portion comprises a unitary structure attaining a maximum of stiffness for a single piece without excessive weight. For still greater stiffness, the crown portion may have corrugations formed therein, which further provide suitable locations for reinforcements by additional members, both within the corrugations and in the spaces therebetween.

The preferred embodiment of the invention, shown in Figs. 1 to 4, comprises a crown portion indicated generally at 10, of a semi-ovoid shape to cover the top of the head and of proper dimension to substantially fit the head at its lower edge, while the top thereof is spaced above the head. To hold the crown portion in such spaced relation, a plurality of straps 9 are secured at their ends to the lower edge of the crown, crossing in the middle to rest on the head. Secured to the lower edge of the crown portion are the portions to protect the lower part of the head, comprising a front member 11, a pair of side members 12, and a back member 13. These four members are preferably made of stiff leather seamed to each other and to the lower edge of the crown 10 and shaped to fit snugly against the head with suitable padding 14, such as sponge rubber, cotton or the like, covering the inside of the stiff leather and a lining 15 of soft pliable leather. Each side member 12 extends downwardly under the ear and is provided with a suitably shaped bulge 16 to provide space for the ear without placing excessive pressure thereon, and having an aperture 18 therethrough to permit the wearer to hear readily. The back member 13 extends fairly well down to protect as much of the back

of the head as it can without interfering with movement of the head, while the front member 11 extends across the forehead. The leather of the front member may be of a different color than that of the other portions of the head guard for decorative purposes and may extend upwardly over the crown with wing-like projections 17 for the same purpose. In the side members 12 and back member 13, as well as in the crown portion 10, a plurality of small apertures 19 may be placed to provide ample ventilation.

The crown portion 10, as mentioned above, is a unitary structure avoiding the necessity of turned seams which are subject to stresses in use. To this end, the crown portion comprises a single piece of relatively thick leather molded to a semi-ovoid form. Thus, the single piece of leather may have the maximum stiffness, since turned seams are not employed, and the danger of rotting the threads in such seams is avoided. This construction gives the greatest rigidity for a given weight, is unbreakable in ordinary wear and capable of withstanding hard usage.

The single-piece construction lends itself to further stiffening by being readily molded with strengthening corrugations in the leather. Preferably such corrugations comprise a plurality of rounded grooves 20, three in the present instance, extending from front to back over the central part of the crown portion, and also a plurality of shorter grooves 21 of similar cross-sectional form extending transversely of the first-mentioned grooves and in the area between the grooves 20 and the lower edge of the crown portion at the side thereof. The grooves preferably project inwardly to open outwardly. With such arrangement of the corrugations, the additional strengthening of the crown portion is effective in both directions but the crown portion may give slightly to permit the head guard to fit different shapes of heads.

The corrugations thus divide the area of the crown portion into a plurality of depressed spaces on the inside. As an additional stiffening means strips or plates of stiff material such as fibre may be secured in such spaces and are preferably co-extensive with such spaces. As shown herein, a pair of fibre strips 22 are placed in the respective spaces between the corrugations forming the three grooves 20, and a pair of fibre strips 23 are placed in the spaces between the corrugations forming the three grooves 21. In the spaces between the grooves 20 and 21, on the inside of the crown portion, are placed triangularly shaped fibre plates 24. The strips 22 and 23 are preferably secured to the crown portion by a single line of stitching 25 extending longitudinally of the strips at their center lines, while the fibre plates 24 are secured by stitching 26 paralleling the edges of the plates.

While the crown portion is preferably made of leather especially in the better grades of head guards, it may also be made of other suitable fibrous material.

In the modified form of head guard shown in Figs. 5 and 6, the crown portion 10 is constructed similarly to that shown in Figs. 1 to 4. It is thus constructed of a single piece of relatively stiff leather and is corrugated to provide the grooves 20 and 21. It also has the underlying fibre strips 22 and 23 and the fibre plates 24. The grooves, opening outwardly, provide space especially suited to receive matter of a color contrasting to the color of the crown por-

tion proper. Such color contrast is desired by the trade and enhances the saleability of the article. The color in the grooves may be provided by painting a stripe therein, or as in the present instance, may be provided by strips 30 of leather or the like sewn in the grooves preferably by a single line of stitching 31. The strips 30 are preferably of the same color as the front piece 11, which is in contrast to the color of the crown. To give the strips 30 further value, they may be made of leather of substantial thickness and stiffness and hence reinforce the crown by adding stiffness thereto in addition to the stiffness imparted by the corrugations.

The modified form shown in Figs. 7 and 8 possesses the decorative feature of the other modified form and also is constructed to add materially to the stiffness and strength of the crown. To this end, in the grooves 21 and 22, which are rounded and open outwardly, are placed stiffening members such as pieces 33 of reed, fibre or the like, fitting snugly in the grooves. Overlying the pieces 33 are strips 34 of leather which are secured to the crown by lines of stitching 35 at the respective edges of each strip. The pieces of reed thus greatly stiffen and strengthen the crown, while the overlying strips 34 of leather retain the reeds in place and also give the desired color contrast.

In the three forms, the back member 13 may be corrugated, too, to add greater stiffness thereto. Preferably, the corrugations are in the form of a plurality of outwardly projecting ribs 40 extending vertically.

From the foregoing description, it is apparent that I have provided a head guard affording a maximum of protection to the wearer. The one-piece construction of the crown permits use of a leather having great stiffness for a given thickness of leather, since the leather does not have to be turned to form seams. Moreover, without such seams, the crown has no stitching which is subject to large stress and hence would readily break when rotted by perspiration. The corrugations in the leather with the fibre strips 22, 23 and plates 24 add still greater rigidity to the crown, both from front to back and from side to side because of the arrangement of the corrugations. In the modified form shown in Fig. 5, the strips 30 of leather afford still greater stiffness, while the pieces of reed 33 covered by the leather strips 34, in the form shown in Figs. 7 and 8, give a maximum of reinforcement. The head guards thus will withstand hard wear and are practically unbreakable in ordinary use. The decorative features of the strips 30 in the form shown in Fig. 5, and the strips 34 in the form shown in Fig. 7, materially enhance the saleability of the head guards.

I claim as my invention:

1. A head guard of the character set forth having a crown portion made of a single piece of relatively stiff leather molded to a semi-ovoid shape and having a plurality of inwardly projecting, spaced corrugations molded therein with a plurality of plates of stiffening material secured to the inner face of the crown portion in the spaces between the corrugations.

2. A head guard of the character described having a crown portion made of a single piece of relatively stiff leather molded to shape and having a plurality of spaced corrugations molded to project inwardly with a plurality of reinforcing and stiffening strips secured on the outer surface of the crown portion within the corrugations to

provide additional stiffness for the crown portion.

3. A head guard of the character described having a crown portion made of a single piece of relatively stiff leather molded to shape and having a plurality of spaced corrugations molded in the leather and providing a plurality of grooves in the crown portion, a plurality of stiffening members of semi-rigid material positioned in said grooves, and a plurality of strips of covering material overlying said semi-rigid members and secured to the crown portion to retain the semi-rigid strips in place.

4. A head guard of the character described having a crown portion made of a single piece of leather molded to a semi-ovoid shape with a plurality of longitudinally extending spaced corrugations molded therein and projecting inwardly to provide external grooves of rounded cross-section, a plurality of pieces of reed lying in the grooves, and a plurality of strips of leather covering said pieces of reed, each strip being sewn to the crown portion at the respective sides of the reed to hold the latter in place.

5. A head guard of the character set forth including a crown portion comprising a single piece of relatively stiff leather of generally rounded form having a plurality of inwardly projecting spaced corrugations molded therein with a plurality of plates of stiffening material secured to the inner surface of the crown portion in the spaces between the corrugations, said plates being substantially coextensive with said spaces whereby the entire crown portion is stiffened either by said corrugations or said plates.

6. A head guard of the character set forth including a crown portion comprising a single piece of relatively stiff leather molded to shape and having a plurality of spaced corrugations molded therein and providing a plurality of grooves in the crown portion, strips of stiffening material secured within said grooves, and plates of stiffening material secured on the opposite face of the crown portion in the spaces between the corrugations.

DAVID LEVINSON.