

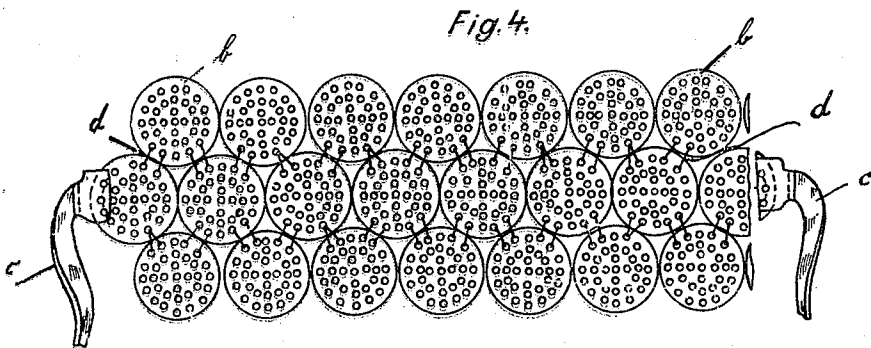
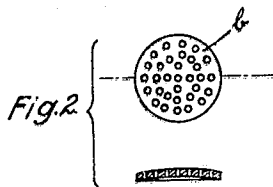
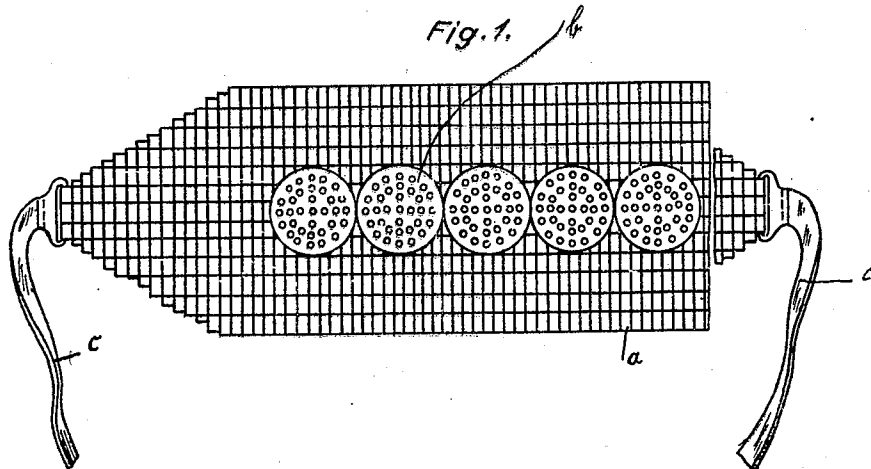
April 22, 1924.

1,491,539

L. KIRSCHMANN.

COOLING OR HEATING BANDAGE OF HYGROSCOPIC MATERIAL

Filed Nov. 6, 1922



Witness:
W. Smith
F. D. H. Miller

Inventor:
Rudolf Kirschmann
By F. D. H. Miller
Attorney

UNITED STATES PATENT OFFICE.

LEOPOLD KIRSCHMANN, OF HALENSEE, GERMANY.

COOLING OR HEATING BANDAGE OF HYGROSCOPIC MATERIAL.

Application filed November 6, 1922. Serial No. 599,378.

To all whom it may concern:

Be it known that I, LEOPOLD KIRSCHMANN, a citizen of the German Republic, residing at Halensee, Germany, have invented certain new and useful Improvements in Cooling or Heating Bandages of Hygroscopic Material (for which I have filed application for patent in Germany on the 11th of July, 1922), of which the following is a specification.

This invention relates to a bandage composed of small elements of magnesia or the like in the form of a head band, of a belt, or the like.

Cooling or heating bandages of the usual type are made partly of fabric, of metal, or of potter's earth and are of rigid form. In devices consisting of vessels in which the air does not permanently circulate, the contents of the vessel become either warm or cold very rapidly if filled with a hot liquid.

This invention has for its object the obviation of these inconveniences by using small flat perforated circular or cylindrical elements preferably of burnt magnesia. Elements of this kind are extraordinarily light. Other hygroscopic earthy substances can however be used for manufacturing the elements. The bandage is composed of a number of these small elements of hygroscopic burnt earth. The elements are connected with one another in such a manner that they form a flexible head band which, without interposition of fabric or the like, is placed in direct contact with the skin.

In order that the invention may be clearly understood, I shall proceed to describe the same with reference to the forms of construction shown by way of example in the accompanying drawing, wherein:—

Fig. 1 shows in front elevation a head band formed of a group of elements.

Fig. 2 shows an element in plan view and longitudinal section.

Fig. 3 shows a small bead in front elevation and plan view.

Fig. 4 shows a head band composed of elements.

The bandage shown in Fig. 1 consists of small beads *a* which are strung together to form a band of desired shape. At the middle of the head band a group of elements *b* is arranged and straps *c* are attached to the ends. The beads *a* as well as the elements *b* are made of burnt magnesia, the elements consisting preferably of perforated

disks (Fig. 2). The preferred form of construction of the bandage is shown in Fig. 4. This bandage consists exclusively of elements *b* which are connected with one another by threads *d*. The straps *c* are sewn to the elements at the extreme right and left ends.

The bandage is dipped into cold water and placed upon the part of the body to be treated. If the bandage is dipped into water the magnesia elements absorb the water. If used with packings the bandage becomes hot but the packing material is not moistened. If the person who wears such a bandage is sweating the porous magnesia elements absorb the sweat.

The bandage is very useful for sport as a head band or a heart- or pulse-cooler as it produces a permanent cooling effect.

The bandage, after having been once impregnated with cold water never becomes warm if its surface is exposed to the air, owing to the continuous evaporation of the water.

If the bandage is to be used for warm or hot moist packing, for instance in rheumatism or similar diseases, it presents a lasting source for radiating heat in an absolutely uniform manner as the magnesia elements, once heated in hot water, retain the heat in the packing much longer and radiate the same much slower than other elements of clay or metal in rigid shape which are not very convenient for making good packings.

The bandage is a perfect means for the prevention of sun-stroke as, owing to its handy form and to its light weight, it can be worn instead of a hat provided it is made in the shape of a cap.

I claim:—

1. A bandage of hygroscopic material for cooling or heating purposes composed of small elements of burnt magnesia which are connected so that a flexible band is formed designed to be placed directly upon the skin.

2. A bandage of hygroscopic material for cooling or heating purposes composed of small elements of hygroscopic burnt earth which are connected so that a flexible band is formed designed to be placed directly upon the skin.

In testimony whereof I affix my signature in presence of two witnesses.

LEOPOLD KIRSCHMANN.

Witnesses:

FERD. RÜTTIGER,
W. SMITH.