

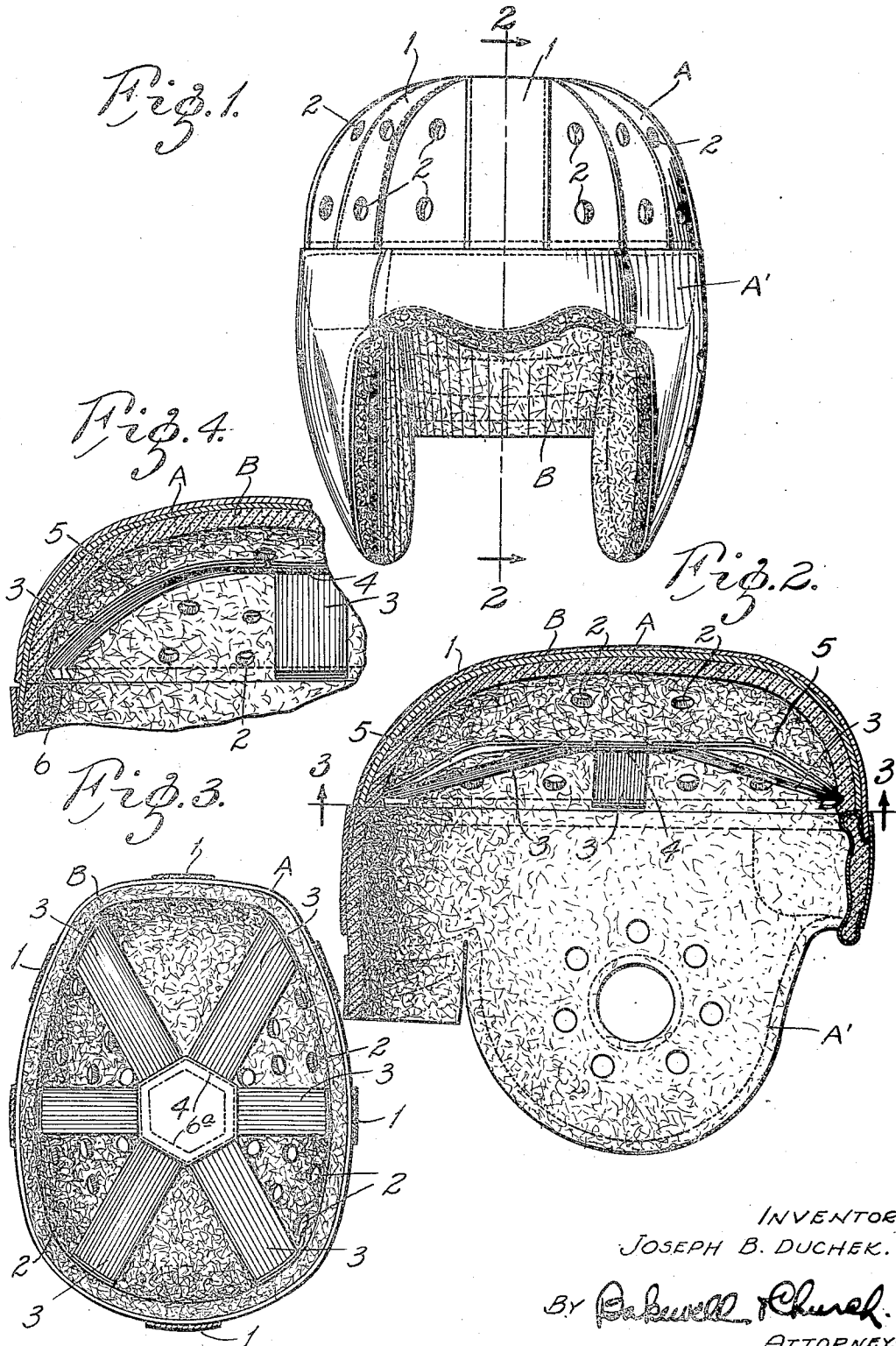
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HEAD HELMET

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HEAD HELMET

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This invention relates to head helmets of the kind that are used by athletes in playing games, particularly, head helmets of the type used by football players, which consists of a substantially rigid shell formed of molded leather and provided with a lining of felt or other suitable material of a similar nature.

Notwithstanding the fact that helmets of the type mentioned are usually provided with a device or means for absorbing downward shocks or blows on the helmet, the user's head is liable to be injured if the helmet is subjected to an excessive downward shock or blow, due to the fact that the shock absorbing device will stretch or yield to such an extent as to permit the crown or top piece of the helmet to strike against the top of the user's head.

The main object of my invention is to provide a helmet that is equipped with a shock absorbing device of novel construction, which will effectively prevent the crown or top piece of the helmet from striking against or coming in contact with the user's head, when the helmet is subjected to an excessive downward shock or blow.

Another object is to provide a head helmet that is equipped with an efficient shock absorbing device that is inexpensive to construct and combine with the helmet, and which is of such design that long or continuous usage will not destroy its efficiency.

Figure 1 of the drawings is a front elevational view of a head helmet constructed in accordance with my invention.

Figure 2 is a vertical longitudinal sectional view of said helmet, taken on the line 2—2 of Figure 1.

Figure 3 is a horizontal sectional view, taken on the line 3—3 of Figure 2; and

Figure 4 is a fragmentary sectional view, similar to Figure 2, illustrating how the shock absorbing device acts when the helmet is subjected to an excessive downward shock or blow.

In the drawings, which illustrate the preferred form of my invention, A designates the crown or top piece of a head helmet of the type used by football players, consisting of a substantially rigid shell formed usually

from molded leather and provided with an inner lining of heavy felt or some other suitable material B of a similar nature. As is usual, the crown is provided with reinforcing strips 1 and ventilating holes 2, and said crown is attached at its lower edge to a portion A' that covers the ears, forehead and back portion of the user's head.

A shock absorbing device comprising a resilient or elastic structure is arranged inside of the crown A, so as to absorb downward shocks and blows exerted on the helmet and normally hold the extreme top portion of the crown out of engagement with the top of the user's head. In order to eliminate the possibility of the crown ever striking against the user's head and injuring the same, I provide the shock absorbing device of my improved helmet with a means that prevents the resilient or elastic structure of the shock absorbing device from yielding, giving or stretching to such an extent as to permit the top portion of the crown to strike against the top of the user's head when the helmet is subjected to an excessive downward shock or blow. Thus, as shown in Figures 2 and 3, the shock absorbing device of the helmet comprises a resilient, elastic or stretchable portion, formed preferably from a plurality of elastic strips 3 that project radially from a center member 4 to the lower edge of the crown A to which said strips are attached, and an inelastic or non-stretchable portion, formed preferably from a plurality of inelastic strips 5 arranged above or in superimposed relation with the elastic strips 3 and attached to the center member 4 and to the lower edge of the crown A, strips 5 being longer than the strips 3.

In the normal use of a helmet of the construction above described, the inelastic or non-stretchable portion of the shock absorbing device, formed by the inelastic strips 5, is inactive and does not interfere with the stretching or elongation of the elastic strips 3, when said strips 3 stretch in the operation of absorbing slight blows, or blows of the kind to which the crown is subjected in the normal use of the helmet. At such times the inelastic strips 5 are not under tension, due

of course, to the fact that they are of greater length than the elastic strips 3. When the crown of the helmet is subjected to an excessive downward shock or blow, however, the crown will move downwardly to such an extent or degree that the strips 3 will stretch or elongate abnormally, thereby causing the inelastic strips 5 to be stretched taut or placed under tension, as shown in Figure 4, and thus rendering said strips 5 operative to arrest the downward movement of the crown and prevent it from striking against the top of the user's head.

Obviously, the elastic or stretchable portion, and the inelastic or non-stretchable portion of the shock absorbing device can be constructed in various ways without departing from the spirit of my invention. I prefer, however, to construct the shock absorbing device in such a way that it does not interfere with the circulation of air through the helmet and form the stretchable portion of said device from strips 3 of elastic webbing that branch radially from the center member 4 and which have their outer ends attached by stitches 6 to the lower edge portion of the crown A, preferably, the stitches that are used to join the reinforcing strips 1 and the inner felt lining B to the crown. The non-stretchable portion of the shock absorbing device is formed by strips 5 of inelastic webbing, whose outer ends are attached to the crown by the same stitches 6 used to attach the strips 3 to the crown and whose inner ends are attached to the center member 4 by the same stitches 6^a that are used to attach the elastic strips 3 to the center member, the strips 3 and 5 being of such relative length that the inelastic strips 5 come into service to limit the degree of stretching or elongation of the elastic strips 3 when the crown is subjected to an excessive downward shock or blow.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent is:

1. A head helmet provided with a shock absorbing device, comprising a plurality of elastic strips arranged so as to permit the crown of the helmet to yield in the event of a blow and thereafter automatically return said crown to its former position, and a plurality of inelastic strips of greater length than said elastic strips, combined with same in such a way as to limit the elongation of same under certain conditions.

2. A head helmet provided with a shock absorbing device, comprising a plurality of radially-disposed elastic strips arranged inside of the crown of the helmet and attached at their outer ends to said crown, and radially-disposed inelastic strips of greater length than said elastic strips, arranged so as to limit the stretching of said elastic strips.

3. A head helmet, comprising a crown, a shock absorbing device inside of said crown

comprising a center member and a plurality of elastic strips projecting radially from said center member and attached at their outer ends to the crown, and inelastic strips of greater length than said elastic strips, arranged above the same and having their inner and outer ends attached respectively to the center member and to the crown.

4. A head helmet, comprising a crown, an inner lining for said crown attached to the same by stitches, and a shock absorbing device inside of said crown, comprising a stretchable elastic portion and a non-stretchable portion, both of which portions are attached to the crown by the stitches used to connect the lining to the crown.

5. A head helmet provided with a rigid crown, a skeleton-like elastic or stretchable structure on the interior of the helmet attached to same and adapted to co-operate with the head of the user to normally hold said crown spaced away from the user's head, and non-stretchable devices attached to the interior of the helmet and to said elastic structure for preventing said structure from stretching to such an extent as to permit said crown to strike against the user's head when said crown is subjected to an excessive shock or blow.

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