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L. E. REEDER

2,785,407

PROTECTIVE PAD

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Fig. 1

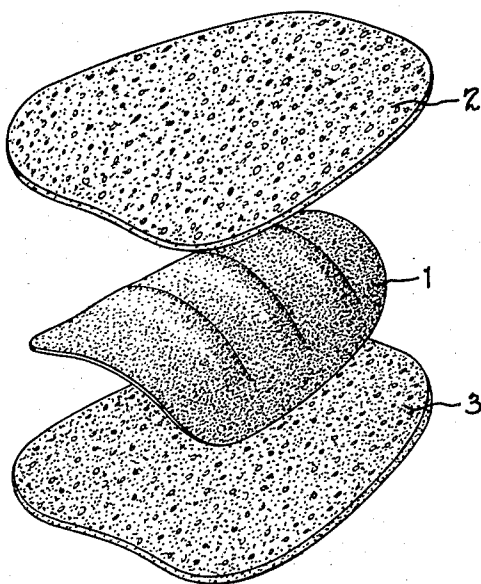


Fig. 2

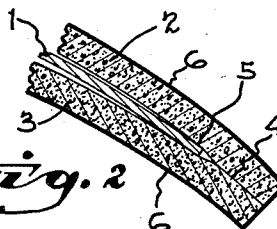
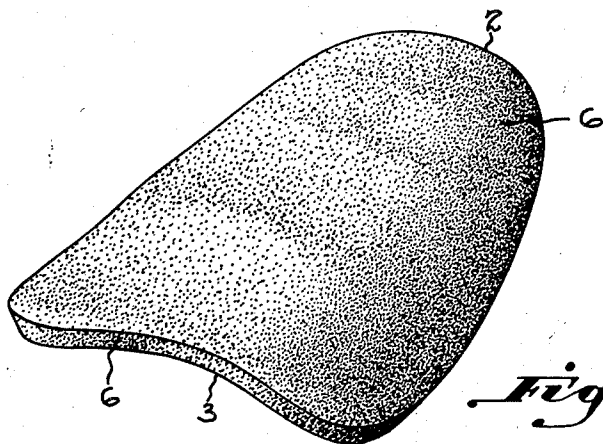


Fig. 3



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1 Claim. (Cl. 2--22)

This invention relates to padding for providing body protection and is illustrated herein by a thigh guard for football players. In the past, protective pads or guards have been fabricated from combinations of leather, cloth, felt, rubber, cotton batting and almost every known type of padding or cushioning material. It has also been conventional to reinforce such pads with relatively rigid elements molded from fiber or plastic. One difficulty with the padding of the past has been its flimsiness, i. e. its tendency to deteriorate or be destroyed under the strain of continued use. Another difficulty has been the expense of fabrication which required sewing or other intricate hand operations. Still another difficulty has been that all of the padding available in the past has tended to absorb perspiration which tended to rot or deteriorate the materials of the padding and, further, to render the padding odoriferous and unsanitary. Moreover, absorption of perspiration from the player or moisture from rain tended to add to the weight of the player and slow down his performance.

The object of the present invention is to provide a protective pad or guard suitable for use by athletes, such as football players, which is inherently less destructible than ordinary padding, which assures greater protection, which is inherently light, which is resistant to perspiration and moisture and which lends itself to fabrication by quantity production methods.

The pad or guard of the present invention is constituted by a core-like stiffener surrounded by foam vinyl plastic, which in turn is coated with a vinyl resin finish which renders the protective pad as a whole resistant to moisture and perspiration. Although the pad of this invention may be contoured to fit any part of the body, it is illustrated in the accompanying drawing by a thigh guard.

In the drawing, Figure 1 is an exploded view of the pad constituting elements, Figure 2 is a sectional view of one edge of the finished pad, and Figure 3 is a perspective view of the pad.

In the drawing, a stiffening element 1 is utilized which may be molded of fiber or plastic to fit any contours desired. As disclosed, the stiffening element is concave on one side and convex on the other. A vinyl foam cushion 2 is fitted over the outside of the stiffening element 1 and a vinyl foam cushion 3 is fitted over its inner side. These

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cushions extend beyond the edges of the stiffening core and are marginally secured together by adhesive, as at 4. Preferably the adhesive is also utilized to anchor the cushions marginally about the edge of the core or stiffener, as at 5. The entire pad is then coated with a vinyl adhesive 6 to render it resistant to perspiration and moisture.

The vinyl cushions are preferably fabricated from polyvinyl chloride sponge having a closed or unicellular structure and a density of substantially 5 to 7 pounds per cubic foot. The cellular structure is very fine to provide optimum impact absorption and slow recovery or rebound after deformation. The coating composition is a vinyl varnish which may be constituted by a vinyl resin such as a vinyl chloride, vinyl acetate copolymer, which may be plasticized with dioctyl phthalate dissolved in one or more solvents, such as methyl ethyl ketone, methyl isobutyl ketone and toluene. The vinyl resin coating adheres to the vinyl resin cushioning and does not tend to peel from it so that the finished pad as a whole is resistant to perspiration, moisture, insects and other deterioration hazards. In fact, the thigh guards or other protective pads of this invention will hold up until the stiffening cores are softened or broken by physical abuse.

The guards or pads hereinbefore described are particularly adapted for fabrication by quantity production methods. The cores or stiffeners may be shaped by conventional pressing methods. The cushions may be cut from sheet plastic foam by appropriate dies. The plastic foam cushions are then applied to the opposite faces of the core and cemented to the margin of the core, and together. A vinyl resin adhesive is suitable for this purpose. No stitching, sewing or other intricate handwork is required to complete the assembly. The pad is then given the final protective finish coating by spraying or dipping.

Thus a very light, durable sanitary pad or guard affording maximum protection at minimum weight is provided, the said pad or guard being adapted to be fabricated by simple quantity production methods.

Having described my invention, I desire to be limited only by the following claim:

A pad adapted to provide body protection, said pad comprising a stiffening core molded to fit the contours of the wearer, two cushions, one on each side of said stiffening core extending marginally beyond it, said cushions comprising foam vinyl plastic of the type adapted to provide slow rebound, said cushions cemented together and to the stiffening core marginally, and a vinyl resin finish adapted to render the pad moistureproof, said finish coating the assembly as a whole.

References Cited in the file of this patent

UNITED STATES PATENTS

1,970,130	Dickenson	Aug. 14, 1934
2,266,886	McCoy	Dec. 23, 1941
2,361,380	Callahan et al.	Oct. 31, 1944
2,519,401	Rockwell	Aug. 22, 1950
2,553,612	Taylor	May 22, 1951
2,620,484	Gerry	Dec. 9, 1952