

[54] **COOLING HEAD GEAR**

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[51] Int. Cl. **A61n**

[58] Field of Search **128/256, 380, 402, 400, 163**

[56] **References Cited**

UNITED STATES PATENTS

2,206,481	7/1940	Luchs et al.	128/163 X
2,875,447	3/1959	Goldmerstein	128/163 X
3,195,539	7/1965	Hyman	128/256

Primary Examiner—Lawrence W. Trapp

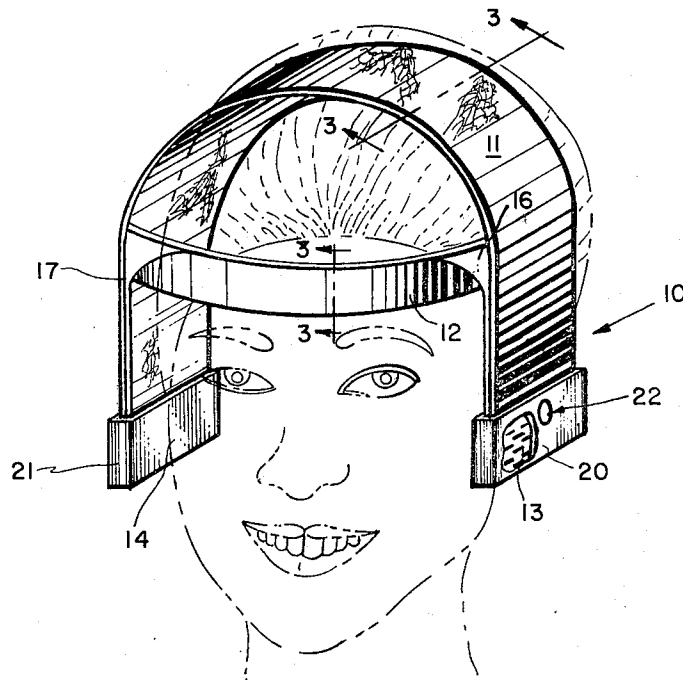
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[57]

ABSTRACT

A head gear for supplying water to evaporatively cool the forehead and upper head of the wearer. The head gear includes a main band which extends over the top of the head from ear to ear and a forehead band which extends over the forehead and is stitched at each end to the main band at about the temple areas of the head. A pair of water-tight containers is secured at the ends of the main band near the ears. The bands are of absorbent material and the main band extends inside the containers and is immersed in water. An elastic band is joined to the main band to extend over the back of the wearer's head, firmly supporting the head gear in place. Water is supplied continually to the band upon the wearer's forehead and upper head by the hygroscopic action of the absorbent material and the evaporation of the moisture in those areas creates a cooling effect.

4 Claims, 3 Drawing Figures



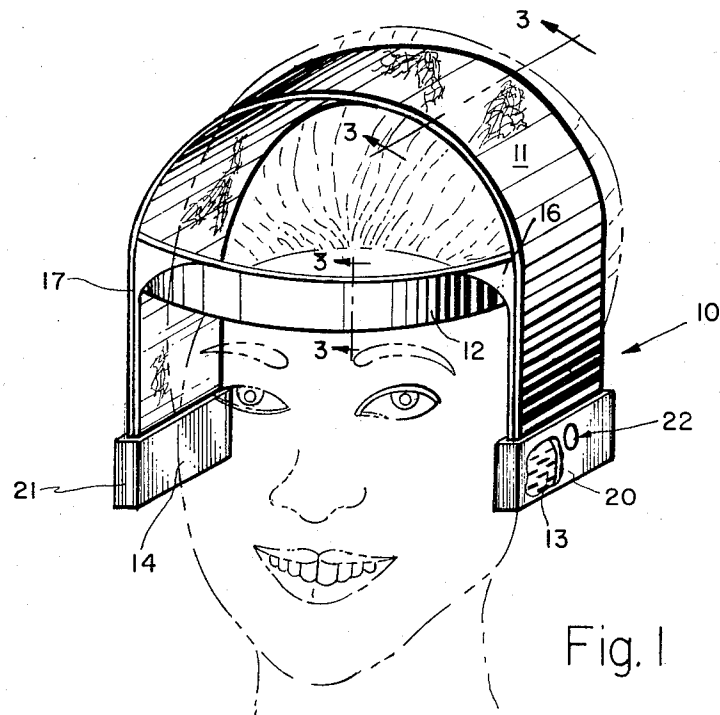


Fig. 1

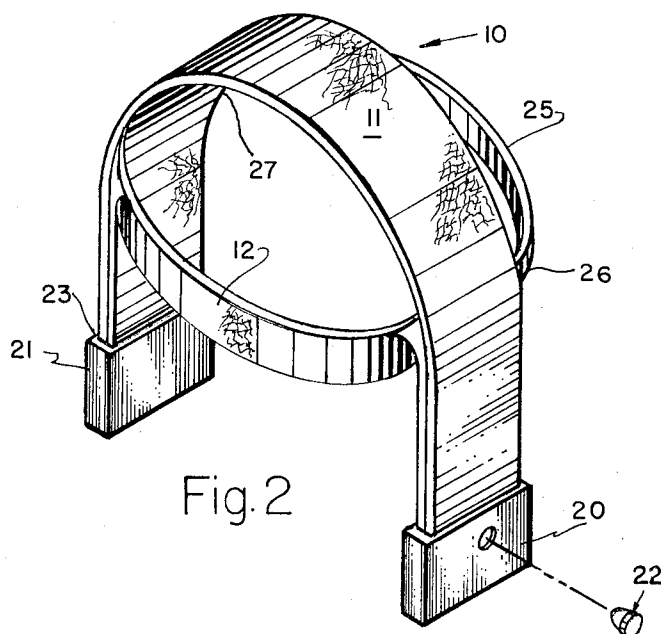


Fig. 2

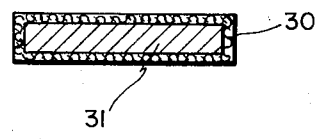


Fig. 3

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COOLING HEAD GEAR

BACKGROUND OF THE INVENTION

1. Field of the Invention

A head gear for supplying liquid near to the head area to evaporatively cool same.

2. Description of the Prior Art

Conventionally, a number of devices and methods attempt to supply moisture to the top area of the head. Therapeutic masks are strapped over the sinus area and liquid in a reservoir of the mask is heated and absorbed into an absorbent material covering the sinus and forehead area. The mask prevents evaporative cooling by blocking off external escape of moisture. The moisture can only be admitted into the sinus and forehead area. Another sinus treatment is provided by cooling areas of the head of the user by placing ice compartments on a head gear near the inflamed sinus area. The head gear does not absorb moisture nor does the ice compartment supply moisture to the head gear for evaporative cooling. The area of cooling is limited to the size of the compartments and the cooling ends upon melting of the ice.

It is well known to place a moist cloth or the like on the head of a person to produce cooling by evaporation. Dependent on the rate of evaporation and the moisture content of the cloth, the cooling effect can only be maintained by remoistening the cloth. For many uses, the remoistening of the cloth is inconvenient. Workers in a hot, dry field, persons with heat prostration, long distance drivers trying to stay awake, and many other users cannot conveniently remoisten the cloth to maintain the evaporative cooling.

Humidifiers continuously provide liquid to an absorbent sheet and pass currents of air on both sides of the moistened sheet. Reservoirs of liquid are provided at each end of the sheet and water is drawn from the reservoir into the sheet by hygroscopic action. The cooling effect in these devices is incidental, the humidifying of the air being the purpose. The device is not capable of being applied to the head of a person to provide evaporative cooling.

Patents representative of the conventional art are:

Humidifier — 1,857,770

Heat Exchange Device — 2,206,481

Moist Heat Treatment Device—3,195,539

According to the present invention the inconvenience of relatively short periods of evaporative cooling to the head of a person is overcome by providing a head gear of absorbent material worn about the areas to be cooled, the head gear having lightweight reservoirs for liquid. The head gear can provide evaporative cooling over long periods of time without resupply. The reservoir liquid is supplied to the areas to be cooled at a rate proportional to the evaporation rate.

SUMMARY OF THE INVENTION

Briefly, this invention provides a head gear for evaporatively cooling portions of the head of a user. The head gear comprises a main band of absorbent material forming a flexible strip to extend over the head of a wearer substantially from one ear to the other ear. A second band of absorbent material forms a flexible strip having two ends each joined to the main band intermediate its ends. The second band is located upon

the main band to extend over the forehead of the wearer. A pair of watertight containers adapted to hold cooling liquid therein is attached to each end of the main band. The main band material extends into each container to a depth below the normal liquid level. Means are provided on each container to admit and hold liquid within the container.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 shows a perspective view of the head gear.

FIG. 2 shows the head gear of FIG. 1 on the head of the user.

FIG. 3 shows a sectioned view of a head gear band.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

Referring now to the drawings, the head gear 10 is shown in FIGS. 1,2. Gear 10 comprises a main band 11 and a second band 12. The length of band 11 is sufficient to extend over the head of a wearer from substantially one ear at 13 to the other ear at 14. Band 12 is stitched to band 11 or integrally formed therewith at ends 16, 17. Any conventional method for joining bands 11, 12 are contemplated so long as there is sufficient contact between bands 11, 12 to allow absorption of moisture from one band to the other. Bands 11, 12 are of an absorbent material, such as a towel, wick or sponge, and are flexible so that the bands will readily conform to the shape of the forehead and head of the wearer. Band 12 is of sufficient length to extend over the forehead of the user. The area of either band should be equal to the area of the head to be covered and cooled. A pair of water-tight containers 20, 21 are attached to the ends of band 11. The ends of band 11 are received into each container 20, 21 and the containers are attached securely to the band 11 by any conventional means, such as by clamping. The ends of band 11 extend down into the containers 20, 21 to below the normal liquid level. Each container 20, 21 has a means thereon to admit and hold liquid within the container, said means illustrated by ports 22, 23. The open ports admit liquid into the container. When the containers are filled with liquid, the ports are closed and the liquid can escape from the containers only through the hygroscopic action of band 11. Containers 20, 21 can be of any watertight material, preferably of plastic because of its light weight. The containers 20, 21 are comfortably situated if located just below the ears. The bands may be held in place upon the head of the wearer with an elastic band 25 having ends 26, 27 joined to band 11 by conventional means, for example, stitching. Band 25 is sufficiently long to pass behind the head of the wearer and to fit snugly firmly supporting the head gear 10. To provide an absorbent material comfortable to the skin, a towel-like material 30 encloses a hygroscopic core material 31 as illustrated in the sectioned view of FIG. 3. The moisture is transferred mostly within the core 31 of the band and is withdrawn outwardly upon evaporation. Bands 11, 12 may be made of material 30 enclosing core 31.

In operation, the head gear 10 is fitted on the head of the wearer as shown in FIG. 2. The liquid filled containers 20, 21 continuously supply moisture to the bands 11, 12 along core 31. The water is withdrawn from the core by evaporation and the skin in contact

with the bands is cooled. In some cases additional liquid may be supplied to the bands by the perspiration of the wearer.

I claim:

1. A cooling head gear comprising:

a main band of absorbent material forming a flexible strip to extend over the head of a wearer from substantially one ear to the other ear;

a second band of absorbent material forming a flexible strip having two ends each joined to the main band intermediate its ends, said second band located to extend over the forehead of the wearer;

a pair of water-tight containers adapted to hold cooling liquid therein and attached to each end of the main band with the main band material extending into each container to below the normal liquid level;

means on each container to admit and hold liquid within the containers.

2. A cooling head gear as recited in claim 1 and further comprising:

an elastic band having two ends each joined to the main band intermediate its ends to extend over the back of the wearer's head and to provide a support for the head gear to hold it firmly in place upon the head.

3. A cooling head gear as recited in claim 2 wherein the containers form a lightweight plastic material.

4. A cooling head gear as recited in claim 3 wherein the absorbent material of the main band and the second band is comprised of an inner core of hygroscopic material wrapped in an absorbent towel-like material.

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