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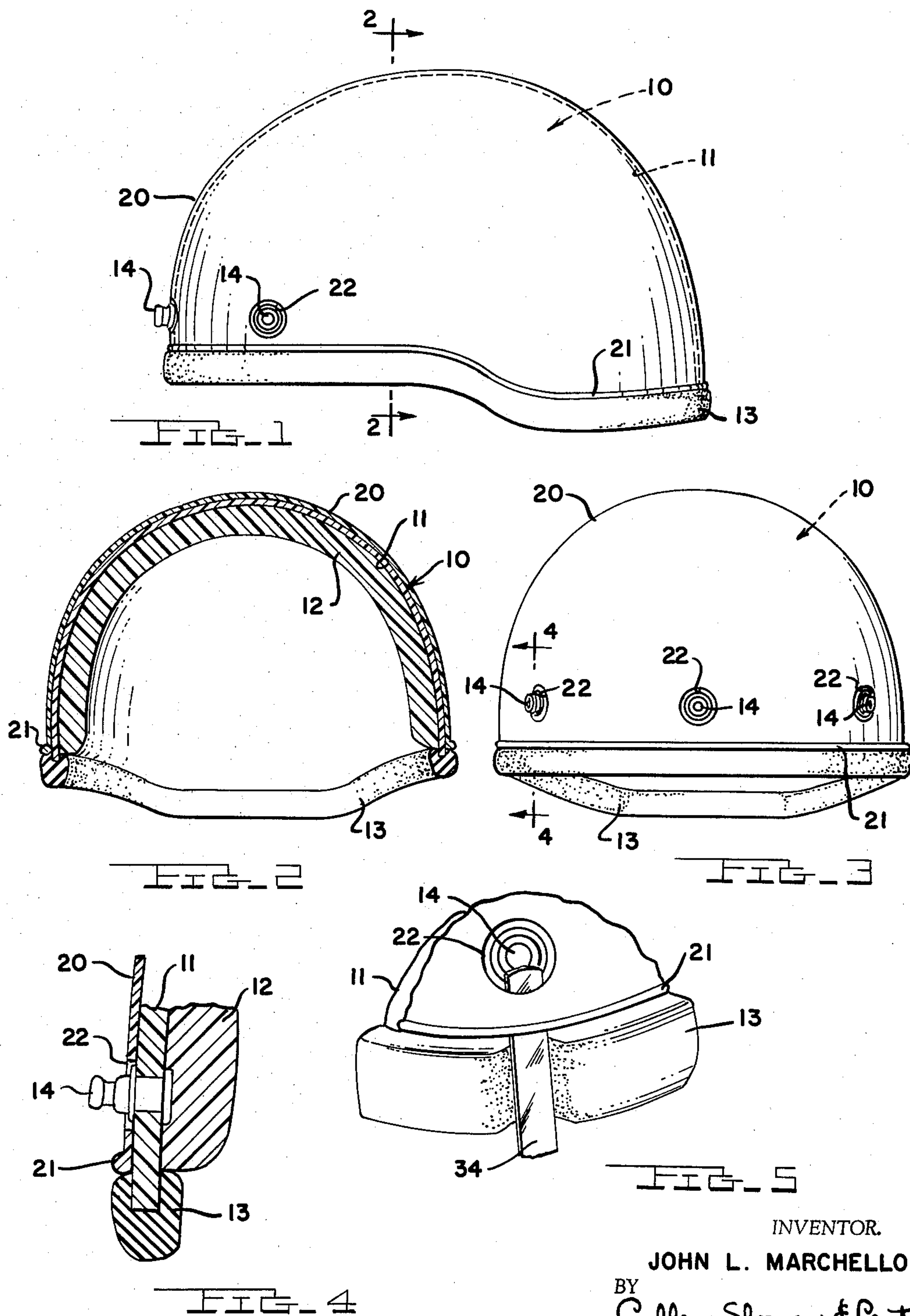
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3,245,087

SAFETY HELMET COVER IN COMBINATION WITH A HELMET

Filed April 15, 1964

2 Sheets-Sheet 1



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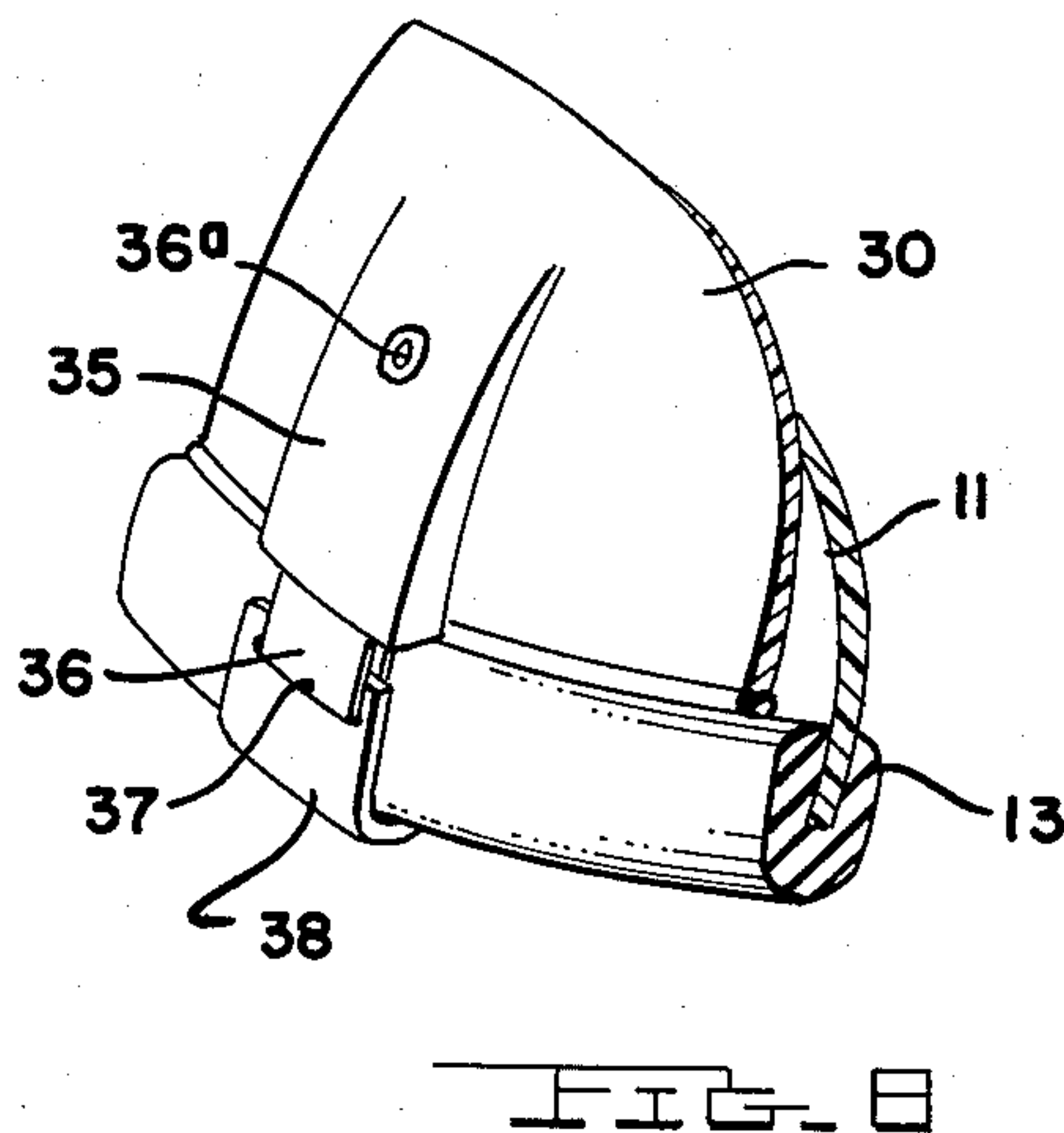
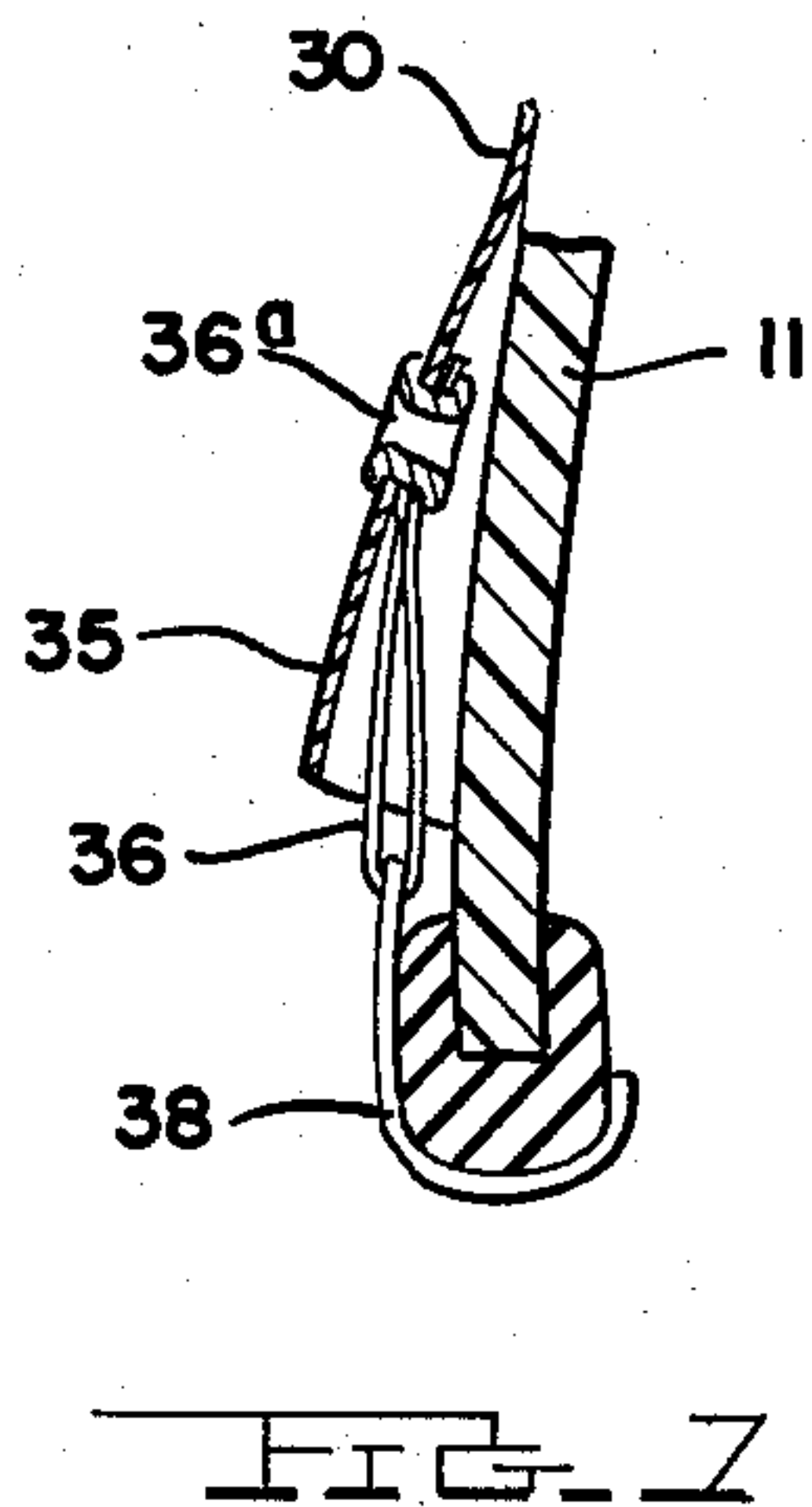
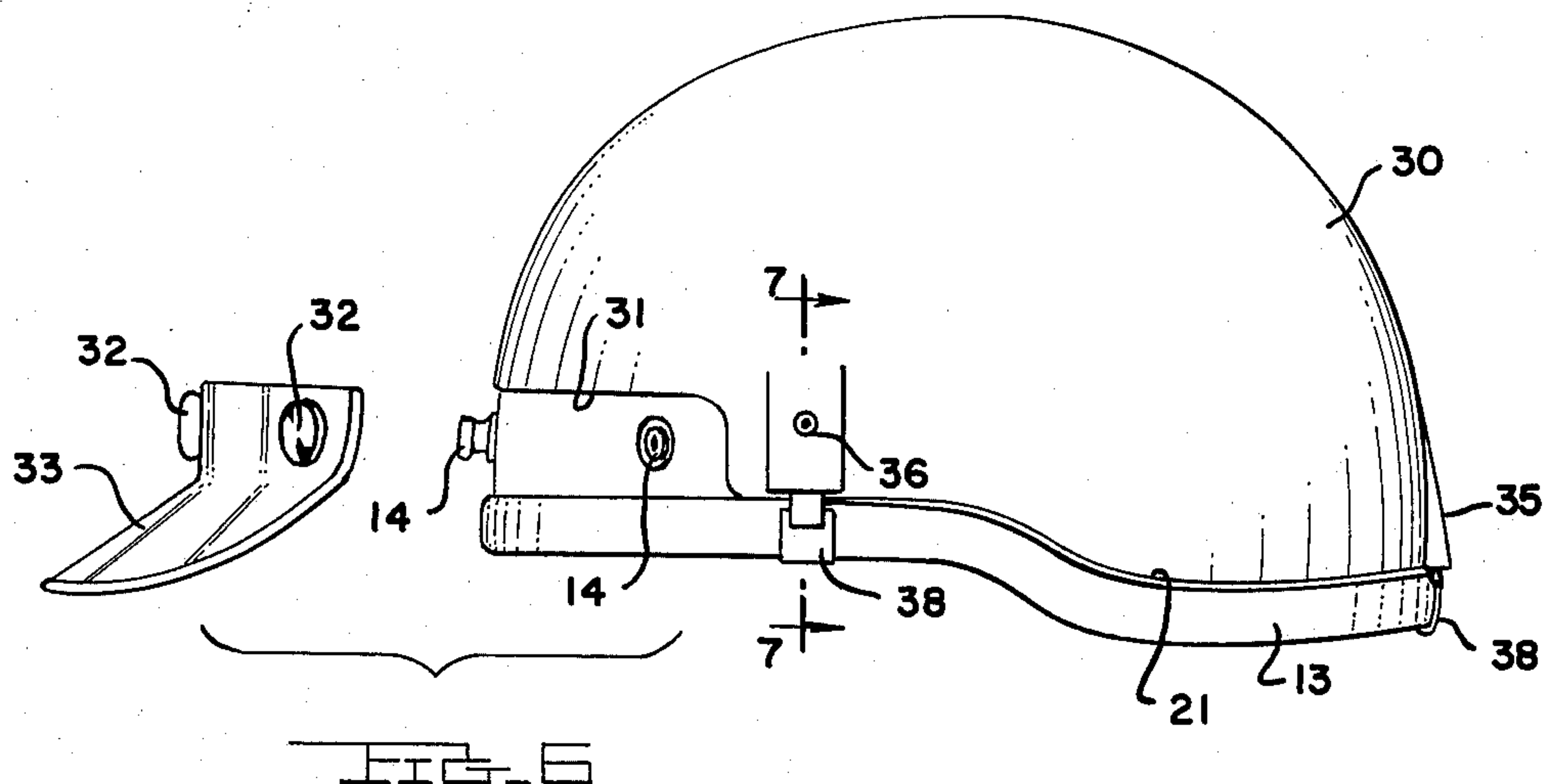
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2 Sheets-Sheet 2



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## SAFETY HELMET COVER IN COMBINATION WITH A HELMET

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1 Claim. (Cl. 2—3)

This invention relates to a safety helmet cover and more particularly to a cover adapted to be temporarily applied to a safety helmet for the purpose of applying a marking or color to the helmet.

Safety helmets, such as of the types illustrated in Zbikowski Patent No. 3,116,490 of January 7, 1964, and Zbikowski Patent No. 3,116,488 of January 7, 1964, are commonly used by police officers, motorcyclists, parachutists, racing car drivers, etc. Such helmets are usually painted either a solid color, such as white, or predetermined color patterns, such as are used by various police departments. However, at times, it is desirable to either temporarily apply numbers or other indicia to the helmet, as for racing purposes, or to apply a bright color, such as a phosphorescent color, of the type which is clearly visible at night, for identifying police officers.

Since safety helmet outer surfaces are rounded, it is extremely difficult to apply a temporary coating or covering to the exterior surfaces for the above purposes. Hence, it is an object of this invention to provide a temporary, removable cover adapted to be fitted over the exterior shell of a safety helmet, which cover may be suitably marked or colored as required, and which is so formed that it will be tightly joined to the helmet primarily by means of atmospheric pressure.

These and other objects and advantages of this invention will become apparent upon reading the following description, of which the attached drawings form a part.

FIG. 1 is a side elevational view of a safety helmet with the cover mounted thereon.

FIG. 2 is a cross-sectional view taken in the direction of arrows 2—2 of FIG. 1.

FIG. 3 is a front elevational view.

FIG. 4 is an enlarged, cross-sectional, fragmentary view taken in the direction of arrows 4—4 of FIG. 3.

FIG. 5 is a fragmentary perspective view showing the cover being pried loose for removal from the helmet.

FIG. 6 is a side elevational view of a modification.

FIG. 7 is an enlarged cross-sectional view taken in the direction of arrows 7—7 of FIG. 6.

FIG. 8 is a fragmentary perspective view of the modification of FIG. 1.

The safety helmet 10, is formed of an outer, inverted bowl-shaped shell 11, made of a hard, rigid, plastic material, provided with a padded inner liner 12 similar to that illustrated in the above mentioned Patent No. 3,116,490, and a rubber or rubber-like edge bead 13, adhesively secured to the lower edge thereof. A suitable head support cradle (not illustrated) may be mounted within the helmet, as for example, the head support illustrated in the application of Zbikowski, Serial No. 229,573, filed October 10, 1962, now Patent No. 3,137,859.

Secured to the outer shell 11 are three conventional male snap fastener halves 14 having outwardly projecting stud parts for connection to corresponding female snap fastener halves secured to a visor or a transparent face shield or the like for mounting same upon the helmet.

The invention herein relates to the bowl-shaped cover 20 which corresponds in shape to the exterior surface of the helmet outer shell 11. The cover is preferably formed of a thin plastic material characterized by being relatively stiff, but semi-flexible, and which will bend or flex only under considerable pressure. For example, a suitable ma-

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terial is that identified as "Royalite 20," manufactured by United States Rubber Company, and molded into the shape illustrated with a wall thickness of .030 inch. Such material will flex or bend under a pressure of about 10–20 pounds applied by a human thumb pressed against its surface. The outer surface of the cover may be brightly colored with a phosphorescent paint or may have identifying numbers or the like indicia painted thereon.

The cover has an approximately horizontally arranged lower edge to which is adhesively fastened a resilient edge bead 21.

Three openings 22 are formed in the front of the cover to overlie and receive each of the snap fastener halves 14. Each opening is slightly larger than the diameter of its respective snap fastener stud so that the studs are accessible.

The cover is mounted upon the helmet shell by tipping it forwardly and pressing it downwardly until the openings receive the snap fastener studs and then pressing the rear portion of the cover downwardly until it is in close contact with the shell. Because the cover closely fits the shell and because of its flexibility, air is expelled from between the cover and the shell resulting in the cover being in face to face contact with and firmly held upon the shell by atmospheric pressure, the force of which is sufficient to hold the cover in place despite impacts, movements of the wearer, wind forces, etc.

To remove the cover from the shell, it is merely necessary to permit air to enter between the two and then lift the cover upwards. This can be accomplished by prying up the cover lower beaded edge at one of the snap fasteners using a screwdriver or a nail file or the like (see FIG. 4) to bend such cover portion out slightly and permit air to enter therebetween and to clear the cover over that fastener while forcing the cover upwards. The cover is thus popped or pried off the shell.

FIGS. 6–8 illustrate a modification, wherein the front lower edge of cover 30 is cut-away at 31 to clear the snap fastener studs 14 which are thus accessible to snap connect to female fastener halves 32 secured to a conventional visor 33.

While atmospheric pressure is primarily relied upon to hold the cover in place, a separate positive fastening means is also provided. This is in the form of a number of downwardly and outwardly tapering embossments 35 formed at the lower edge of the cover, each receiving a loop forming elastic band 36 secured by a grommet 36a to its embossment and looped through a slot 37 in a flat metal hook 38 which engages the helmet edge bead 13. The cover is otherwise identical to that disclosed in connection with FIGS. 1–5.

Having described an operative embodiment of my invention, I now claim:

A safety helmet with removable cover, comprising an inverted, bowl shaped, rigid, helmet shell; the helmet shell being smooth surfaced and outwardly curved in exterior contour from its top to its bottom edge; said helmet being of a form wherein each horizontal plane is larger in diameter than the horizontal plane next above; a removable cover comprising a thin walled, bowl-shaped unitary cover shell shaped to closely conform to and snugly fit over and cover substantially the entire exterior surface of said helmet shell; the cover shell being of a relatively stiff, but semi-flexible material for retaining its shape, but for flexing slightly to closely conform to the surface of said helmet shell; the cover material being non-porous to prevent air leakage through it; and, though flexible, being neither stretchable nor shrinkable; said cover shell being fitted upon said helmet shell in tight surface to surface contact therewith, to exclude air from between the two shells and being held upon the helmet shell by atmospheric pressure,



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and being removable therefrom by flexing a lower edge portion of the cover shell away from the helmet shell for permitting air to enter therebetween to thereby release the cover shell from the helmet shell.

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JORDAN FRANKLIN, *Primary Examiner.*