

L. J. WERTHEIMER.

HEATING BAG.

APPLICATION FILED OCT. 8, 1921.

1,434,576.

Patented Nov. 7, 1922.

Fig. 3

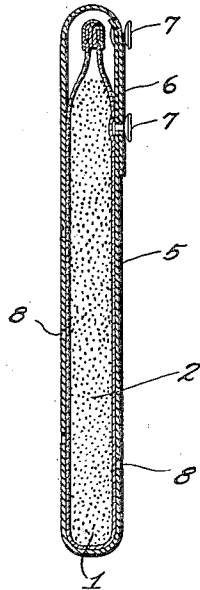


Fig. 1

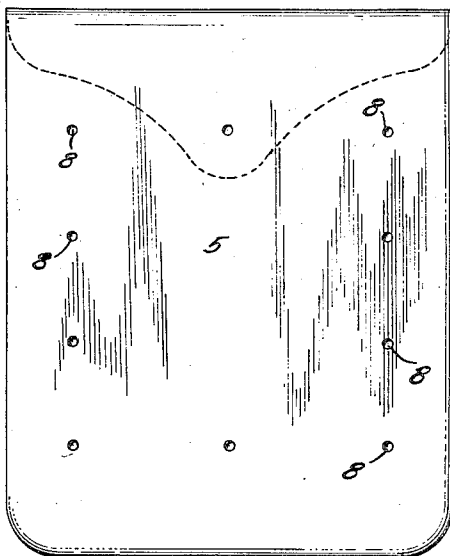
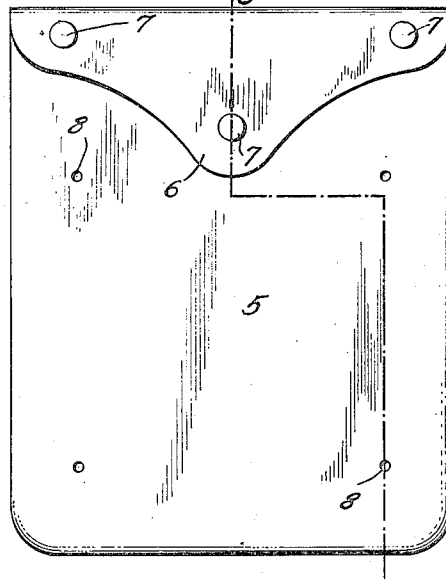


Fig. 2

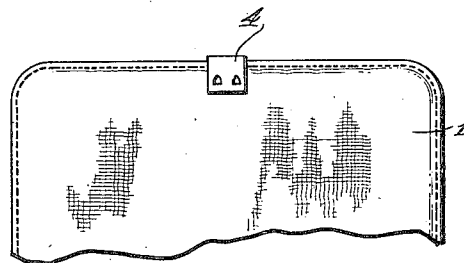


Fig. 4



Fig. 5

Lev J. Wertheimer INVENTOR.
BY Dyer & Taylor ATTORNEYS.

UNITED STATES PATENT OFFICE.

LEO J. WERTHEIMER, OF NEW YORK, N. Y.

HEATING BAG.

Application filed October 3, 1921. Serial No. 506,281.

To all whom it may concern:

Be it known that I, LEO J. WERTHEIMER, a citizen of the United States, and a resident of the borough of Manhattan, city, county, and State of New York, have invented a certain new and useful Heating Bag, of which the following is a specification.

The invention relates to heating bags or the like devices, and has for its objects to provide a device adapted to enclose a removable, flexible element in which heat may be generated; which will retain moisture; by means of which air may be admitted to the heating element; which will prevent the heat of the element from being rapidly dissipated; which will be flexible whereby the device may conform to the shape of the surface on which it rests, and having means whereby the element will be readily accessible.

These and further objects will more and fully appear in the following specification and accompanying drawings considered together or separately.

One embodiment of the invention is illustrated in the accompanying drawings, in which like parts in all of the several figures are designated by similar characters of references and in which

Fig. 1 is a side elevation of a bag embodying the invention.

Fig. 2 is a rear elevation of the same.

Fig. 3 is a section on the line 3—3 of Fig. 1.

Fig. 4 is a side elevation of a portion of a heater unit showing the same in closed position, and

Fig. 5 is a top plan view of the unit showing the same in open position.

In carrying out the invention a heating unit comprising a bag 1 of more or less porous, flexible material, such as canvas or duck, is provided. The bag is filled, more or less, with a material, or mixture of materials, 2 which will spontaneously generate heat. Such a mixture may be iron in finely divided state, such as filings or borings, sal ammoniac or chlorid of ammonium, and water. The water will oxidize the iron and the presence of the sal ammoniac will greatly accelerate the oxidation, and heat will be generated. The mixture will continue to generate heat until the oxidation is arrested.

The heating unit is formed by filling the

bag with the iron and sal ammoniac in the proper proportions. The bag is now closed by sewing together the edges of the open end. A short portion of the edges of the bag is not stitched whereby an opening 3 is formed. A metallic clip 4 is removably secured in position to close the opening 2, and the bag 1 is marketed in this condition.

In connection with the unit 1 is employed an envelope 5 of cured or vulcanized rubber. The envelope is preferably formed of one piece open at one end, and the open end is adapted to be closed by means of a flap 6 which forms an integral part of one side of the same, and is adapted to cover the open end of the envelope and be secured to the opposite side thereof by means of fastenings 7, such, for example, as buttons, snap fastenings, or the like. One or both sides of the bag 5 may be provided with a plurality of relatively small perforations 8 spaced apart.

In operation a funnel is inserted in the opening 3 and a small quantity of water is poured therein. The water will percolate through the mass of material in the bag 1 and more or less saturate the same. The clip 4 is now placed in position over the end of the bag to close the opening 3. The unit 1 is now placed in the envelope 5 and the latter is shaken vigorously for a few minutes, and then placed in the desired position.

The admixture of the water with the iron and sal ammoniac mixture in the unit 1 will generate heat, and the bag will remain hot for a considerable period of time. As the heating proceeds moisture will escape through the pores, or interstices of the bag 1, but such moisture will not be communicated to the person or apparel of the user, or to bed clothing or the like, but will be intercepted by the envelope 5. The amount of water placed in the bag 1 will be small as compared with the solid content thereof, and the seepage will not be sufficient to flow out of the envelope, but will be more in the nature of sweat.

The perforations in the envelope will permit of the escape of heat, as it were, from the interior thereof, and permit of the entrance of air which air will assist in oxidation of iron, and provide for the slow evaporation of the moisture. The envelope, as a whole, will prevent too rapid evapora-

tion of the moisture in the bag 1 and thereby prevent excessive heating of the mass and rapid dissemination of the heat.

After the unit 1 becomes dry no more heat will be generated therein, but it may be revived by the application of more water. The duration of the heat, and its temperature will be gradually less on each succeeding application of water until the unit becomes exhausted. The unit may then be discarded and a fresh one substituted.

The envelope 5 will not deteriorate because of the heat and moisture, but may be used continuously, it being only necessary to supply new units 1 when desired, and one envelope may be used indefinitely.

In accordance with the provisions of the patent statutes the principle of the invention has been described, together with the apparatus which is now considered to represent the best embodiment thereof, but it is desired to have it understood that the apparatus shown is merely illustrative, and that the invention may be carried out in other ways.

The invention having been described what is claimed as new and desired to be secured by Letters Patent, is as follows:—

1. A device of the character described, comprising a porous element adapted to contain a moist heat generating material, and an envelope of pliant, water-proof material surrounding said element to prevent rapid evaporation of the moisture of the element.

2. A device of the character described, comprising a porous element adapted to contain a moist heat generating material, said element, as a whole, being of yielding character, and an envelope of pliant, water-proof material surrounding said element to prevent rapid evaporation of the moisture of the element.

3. A device of the character described, comprising a porous element adapted to contain a moist heat generating material, and an envelope of pliant, water-proof material

surrounding said element to intercept moisture escaping from the element, there being means for admitting air to the interior of the envelope to evaporate said moisture.

4. A device of the character described, comprising a porous element adapted to contain a moist heat generating material, said element, as a whole, being of yielding character, and an envelope of pliant, water-proof material surrounding said element to intercept moisture escaping from the element, there being perforations in the envelope for admitting air to the interior thereof and to the element.

5. A device of the character described, comprising a porous element adapted to contain a moist heat generating material, said element, as a whole, being of yielding character, and an envelope composed of rubber surrounding said element to intercept moisture escaping from the element, there being perforations in the envelope for admitting air to the interior thereof and to the element.

6. An envelope adapted to enclose a moist element, said envelope being composed of a pliant, moisture-proof material, there being an opening in the envelope, means for closing the envelope, there being perforations of appreciable size in the envelope for admitting air to the interior thereof.

7. An envelope adapted to enclose an element, said envelope being composed of cured rubber, there being an opening in the envelope for the insertion, or removal of the element, a flap for covering the opening, and means for securing the flap in closed position, there being perforations of appreciable size in the envelope to admit air to the interior thereof.

This specification signed and witnessed this 28th day of September, 1921.

LEO J. WERTHEIMER.

Witnesses:

JAMES F. COLEMAN,
A. E. RENTON.