

Jan. 6, 1959

W. A. STUART ET AL

2,866,978

HELMET WITH COMBINED VISOR AND EAR-CHEEK SHIELDS

Filed Feb. 21, 1957

FIG. 1.

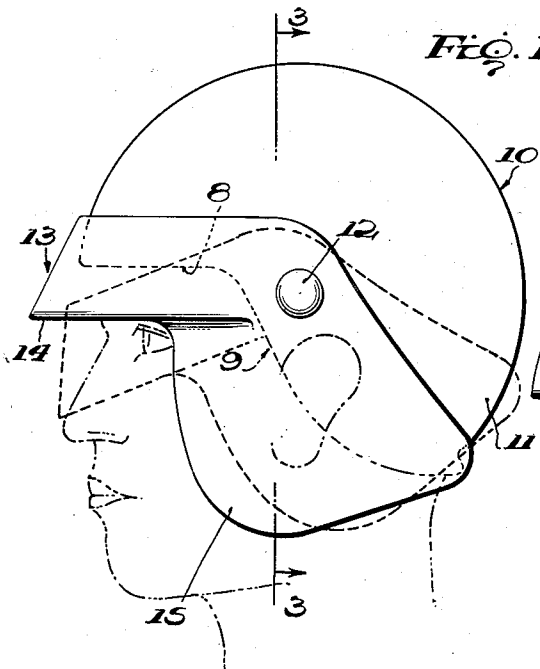


FIG. 2.

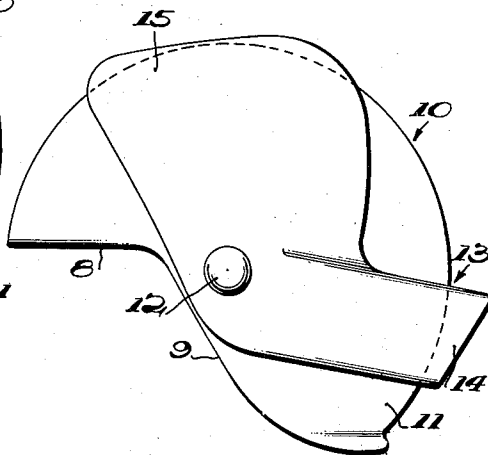


FIG. 3.

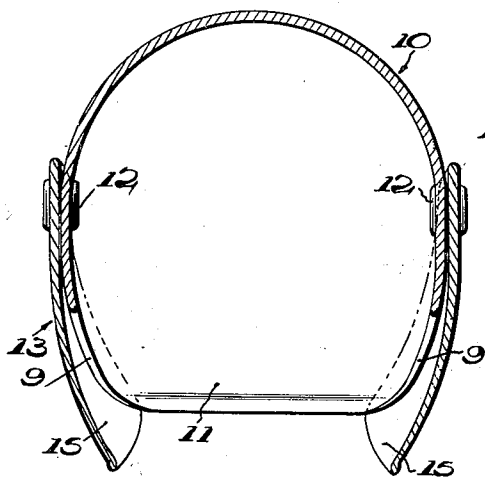
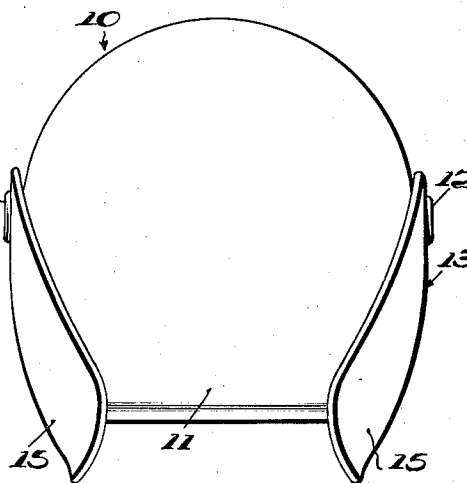


FIG. 4.



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HELMET WITH COMBINED VISOR AND EAR-CHEEK SHIELDS

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Application February 21, 1957, Serial No. 641,778

2 Claims. (Cl. 2—6)

The invention relates to protective helmets and more particularly to helmets which comprise a head piece or crown together with supplemental shields for protecting the forehead, ears and cheeks. Such devices are known but usually comprise a plurality of separate elements which impose increased manufacturing and assembly costs. They also need a plurality of separate hinges or the like for securing the parts to the crown.

With the foregoing in view, it is an object of the invention to provide an improved helmet of the class described.

A further object is to provide an improved helmet which comprises a crown and a combined visor and ear-cheek shield movably mounted on the crown for movement to and from operative and retracted positions.

Other objects and advantages reside in the particular structure of the invention, the structure and design of the several elements, combinations and sub-combinations of such elements, all of which will be readily apparent to those skilled in the art upon reference to the attached drawing which discloses one embodiment of the invention and to the following specification wherein the invention is described and claimed.

In the drawing:

Figure 1 is an elevational view of a helmet including the invention, the parts being in an operative position;

Figure 2 is a like view with the parts in a retracted position;

Figure 3 is a transverse, vertical sectional view taken substantially on the plane of the line 3—3 of Figure 1; and

Figure 4 is a rear view of the invention.

Referring specifically to the drawing, wherein like reference characters designate like parts in all views, 10 designates generally a head-piece or crown which includes a depending nape portion 11 for protecting the nape of the wearer's neck. A pair of coaxial pivots 12 connect a combined visor and ear-cheek shield 13 to opposite sides of the crown 10. The crown portion and nape portion have lower and front edges 8 and 9 respectively which define the top and rear limits of substantially triangular areas of the face and head of the wearer.

The part 13 comprises a visor portion 14 of any suitable or usual form which extends around the forehead of the wearer to protect the same and also to provide a sun shade or eye shield. The part 13 is formed of any suitable resilient material as spring metal, plastic or the like.

The rear portions of the visor portion 14 are formed with integral downwardly and rearwardly extending ear-cheek shields 15 which cover the exposed facial areas defined by the edges 8 and 9 aforesaid. The shields 15 are of concavo-convex form and overlap the edges 9 of the nape shielding portion 11 of the crown in closely fitting concentric relation when the parts are in the operative position. At the same time, the visor portion 14 overlaps the lower edge or brim 8 of the frontal portions of the crown 10 with the upper edge having a closely

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fitting concentric relation to the crown. These closely fitting concentric relations of the visor and shield portions 14 and 15 with the crown 10 are maintained as the element 13 is moved to a retracted position as illustrated in Figure 2. This is because the crown 10 is preferably a segment of a hollow sphere or the like. The shields 15 and at least the upper edge of the visor 14 are formed with curves which are complementary to the curvature of the outer surface of the crown 10 in all positions. Likewise, the close fit provides a resilient frictional engagement which resists relative pivotal movement of the parts sufficiently so that they normally tend to remain in any selected position. Obviously, simple latch means may be provided if necessary to secure the parts in the operative and retracted positions.

A further operative position is shown in broken lines in Figure 1. This is accomplished by pulling the visor 14 downwardly beyond the normal operative position to provide a narrow slit between the brim 8 of the crown 10 and the upper edge of the visor 14. This operative position is useful for providing frontal protection for the eyes while permitting vision in an upward direction as when spotting aircraft overhead. Obviously, the coverage of the area defined by the brim 8 and front edges 9 can be varied by slight vertical movements of element 13 in either direction to positions other than those shown.

When maximum protection is not needed, the combined element 13 is swung upwardly to the retracted position of Figure 2. The element 13 is now entirely above the brim 8 of the crown to give maximum comfort and ventilation. At the same time, the element 13 can be returned quickly to an operative position by a reverse movement as is readily apparent.

A further feature of the invention is that the construction of the combined element 13 is such that it is at least substantially balanced relative to the transverse axis of the crown 10 in all normal positions of the parts. Thus, in each normal position illustrated, portions of both the visor 14 and shields 15 are on opposite sides of the transverse axis of the crown 10. The effect of this is added comfort for the wearer irrespective of the position of the element 13. It follows then, that a helmet according to the invention can be worn for long periods without discomfort.

Although the helmet shown is without any head band or suspension, it is understood that it is a mere shell and adapted to be fitted over a helmet liner which includes suitable suspension. Likewise, if the invention is used without a liner, it is understood that any suitable well known head bands or suspensions will be included. The head band and suspension illustrated in the patent to Riddell, No. 2,250,275, is suitable for such use.

Also, while there has been shown and described what is now thought to be a preferred embodiment of the invention, it should be understood that the same is susceptible of other forms and expressions. Consequently, the invention should not be considered as being limited to the precise structure shown and described hereinabove except as hereinafter claimed.

We claim:

1. The combination with a helmet shell including crown and nape portions respectively having lower and front edges which intersect on opposite sides of said helmet to define the top and rear limits of substantially triangular areas exposing side portions of the face and head of the wearer, covering means for said areas, said covering means comprising an arcuate visor having legs straddling said crown, a combined ear-cheek shield integral with each leg and extending downwardly therefrom, coaxial pivots on opposite sides of said shell pivotally connecting said legs of said visor thereto for pivotal

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movement of said covering means from a retracted position at least substantially entirely clear of said areas to a plurality of operative positions each covering said areas, said ear-cheek shields including counterbalancing portions disposed in the opposite side of said pivots from said visor and substantially counterbalancing the latter in all of said positions, said visor having an upper edge overlapping said lower edge of said crown and said ear-cheek shields having rear edges overlapping said front edges of said nape portion when said covering means is in each operative position, and said rear edges of said ear-cheek shields being in frictional engagement with said crown in each operative position to maintain said covering means in such position.

2. The combination with a helmet crown and a visor, said visor having opposite ends, and coaxial pivot means pivotally connecting said opposite ends of said visor to opposite sides of said crown for pivotal movement to and from operative and retracted positions; of two combined ear-cheek shields, there being an ear-cheek shield integral with each of said opposite ends of said visor and extend-

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ing downwardly therefrom a substantial distance, each ear-cheek shield including a counterbalancing portion disposed on the opposite side of said pivot means from said visor in both positions of the latter whereby to at least substantially counterbalance the same in such positions, said ear-cheek shields being formed of resilient material, and said ear-cheek shields frictionally engaging said crown in both positions of said visor to provide means for retaining said visor in such positions.

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