Dec. 20, 1960 H. W. AUSTIN 2,964,753

ADJUSTABLE HEIGHT SWEATBAND

Filed Nov. 26, 1958

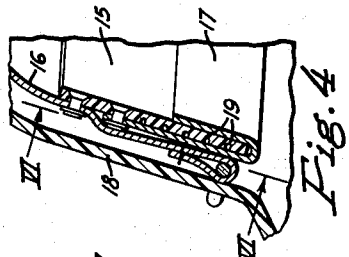



Fig. 4

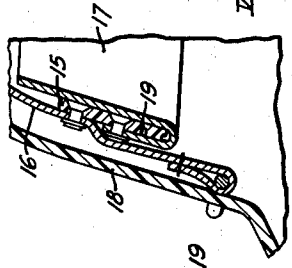



Fig. 5

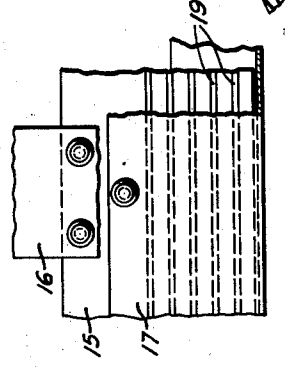



Fig. 6

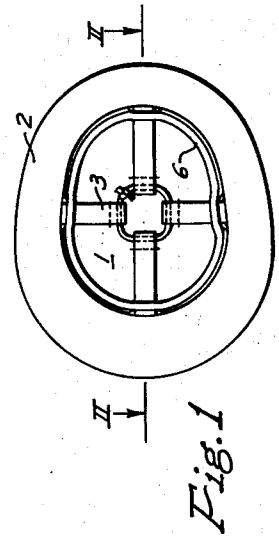



Fig. 1

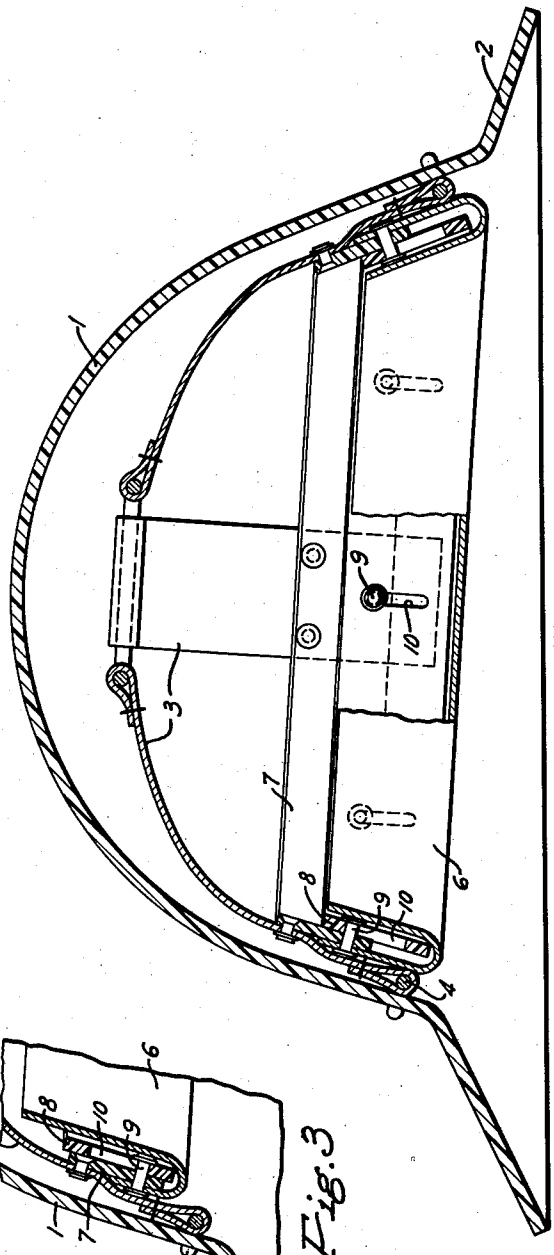



Fig. 2




Fig. 3

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# ADJUSTABLE HEIGHT SWEATBAND

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2 Claims. (Cl. 2—3)

This invention relates to hat sweatbands, and more particularly to sweatbands that can be adjusted vertically in hats.

One of the factors that determines the amount of protection obtained by a protective hat or helmet is the space or clearance between the top of the wearer's head and the inside of the helmet shell. The greater this distance, the greater the protection afforded the wearer. The usual helmet suspension, which fits over the head and supports the helmet, has a lace at the top of its cradle so that the suspension can be adjusted to fit heads of different crown heights. Thus, a person with a high crown lengthens the lace so that his head will extend farther up into the helmet, while a person with a low crown shortens the lace to reduce the height of the suspension. An objection to this manner of adjustment is that a person with a high crown may let out the cradle adjustment lace to the point where the top of his head will practically touch the top of the helmet shell. On the other hand, if the suspension is not adjustable in height, the sweatband may ride too high on the head of a person with a high crown and too low around the head of a person with a low crown.

It is among the objects of this invention to provide a headband, in which the sweatband can be adjusted vertically to fit heads of different crown heights.

In accordance with this invention the headband includes relatively stiff annular backing means, which will extend around a head and will be suspended at a predetermined height in a protective helmet or the like. A flexible sweatband extends around the outside of the backing means and has an outer marginal portion secured thereto. The sweatband extends under the backing means and up inside of it to provide a head-engaging area. The lower edge of the backing means is adjustable upward relative to the surrounding marginal portion of the sweatband, so that the portion of the sweatband inside the backing means can be moved upward to raise the head-engaging area. To permit the lower edge of the backing means to be adjusted upward as just mentioned, the backing means may be a band provided with a line of weakness extending around it to permit removal of the area below that line from the rest of the band. Such removal reduces the vertical width of the backing band. Another way of making the backing means is to form it from a backing band, the inner surface of which is slidingly engaged by an adjustment band provided with circumferentially spaced slots extending up and down. Studs extend through the slots and the backing band to hold the two bands tightly together but permitting the slotted band to be moved upward manually so that the head-engaging area of the sweatband can be raised.

The invention is illustrated in the accompanying drawings, in which

Fig. 1 is a bottom or inside view of a protective hat;

Fig. 2 is a longitudinal vertical section taken on the line II—II of Fig. 1, showing the sweatband in its lowest position;



Fig. 3 is a fragmentary vertical section showing the sweatband in its highest position;

Figs. 4 and 5 are views, similar to Fig. 3, of a modification showing the headband at two different levels; and

Fig. 6 is a fragmentary side view of the headband taken on the line VI—VI of Fig. 4.

Referring to Figs. 1 and 2 of the drawings, the rigid shell of a protective hat or helmet has a dome-shaped crown **1** surrounded at its bottom by an integral brim **2**. Inside of the shell there is a head-receiving cradle formed from straps **3** of any suitable material which are connected at the top of the head. The lower ends of the straps are fastened in any suitable manner, such as by a lace **4**, to the lower part of the crown to support the shell. Disposed inside the lower portion of the cradle and attached to the straps is a headband. The headband includes a sweatband **6** and annular backing means, the latter being formed from a backing band **7** and an adjustment band **8**. These two bands are formed from relatively stiff strips of material that is flexible enough to conform to the contour of a head, but stiff enough to avoid flexing or curling vertically. The upper portion of the backing band is secured in any suitable manner to the cradle straps at the proper level, and the adjustment band slidingly engages the inner surface of the backing band. They are connected together by studs **9**, which are anchored in the outer band but extend through parallel slots **10** in the adjustment band. The slots extend up and down so that the adjustment band can be moved vertically in the surrounding band when desired. The sweatband **6** is the usual flexible sweatband and its outer marginal portion surrounds the backing band and is secured to it. The sweatband extends under both of the other bands and then up inside of the adjustment band close to its inner surface. This inner portion of the sweatband forms the head-engaging area of the band. When the adjustment band is in its lowest position, as shown in Fig. 2, the sweatband is adjusted for a high crown head.

It is a feature of this invention that if the helmet is to be worn on a head having a low crown, the sweatband can be raised in the shell so that it will encircle the head in the proper location. Accordingly, the lower edge of the backing means is adjustable upward so that the head-engaging area of the sweatband can be moved up the inner surface of the backing means. This is accomplished by pushing the adjustment band upward in the backing band so that the head-engaging area of the sweatband can be pulled upward to raise it. The relative positions of the three bands when the sweatband is in its highest position are shown in Fig. 3. If the helmet is to be used later by a person with a head having a high crown, the adjustment band can be pushed down again, which will lower the sweatband to the desired level. Also, fine adjustments in sweatband level can be obtained with this type of adjustment.

Another way of adjusting the sweatband vertically in the cradle is shown in Figs. 4, 5 and 6. In this case there is a relatively stiff backing band **15** that is attached to the cradle straps **16** as previously described, but the height of the band is considerably greater than the one shown in Fig. 2. The lower edge of the backing band is located at a level that will position the bottom of the sweatband **17** at approximately the lowest point it will ever occupy. The outer marginal portion of the sweatband surrounds the lower portion of the backing band, to which it is secured in any suitable manner. The sweatband extends downward and then is folded up around the lower edge of the backing band so that it will extend up along the inner surface of that band to form a head-engaging area. It will be seen that the sweatband is folded double and the backing band is inserted between

the two folds. With the headband in the condition just described, as shown in Figs. 4 and 6, the helmet **18** is adapted to fit a head having a high crown.

In order to raise the headband to fit a head with a low crown, a predetermined width of the lower portion of the backing band is removed. To facilitate removal of a strip of uniform width, the backing band is provided with a line of weakness extending around it. This line may be formed from perforations, slits or a continuous groove **19**. To raise the sweatband, its inner portion is pulled down so that the portion of the backing band below the groove is exposed and can be torn off and discarded. The sweatband then is folded back up into the backing band as far as it will go. This will raise the bottom of the sweatband, and its head-engaging area will be located at a higher level than before, as shown in Fig. 5. To provide for more than one such adjustment, the backing band may be provided with two or more vertically spaced lines of weakness. The portion of the band below each line is torn off in succession until the correct sweatband height is attained.

According to the provisions of the patent statutes, I have explained the principle of my invention and have illustrated and described what I now consider to represent its best embodiment. However, I desire to have it 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 headband for the inside of a hat, comprising a relatively stiff backing band formed for suspension at a predetermined height in a hat, a relatively stiff adjustment band slidingly engaging the inner surface of the backing band and provided with circumferentially spaced slots extending up and down, studs extending through said slots and the backing band to hold the two bands tightly together, and a flexible sweatband having an outer marginal portion extending around the outside of the backing band and secured to it, the sweatband extending under the backing band and adjustment band and up inside of the adjustment band to provide a head-engaging area, and the adjustment band being adjustable upward in the backing band whereby the sweatband can be moved upward inside the adjustment band to elevate said head-engaging area.



2. A headband for the inside of a hat, comprising a relatively stiff backing band formed for suspension at a predetermined height in a hat, a relatively stiff adjustment band slidingly engaging the inner surface of the backing band, means connecting the two bands together for relative vertical movement, and a flexible sweatband having an outer marginal portion extending around the outside of the backing band and secured to it, the sweatband extending under the backing band and adjustment band and up inside of the adjustment band to provide a head-engaging area, and the adjustment band being adjustable upward in the backing band whereby the sweatband can be moved upward inside the adjustment band to elevate said head-engaging area, said band-connecting means holding the adjustment band in any desired vertically adjusted position within the backing band.

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