Jan. 4, 1944. V. GIARDINI 2,338,424

LIMB GUARD

Filed May 24, 1940

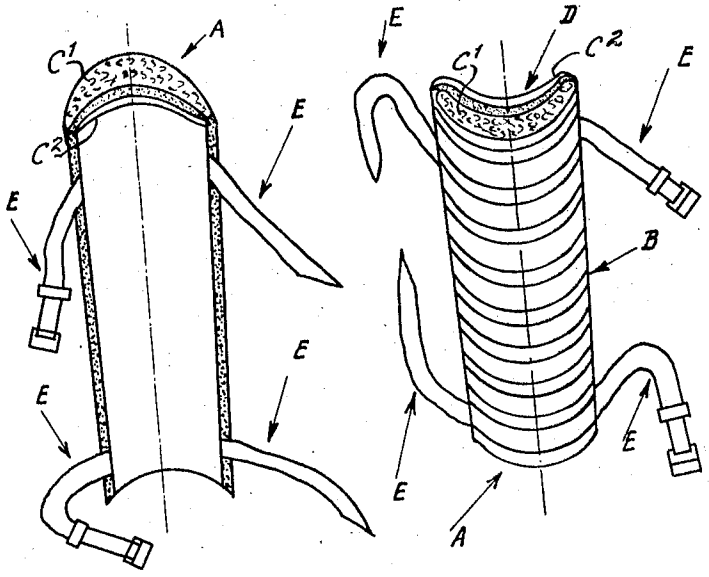

Fig. 1

Fig. 2

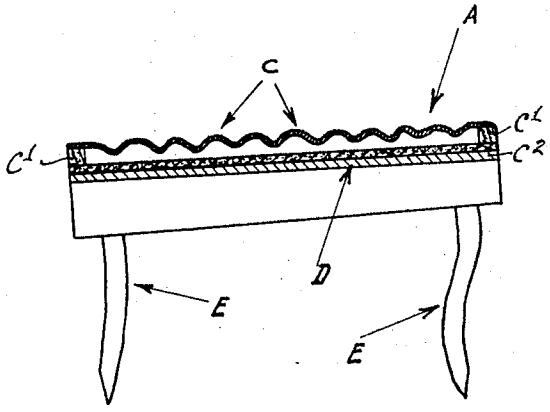

Fig. 3

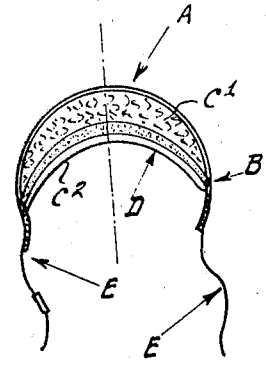

Fig. 4

Inventor

Virgilio Giardini

By Young, Emery & Thompson

Attorneys

Patented Jan. 4, 1944

2,338,424

UNITED STATES PATENT OFFICE

2,338,424

LIMB GUARD

Virgilio Giardini, Milan, Italy; vested in the Alien Property Custodian

Application May 24, 1940, Serial No. 337,084
In Italy August 12, 1939

2 Claims. (Cl. 2—22)

In some sport games it is advisable or necessary for the players to wear a guard for protection against injury to the limbs. Such a guard may also be advisable for workers to prevent accidents.

Guards have been proposed to cushion the effect of blows particularly on the shin-bone, comprising pads of elastic material such as felt, rubber, stuffing or a pneumatic cushion. Such pads alone do not provide a sure protection, and stiffening in serts have been used therein, giving some improvement compared to the pads without inserts.

In order to avoid the effect of blows acting only on a restricted area, according to the present invention, the limb guard comprises a stiff channel-shaped part, which does not contact directly with the limb, and the latter is bandaged with a flexible but inextensible material, which constitutes a bridge between the lateral edges of the channel, leaving a void between the bandage and the channel. The ends of this space are closed and the inside concave face of the bandage is lined with sponge rubber or other like material.

It is a matter of course, therefore, that a blow on the channel member will affect a large surface, which will be absorbed by a good part of the breadth and all the length of the bridge.

In order to clearly understand the present invention, on the annexed drawing there is schematically presented one form of the invention in the shape of a shin-bone guard, that is in:

Fig. 1 a back view, in

Fig. 2 a front view, in

Fig. 3 a side section and in

Fig. 4 a view from the height of a shin-bone guard according to the present invention.

In all figures the same part is marked with the same reference.

The channel A is constituted of a material suited for the purpose, that is of sufficient stiffness and resistance to blows, such as for instance hard-rubberized or resin impregnated fabric, hard rubber incorporating textile fibres, metal sheet, fibre, or the like, and presents a substantial curvature. The edges B are properly rounded in order to avoid tearing of the bandage D on the jointing lines on which both contact. The channel may be provided with stiffening ribs C, of suitable size and shape, extending in transverse or longitudinal or any other direction.

The bandage D is attached to the channel A along the edges B and to the leg by means of the straps E. The material employed for the bandage has to be flexible enough to fit properly to the leg and also to be inextensible enough to resist blows and the flattening tendency of the channel without stretching out and allowing the channel to strike the shin-bone.

On account of the fact that the limb guard has to protect the bones more than the fleshy part of the limb, it is a matter of course that the attaching means have to be such to correspond entirely to this requirement.

In the example is necessarily described only a given type of limb guard, that is a shin guard. It is a matter of course that the basic idea of the present invention may be employed for the protection of other limbs as for instance the forearm, and the guard may be so shaped as to protect either of the bones of the forearm or both.

In the illustrated example, the guard is shown having straps for attachment to the leg but the fixing means may vary, for instance the guard may be fixed to the stocking of the wearer or the material used for the bridge may be extended to bandage the leg and be tightened by strings or a zipper fastening or by other means suitable for the purpose.

In some cases the side toward the limb of the wearer may be of the same material as that of the bridge, but the whole bandage and the straps preferably have a lining C_2 such as felt, sponge rubber, sheets of rubber coated hair, etc., in order to further absorb the blow and particularly to allow free movement of the muscles. The space between the channel and the bridge may be closed at the ends by means of closures C_1 the same material used for the bandage or for the lining or any other suitable material.

The shape of the channel can vary according to the different requirements. It may assume more or less the form of the limb so that for instance the guard may be worn underneath the stocking without being too noticeable.

What I claim is:

1. A protector for protecting limbs of the human body against shocks comprising inner and outer laterally curved sheets of elastic and rigid material respectively fixed together along their longitudinal edges to form a hollow space between them, the concave surface of the inner sheet being lined with sponge rubber, and closures for the ends of the space between the inner and outer sheets to prevent the entry of foreign bodies into said space.

2. A protector for protecting limbs of the human body against shocks comprising inner and outer laterally curved sheets of elastic material fixed together along their longitudinal edges to form a hollow space between them, the concave surface of the inner sheet being lined with sponge rubber, and closures for the ends of the space between the inner and outer sheets to prevent the entry of foreign bodies into said space, said outer sheet being provided with transverse corrugations.

VIRGILIO GIARDINI.