

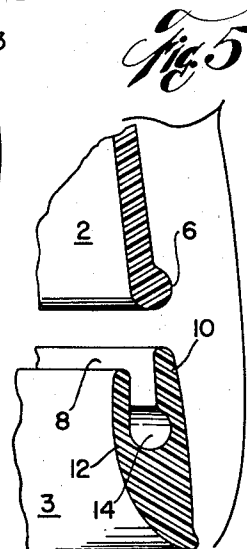
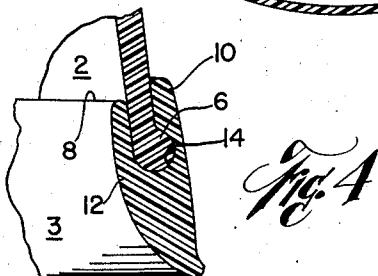
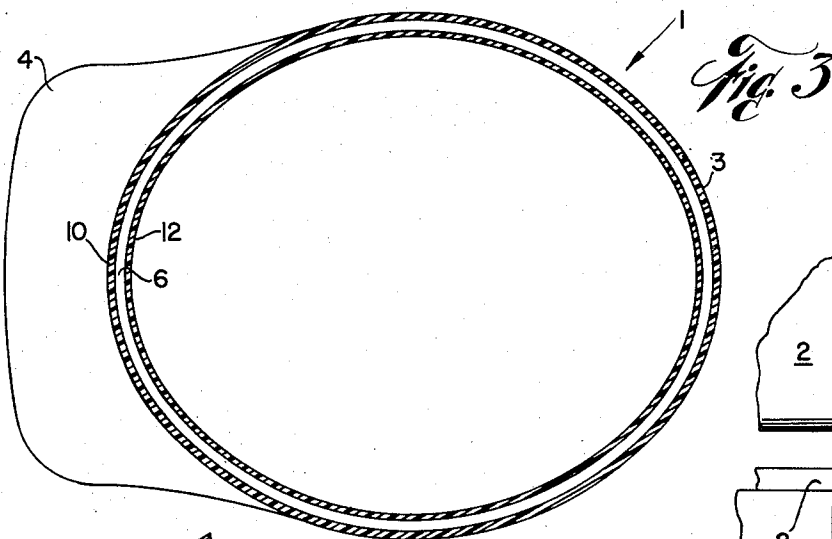
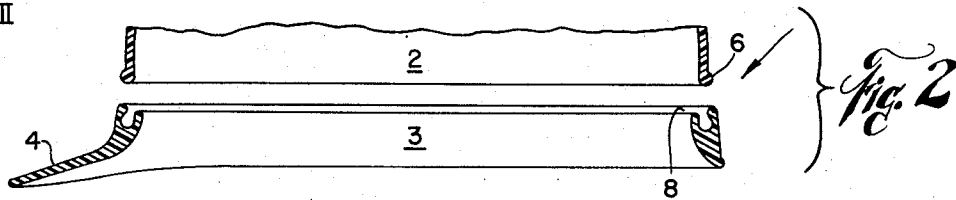
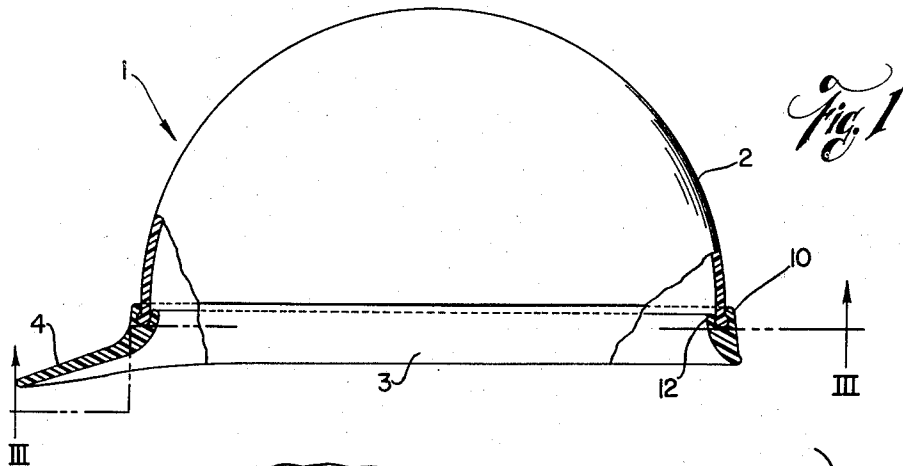
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PROTECTIVE HEADGEAR

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PROTECTIVE HEADGEAR

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2 Claims. (Cl. 2—3)

This invention relates to protective headgear of the type generally used by miners, construction workers, firemen and others employed in related industrial fields where head protection is required, and more particularly, to headgear made in two parts and formed of rigid and/or semirigid materials.

Generally, the existing practice for making protective headgear is to fabricate the headgear in one piece, and this has proven very satisfactory in most cases. As is well known in the art, such headgear is normally molded or stamped between a pair of complimentary dies, whether the headgear is of the hat type, which includes a short brim and visor, or of the helmet type, which comprises a full protective brim. Such headgear and manner of fabrication, however, present disadvantages in instances where it is desired that varied parts of the headgear contain different physical and chemical properties; where functional requirements are different for separate parts of the headgear, regardless of whether the aforesaid properties differ or are the same; where it is desired that the headgear dies be simple and inexpensive; where greater selection and combination of fabrication processes is wanted; and where multicoloring of parts is contemplated. Accordingly, it is the general object of this invention to overcome the above-mentioned disadvantages.

In the case of varying the physical and/or chemical properties of separate parts of the headgear, the one-piece headgear fabrication method obviously will not produce the desired construction since such manufacturing procedure requires that the headgear material for the complete structure be the same throughout its entirety. That is, where, for example, there is a definite strength requirement for the headgear crown, suitable material is chosen to meet this requirement; and, of necessity in the one-piece construction, the remaining portions of the headgear are made from the same material, regardless of whether such remaining portions need be made as strong as the crown. It is an object of this invention to provide a headgear including more than one part, which parts are capable of having different physical and chemical properties.

Concerning the functional requirements of headgear, it is at times desirable to provide a headgear effective for use by the wearer when performing different operations, whether related or unrelated, and which operations require modified forms of head protection. For example, a particular operation may require the use of the complete headgear comprising a crown and brim. On the other hand, it may be desirable to use either the crown or brim separately for other and different operations. By providing a headgear having separable parts, it is not only possible to accomplish these results but is also feasible, when replacement is necessary, to interchange new parts for the old without the necessity of discarding the complete headgear. A further object of this invention is to provide a divisible headgear having parts susceptible to different uses and having parts capable of separate replacement.

As to the simplification of headgear dies and greater

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selection of fabrication processes, producing the headgear in parts makes these advantageous results possible. It is readily seen that the usual headgear having numerous compound curves requires complex-shaped dies when fabricating the headgear in one piece. Conversely, when the headgear is made in more than one piece, the die for each piece may be simplified. Also, and more specifically in the case of plastic or plastic reinforced headgear, it is possible to manufacture one part of the headgear by selecting one of the several types of molding processes and making the other part or parts of the headgear by choosing a different process. According to this invention, it is a further object to provide a headgear which may be made more simply, easily and inexpensively.

Still further objects are to provide a headgear which can be tinted in a manner to achieve definite separation of different colors, which comprises two parts, which contains parts that are securely assembled, which contains parts that are quickly and easily assembled and disassembled, and which has parts assembled in a manner to provide an inner surface free of pressure points.

The protective headgear of this invention is composed of two basic units detachably connected together, one unit forming a crown and the other unit taking the form of a brim or annulus. The crown includes a bead integrally molded around the bottom edge thereof, and the brim includes a visor and comprises a circumferential groove complimentary to the bead on the crown for receiving and seating the bead to thereby attach the crown and brim together. The bead and groove are so constructed and arranged relative to each other whereby the crown may be snapped onto the brim for locking the parts together by a positive connection. However, the connection between the units is such that they may be conveniently disengaged when such is desired.

Other objects and advantages will become apparent from the following detailed description and annexed drawings in which:

Fig. 1 is a vertical elevation of the headgear with parts shown in cross section;

Fig. 2 is an exploded fragmentary vertical section of the headgear;

Fig. 3 is a horizontal sectional view taken on line III—III of Fig. 1;

Fig. 4 is an enlarged fragmentary view showing the connection between the crown and brim; and

Fig. 5 shows an exploded view of the parts illustrated in Fig. 4.

This invention, although not to be limited thereto, is most particularly concerned with protective headgear composed of nonmetallic materials of the plastic or plastic reinforced types, which, when molded, produce a rigid and/or semirigid blow-resistant headgear. The specific material may be chosen from the numerous compositions well known in the art and forms no part of the instant invention except as may be clearly delineated hereinafter.

Referring now to the drawings, protective headgear 1 is shown as comprising two units, a crown 2 and brim or annulus 3. Brim 3 includes a visor 4 and, in this form, produces a cap-type headgear. It is to be clearly understood, however, that this invention is not limited to this type of headgear, and the term "brim" refers to all styles of protective headgear having various types of brims. Crown 2 comprises a continuous peripheral curved bead 6 integrally molded at and forming the lowermost edge of the crown. Brim 3 comprises, along its upper edge, a complimentary and continuous groove or channel 8 formed by an outer annular leg 10, an inner annular leg 12 and arcuate seat 14. As may be noted in Fig. 5, groove 8 is similar to a keyhole slot with legs 10 and 12 slightly converging downwardly toward seat 14. The open end of groove 8 is constructed to receive bead 6,

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and upon movement of latter downwardly, legs 10 and 12 spread or expand permitting positioning of the bead on seat 14 for interlocking engagement of the crown 2 and brim 3. When the crown 2 and brim 3 are thus assembled, leg 10 extends circumferentially around the outer surface of crown 2 and the inner leg 12 extends similarly around the inner surface of the crown. The circumferential and uninterrupted inner band formed by leg 12 presents a surface free of pressure points normally dangerous to the head of the wearer when the headgear receives a blow.

The assembly and disassembly of the crown and brim should be readily apparent. In attaching the two units together, it is necessary only to press the crown with its integrally molded bead 6 downwardly into groove 8. As the bead passes through the groove, the legs 10 and 12 will spread slightly until the bead has been seated in the groove. When the bead is thus seated, legs 10 and 12 close or contract to their original position, locking the crown and brim portions together. Conversely, when disassembling the headgear, it is necessary only to apply a convenient amount of pressure to spread legs 10 and 12 in pulling the two portions apart.

In most cases, the crown 2 will be made from a rigid material which is highly resistant to impact to protect the head of the wearer from falling and propelled objects. Due to the manner of locking crown 2 to brim 3 by spreading legs 10 and 12, the material selected for the brim must contain a certain degree of resilience to accomplish the desired result. This required physical property, however, is the only limitation placed on the selection of materials for the crown and brim. The intended use of the headgear units will determine, of course, what other physical and chemical qualities are desirable for fabrication of the headgear.

From the above description, it should be clear that the novel headgear construction permits fabrication of the crown and brim in separate and, consequently, simple molds. The simplicity of the molds results in inexpensive fabrication costs and permits greater accuracy in the shape of the finished product. Also, because of this invention, the physical and chemical properties of the headgear units may be varied according to the intended use of each unit taken separately or combined. It is possible to interchange the crown with various brims, such as those forming a cap, as illustrated, forming a full-brim helmet, and forming other brims, as, for example, are used in various hats, caps and firemen's helmets. Furthermore, various methods of molding component parts may be employed, such as compression molding for the crown and an injection molding method for the brim in the case of plastic materials. If desired, metallic materials may be used for one unit and a nonmetallic material

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for the other unit. In addition to the above important aspects, it is possible to use the crown separately in those operations where there is no necessity for visor or brim protection and where the workman is operating in close quarters. Where no upper head protection is required, the brim may be used to protect or shade the eyes and other lower head portions. Lastly, the provision of a two-unit headgear greatly enhances the commercial value of this product since the crown may be tinted with one color and the brim portion may be tinted with another color, thus providing a clear demarcation between colors and permitting a wide selection of colors by the individual or organization using the headgear.

Having explained the principle of the present invention and having illustrated and described what is considered to be the best embodiment, it is to be understood that, within the scope of the appended claims, the invention may be practiced otherwise than as specifically illustrated and described.

I claim:

1. A protective headgear comprising a blow-resistant crown unit having a rigid peripheral bead and a blow-resistant brim unit, said brim unit being formed as a flange member extending outwardly from at least the front part of the crown unit and having a rigid peripheral expansible grooved portion receiving said bead detachably connecting said crown and brim units, and said grooved portion expanding to receive said bead as the bead is pressed into the grooved portion and contracting around said bead when the bead is seated in the grooved portion.

2. A protective headgear comprising a blow-resistant crown unit having a rigid peripheral bead along its upper edge and a blow-resistant brim unit, said brim unit being formed as a flange member extending outwardly from at least the front part of the crown unit and having a rigid peripheral expansible grooved portion along its lower edge, said grooved portion receiving said bead detachably connecting said crown and brim units, and said grooved portion expanding to receive said bead as the bead is pressed into the grooved portion and contracting around said bead when the bead is seated in the grooved portion.

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