Sept. 9, 1958 J. R. ADAMS 2,850,740

HELMET HAVING A BIFURCATED CROSS-BRACED FACE GUARD

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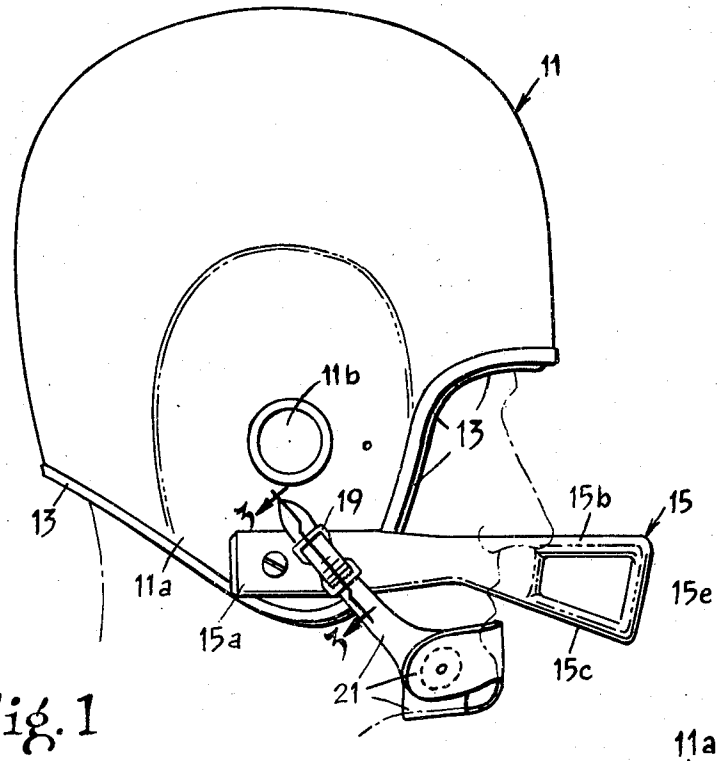

Fig. 1

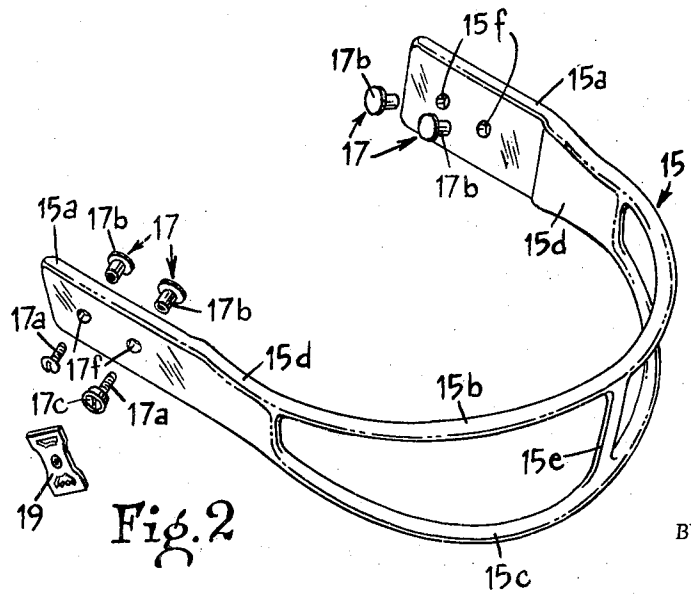

Fig. 2

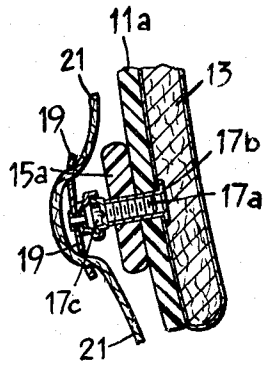

Fig. 3

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HELMET HAVING A BIFURCATED CROSS-BRACED FACE GUARD

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1 Claim. (Cl. 2—9)

This invention relates to a helmet having a bifurcated cross-braced face guard.

More particularly the invention relates to a helmet having a die-molded "nylon" face guard fastened at its ends to the sides of the helmet shell by pairs of telescopic screw fasteners, the head of one of each pair being enlarged to constitute the stud of a snap connector for the usual chin strap for the helmet, the guard having upper and lower bars normally located forwardly of and roughly parallel to the opposing edges of the upper and lower jaw bones of the wearer, and having a vertical medial bracing bar for interreinforcement therebetween.

This application involves an improvement over the disclosure of applicant's prior Patent No. 2,611,897 for "Helmet With Face Guarding Means", issued September 30, 1952.

Helmets of the type shown in said prior patent and also here involved, are conventionally provided with snap fastener elements located in openings in the side portions of the helmet which cover the ear region of the wearer and it is an object of the present invention to utilize these conventional snap fastener receiving openings for accommodating anchoring means for the face guard and at the same time maintaining the original chin strap snap fastener function, without the necessity of providing an additional opening in the face guard to accommodate these snap fasteners.

A further object of the invention is to minimize the number of openings required in both the face guard and the helmet, for mounting the face guard and to so arrange the openings which are required, as to maintain a maximum of strength in the face guard structure.

It is another object of this invention to provide a face guard for helmets that provides more effective protective coverage of the face while interfering less with vision and verbal communication.

It is another object to provide a face guard having a pair of vertically spaced mouth-surrounding bars greatly strengthened by a vertical interreinforcing bar.

It is a further object to provide a face guard of molded "nylon" for great durability and freedom from injury from shattered guard pieces.

It is yet another object to provide a flexible face guard that facilitates donning and removing the helmet (by allowing spreading thereof).

These and other objects will become apparent as the following detailed description thereof proceeds.

In the drawings:

Fig. 1 is a side elevational view of a preferred embodiment of the invention.

Fig. 2 is an exploded perspective view of the guard proper and its helmet-attaching fasteners.

Fig. 3 is a fragmentary enlarged sectional view of the combined fastener and snap post, taken on the line 3—3 of Fig. 1.

With reference now to the drawings, the numeral **11** generally designates the helmet shell conventionally molded of optionally reinforced plastic. Shell **11** has depending side portions **11***a* in which are formed sound-admitting openings **11***b* centered over the ear region of the wearer. Shell **11** is lined with conventional padding generally designated **13** stitched and/or otherwise fastened thereto.

The guard **15** is preferably formed of a single die-molded piece of "nylon" or equivalent stiff, strong and resilient material, and has the general U-shape shown in Fig. 2. The anchoring ends **15***a* are flat rectangular portions the faces of which are tilted slightly outwardly toward their upper edges to conform to the downward convergency of the shell side portions **11***a*.

The guard proper comprises the upper and lower cylindrical spaced bars **15***b* and **15***c* integrally connected to the portions **15***a* by the narrower but thicker portions **15***d*. Bars **15***b* and **15***c* are roughly parallel to the opposed edges of the upper and the lower jaw bones, respectively, of the wearer, and are spaced forwardly from his face about two inches more or less. The upper bar is approximately on the level of the tip of the wearer's nose when the head is held erect (Fig. 1).

The bars **15***b* and **15***c* are connected by one (or more if desired) vertical bracing bar **15***e* located so as to provide protection for the wearer's front teeth. Bar **15***e* interbraces and interreinforces the bars **11***b* and **11***c* and prevents their separation (which otherwise could permit an injuring object to penetrate between the separated bars). This construction permits decreasing the size of bars **15***b* and **15***c* (as compared with bars not so interconnected or braced) thus minimizing interference with vision and talking. The guard thus by increased vertical coverage protects the entire face.

Each anchoring portion **15***a* is provided with a plurality of spaced apertures **15***f* to receive the threaded telescopic fasteners **17** which pass thru alined holes in shell **11** to fix the guard **15** thereto. It is to be noted that the forwardmost opening **15***f* is aligned with the conventional chin strap snap fastener opening provided in the shell **11**. Each fastener **17** comprises a headed screw **17***a* and a headed internally threaded sleeve **17***b* of generally conventional construction.

One screw head on each side, namely, the head which is carried by the fastener occupying said forwardmost aperture **15***f*, is enlarged or is provided with a rimmed cup **17***c* which constitutes the stud of the snap-connector by which the buckle **19** detachably fastens the chin strap **21** to the helmet **11**. As will be seen from Figure 2, the two apertures **15***f* are longitudinally aligned and lie substantially on the longitudinal center line of the arms **15***a*. Thus, a minimum number of apertures is required in the mounting arms due to the dual function of the forwardmost apertures **15***f* and the location of both sets of apertures is such as to avoid weakening the structure of the mounting arms.

While I have disclosed a certain preferred embodiment of my invention, it is to be understood that many changes can be made in the size, shape, composition and arrangement of the parts without departing from the spirit of the invention as defined by the subjoined claim. For example, the helmet shell and the guard could, if desired, be molded as a unitary structure.

Having thus described my invention, I claim:

In combination with a conventional molded helmet of the type comprising a shell having depending side portions for covering the ear region of the wearer, the respective side portions each having an aligned opening spaced vertically from their lower edges to accommodate chin strap snap fastener devices; a U-shaped face guard having mounting arms and extending from the side portions of said shell forwardly of and around the jaw portion of the head of the wearer, each of said mounting arms being provided with a pair of spaced anchor receiving apertures lying substantially on the longitudinally center line of said

arms, one of each pair of anchor receiving apertures being axially aligned with one of said snap fastener openings in the respective side portions, a combined snap fastener and anchoring element having a snap fastener element at the outer end of its shank and an anchoring element at the other end of the shank, the shank of the fastener extending through and snugly engaging its respective set of aligned openings and apertures, the said fastener fixing the relative positions of the face guard and helmet and serving jointly as a first anchoring means for said arms

and as a snap fastener element for complementary snap fastener elements of a chin strap, and second anchoring means extending through the second apertures of each pair and into respective side portions of said shell.

References Cited in the file of this patent

UNITED STATES PATENTS

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