

Dec. 19, 1939.

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2,184,043

SAFETY HELMET

Filed April 15, 1938

2 Sheets-Sheet 1

FIG. 1.

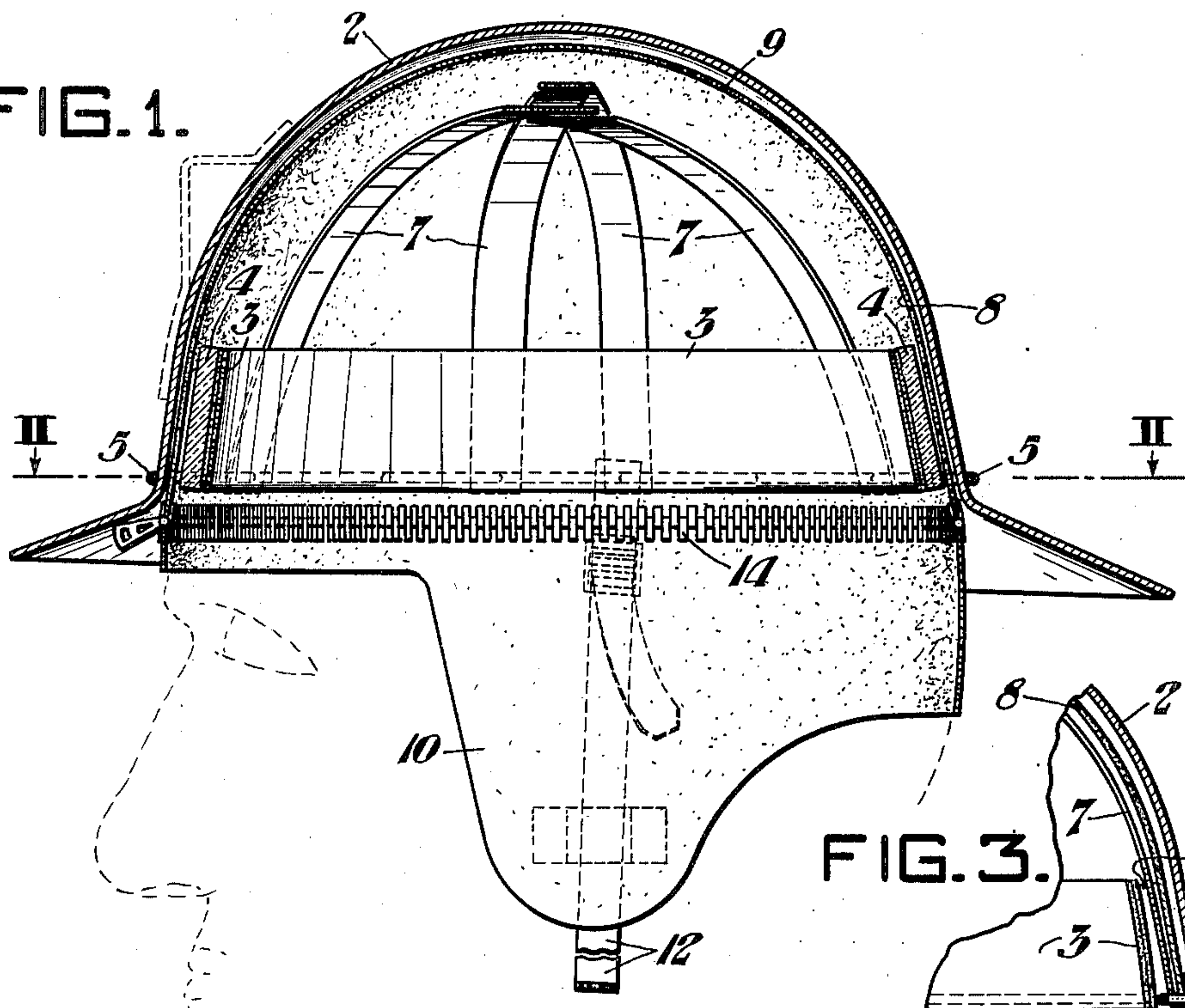


FIG. 3.

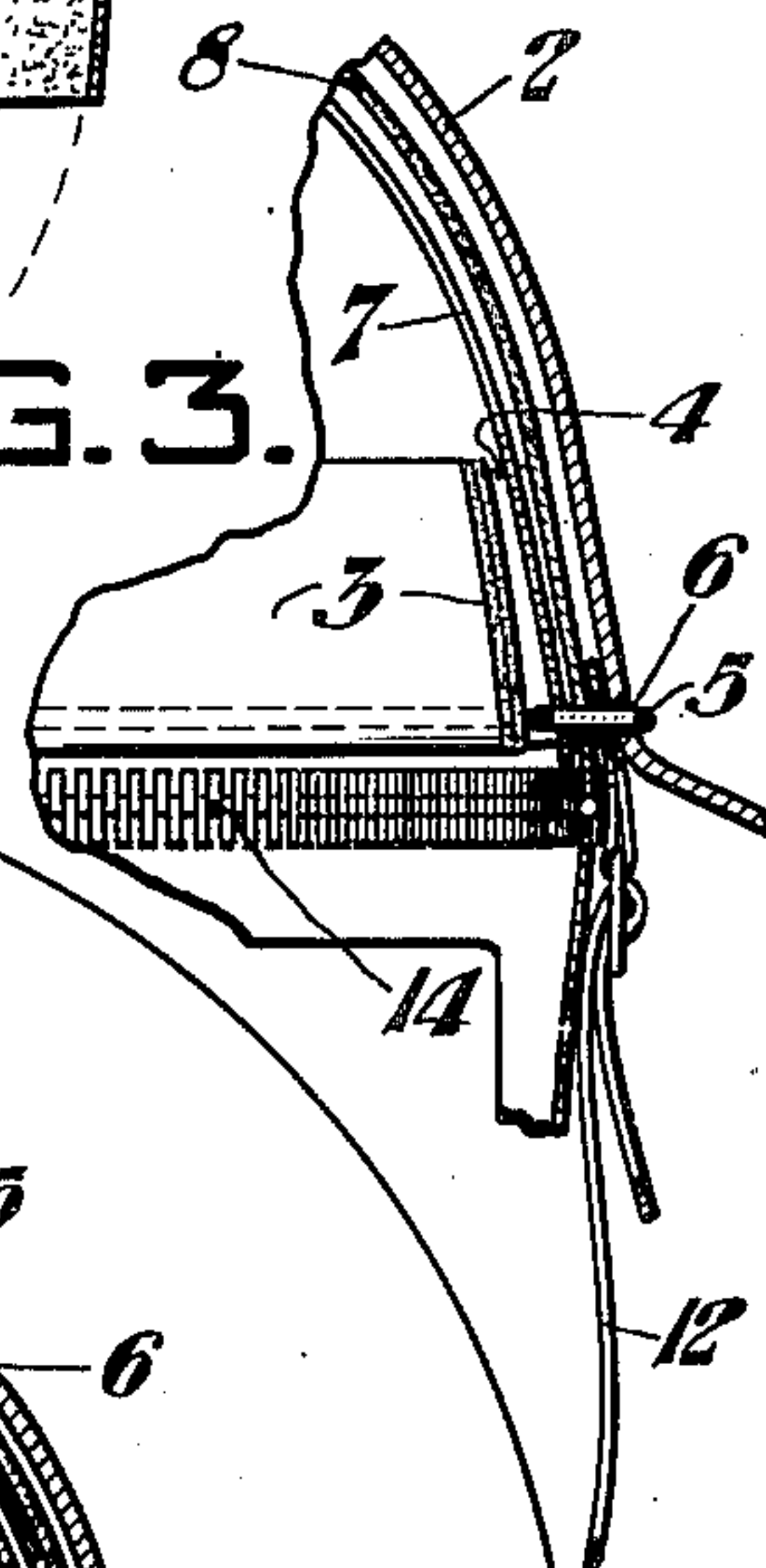
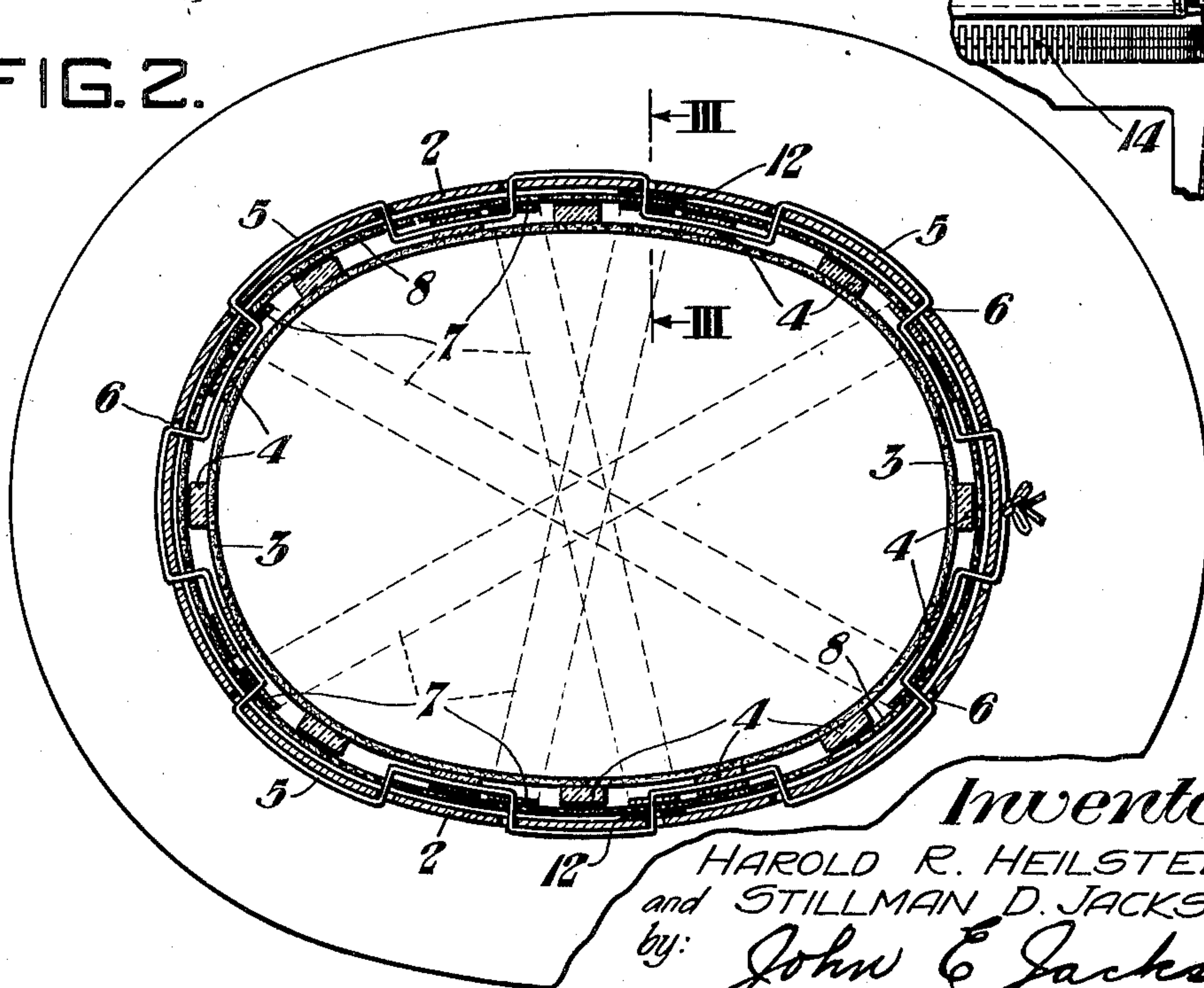


FIG. 2.



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FIG. 4.

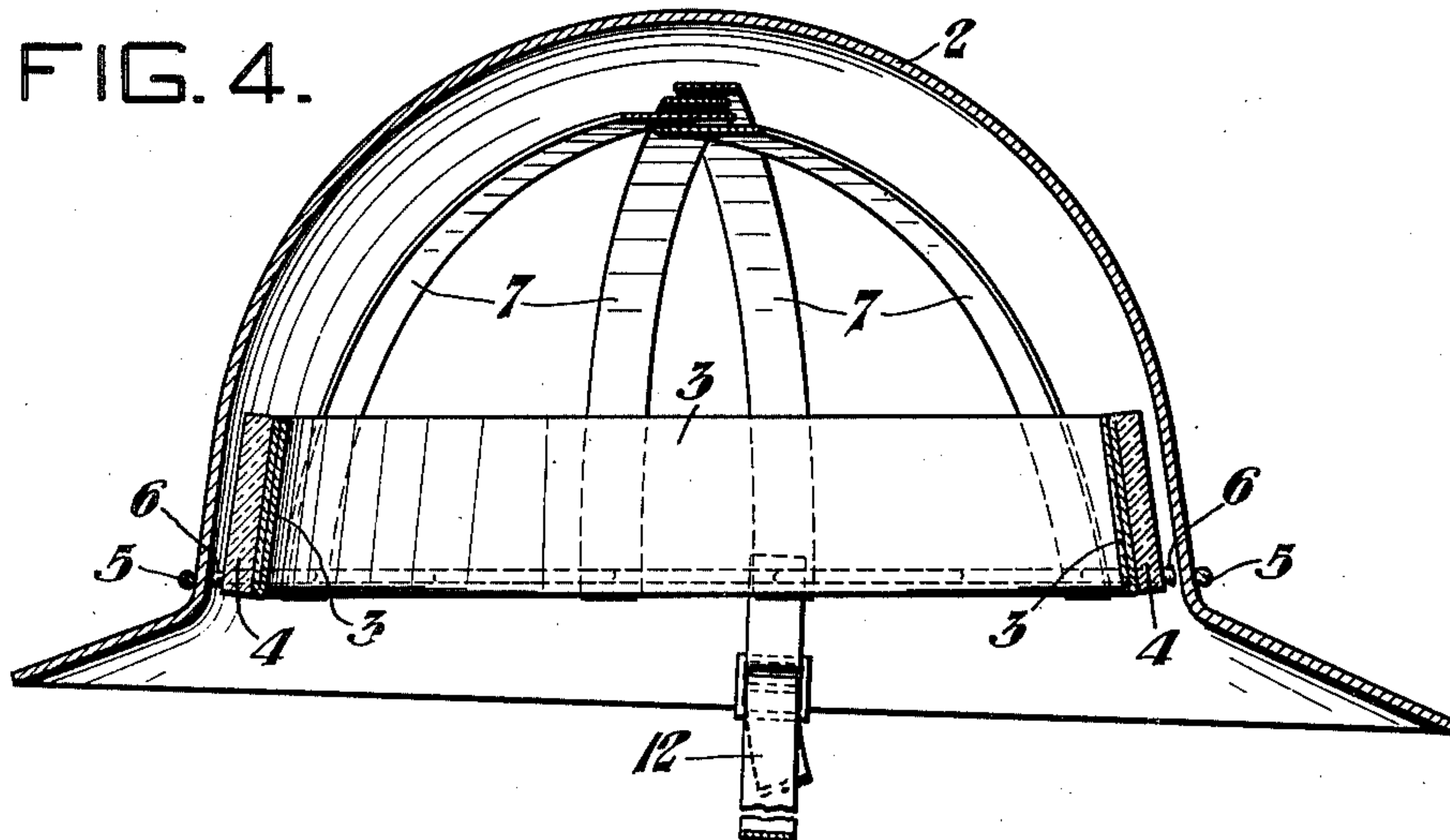
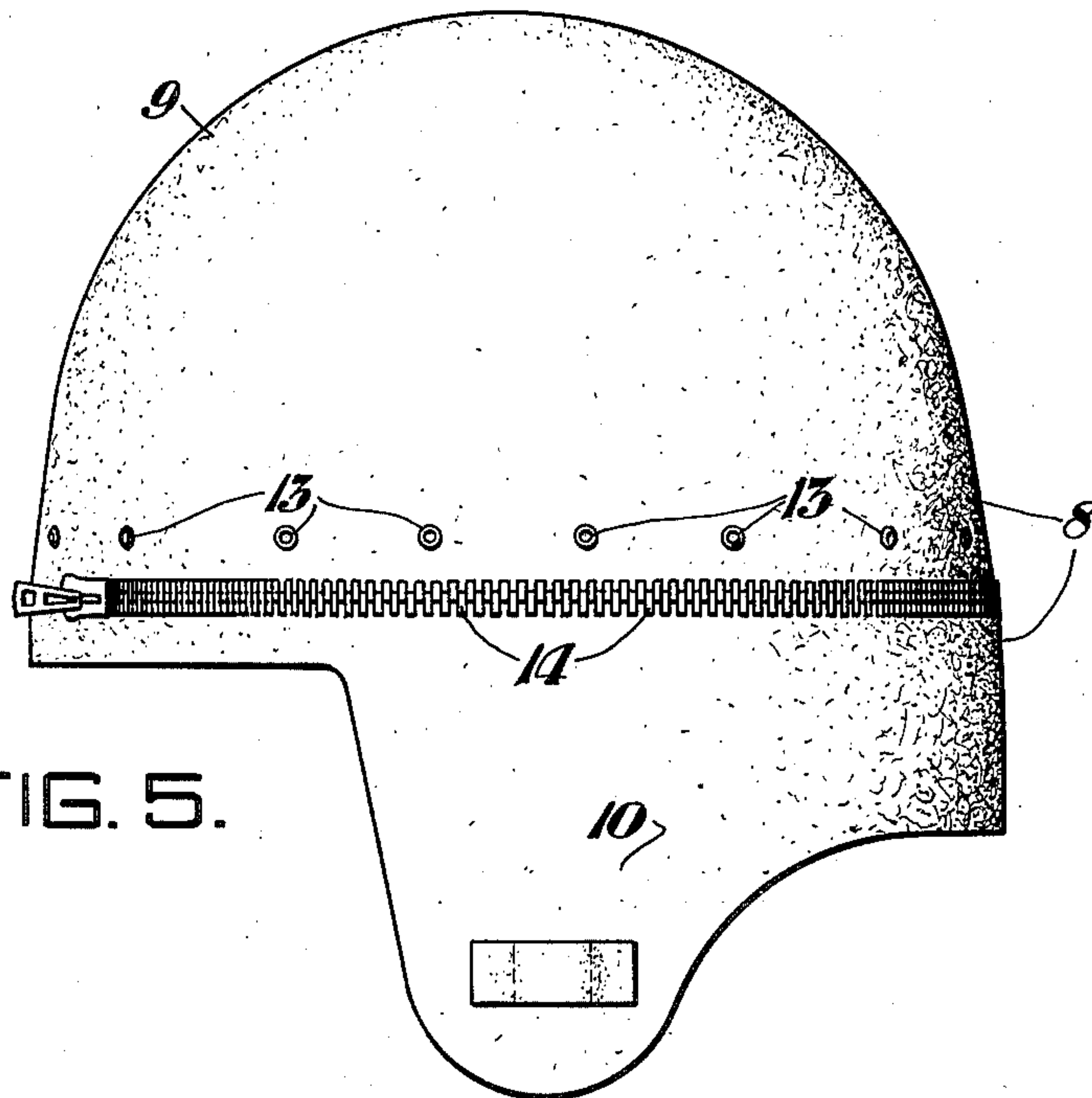


FIG. 5.



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UNITED STATES PATENT OFFICE

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SAFETY HELMET

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3 Claims. (Cl. 2—3)

This invention relates to safety helmets and, particularly, to an all-weather convertible type helmet.

Safety helmets of the type used heretofore usually had no means for protecting the head of the wearer from severe cold weather and it was, of course, necessary for him to provide some protective means of his own. Consequently, the wearer usually wore a stocking cap, a skull cap, the crown of an old hat, or some other suitable type head covering in under the helmet.

The wearing of such a weather protection usually required the furnishing of a larger sized helmet, or the removal of the inside assembly of the helmet, that is, the saddle straps, rubber shock pad or the type of shock absorbing means used, and the sweat band to allow the helmet to fit over the makeshift cap, thus, defeating the purpose of the safety helmet and making it difficult for the wearer to keep the helmet on his head.

According to the present invention, there is provided a cap which can be used without removing either the shock absorbing means or the sweat band and, at the same time, protect the wearer from the severest cold weather.

It is an object of this invention to provide an improved safety helmet which can be easily and quickly converted into a helmet for use in any kind of weather.

It is another object of the present invention to provide an improved cap for use in a safety helmet which can be easily assembled therein and still maintain all the advantages of the safety helmet.

It is still another object of the invention to provide a cap for use in a safety helmet which has a disengageable portion for protecting the neck and ears of the wearer.

Various other objects and advantages of this invention will more fully appear during the course of the following specification and will be particularly pointed out in the appended claims.

In the accompanying drawings, we have shown, for the purpose of illustration, one embodiment which our invention may assume in practice.

In these drawings:

Figure 1 is a vertical section through the improved safety helmet of our invention, showing the cap insert positioned therein;

Figure 2 is a sectional view, taken on line II—II of Figure 1;

Figure 3 is a fragmentary sectional view, taken on line III—III of Figure 1;

Figure 4 is a vertical section through the hel-

met, showing the cap insert removed therefrom, and,

Figure 5 is a side elevation of the cap insert.

The improved safety helmet of our invention, as shown in the drawings, comprises a solid rigid outer shell 2 which is made from metal, micarta, or some other suitable material. There is assembled within the hat a sweat band 3, usually made of leatherette or some other suitable like material, having a plurality of rubber pads or cushions 4 spaced around the outside periphery thereof. The sweat band and pads are held therein by means of a cord lacing 5 which is preferably threaded around through alternate rubber pads through suitable holes 6 arranged around the band of the hat. There is also positioned within the hat a shock absorbing means, preferably a plurality of cross-fabric tapes or straps 7, which are arranged so that they are spaced from the inside of the crown of the hat and are preferably attached to the band thereof also by means of the lacing 5. The purpose of the shock absorbing means, in this case the straps 7, is, of course, to eliminate any shock to the head when any object is dropped on the top of the helmet. There is also provided a downwardly hanging chin-strap 12 which is also attached to the band of the helmet, preferably by means of the lacing 5.

According to the present invention, there is provided a removable helmet-like cap insert 8 having an upper dome-like or crown portion 9 which is adapted to fit within the crown of the shell to protect the top of the head of the wearer from cold weather and a removable lower portion 10 which is adapted to protect the ears and the back of the head and neck of the wearer from the weather. The upper dome-like or crown portion and lower portion of the cap insert 8 are disengageably held together, preferably by means of a separable fastener 14 of the zipper type, but any other suitable means may be provided. The upper portion of the cap also carries a series of perforations or eyelets 13 positioned around the band or lower portion thereof which correspond with the holes 6 in the band of the helmet.

This upper dome-like or crown portion of the cap is adapted to be positioned in the crown of the helmet between the straps 7, sweat band 3 and cushions 4, and the outer shell 2, as shown in Figure 1. The cap is securely held therein by means of the lacing 5 which is adapted to pass through the holes or eyelets 13 in the cap.

When it is desired to remove the insert cap from the helmet, which is usually the case in

extremely warm weather, the lacing 5 is removed from the hat which permits the straps 7, together with the sweat band 3 and chin-strap 12, to be removed therefrom together with the upper portion 9 of the helmet 8. After the cap is removed from the helmet, the straps 7, sweat band 3 and chin-strap 12 are again assembled therein and the lacing 5 inserted therethrough to hold them in position and the helmet is again ready for use, as shown in Figure 4. If it is desired to remove only the lower portion 10 of the helmet, it can be removed by moving the slider of the zipper fastener in the opening direction, allowing removal of this portion of the helmet.

It will be observed that the assembling of the insert cap within the helmet does not materially change the size of the helmet, thereby allowing the individual to use the same hat throughout the year. This, of course, eliminates the expense and inconvenience of handling a various assortment of different sized helmets. As a result of our invention, it will be understood that the safety features of a helmet, in the present case—the straps 7, sweat band 3 and rubber cushions 4, are always assembled intact within the helmet, thus the wearer of the helmet has the same safety protection in the winter months with the cap insert assembled therein as he has during the warmer months of the year when the cap is removed therefrom; and, in addition, he has all the warming and protecting advantages of the cap insert during the extreme cold weather.

While we have shown and described an embodiment of our invention, it will be understood that this embodiment is merely for the purpose of illustration and description and that various other forms may be devised within the scope of our invention, as defined in the appended claims.

We claim:

1. A safety helmet comprising a rigid outer shell having a shock absorbing means removably arranged therein for supporting the same out of direct contact with the head of the wearer, a removable helmet-like cap of a fabric material having an upper dome-like portion arranged within the outer shell between the shock absorbing means therein and the outer shell so as to completely cover the top of the head of the wearer and a lower portion extending below the outer shell, and means for removably attaching

both the shock absorbing means and the helmet-like cap adjacent the bottom of the dome-like portion thereof to the outer shell at the band portion of the helmet.

2. A safety helmet comprising a rigid outer shell having a shock absorbing means removably arranged therein for supporting the same out of direct contact with the head of the wearer, a removable helmet-like cap of a fabric material consisting of two parts, with one of the parts being a dome-like crown portion and arranged within the outer shell between the shock absorbing means therein and the outer shell so as to completely cover the top of the head of the wearer and a lower portion removably attached to the lower edge of the dome-like crown portion by separable means and extending below the outer shell, and means for removably attaching both the shock absorbing means and the helmet-like cap adjacent the bottom of the dome-like portion thereof to the outer shell at the band portion of the helmet.

3. A safety helmet comprising a rigid outer shell, a shock absorbing means removably arranged within said outer shell for supporting the same out of direct contact with the head of the wearer, said shock absorbing means including a removable sweat band having cushioning means arranged around the periphery thereof and a plurality of cross straps adapted to be spaced from the inner top side of the outer shell and having their ends connected to said helmet adjacent the band portion thereof in back of said sweat band, a removable helmet-like cap of a fabric material arranged within said outer shell between the cross straps and said outer shell so as to completely cover the top of the head of the wearer, the lower portion of said fabric helmet-like cap being removably attached to the upper part thereof by means of a separable fastener arranged just below the sweat band of said helmet, a removable adjustable chin strap arranged along the sides of said lower portion of said fabric helmet-like cap and attached to said outer shell, and a single means for removably attaching the sweat band, together with the cross straps, chin strap and fabric helmet-like cap to said outer shell.

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