July 20, 1965 C. D. HYMAN 3,195,539

MOIST HEAT TREATMENT DEVICE

Filed Aug. 7, 1963 2 Sheets-Sheet 1

Fig. 1

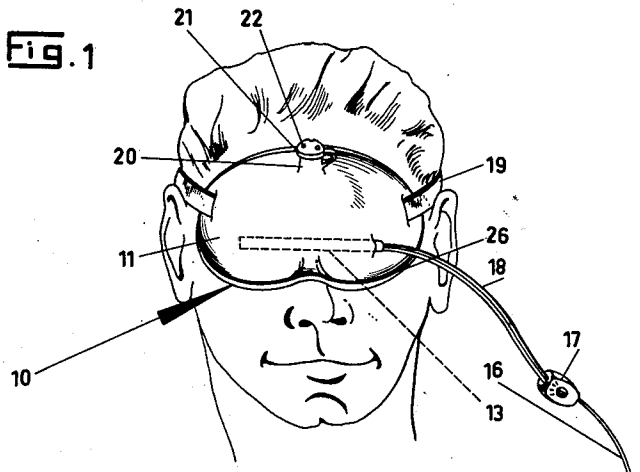



Fig. 2

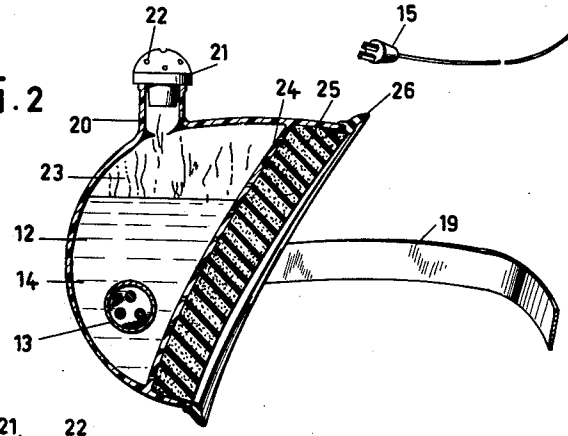
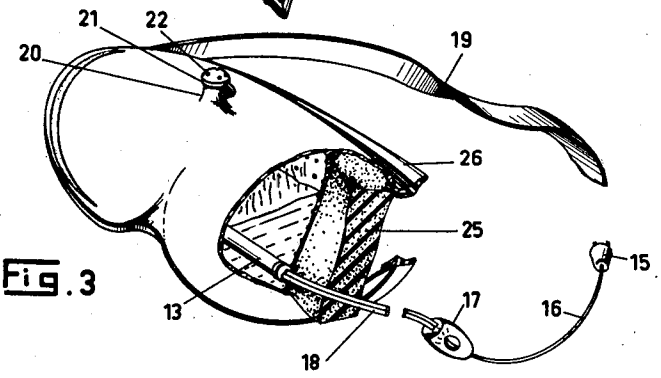



Fig. 3




INVENTOR

Cyril D. Hyman

July 20, 1965 C. D. HYMAN 3,195,539

MOIST HEAT TREATMENT DEVICE

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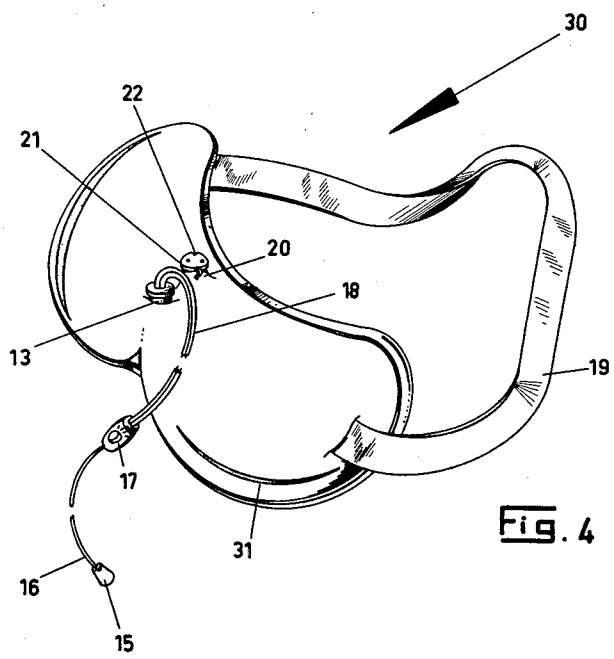


Fig. 4

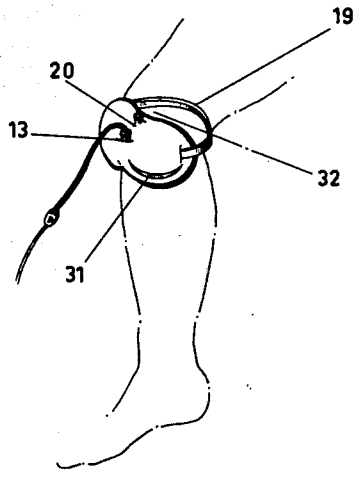


Fig. 5

INVENTOR

Cyril D. Hyman

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3,195,539

# MOIST HEAT TREATMENT DEVICE

Cyril D. Hyman, 4980 Maplewood Ave., Apt. 10, Montreal, Quebec, Canada

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This invention relates to improvements in therapeutic appliances and more particularly to improvements in therapeutic moist heat treatment apparatus for the relief of sinus congestion, migraine headaches, hay fever, etc. resulting from blocked passages in the respiratory system.

It is conventional practice to apply heat locally to the sinus areas in order to gain some measure of relief, the two most common ways being heating pads and/or hot compresses. The heating pads have been found to be relatively unsatisfactory as they provide only dry heat and the hot compresses which in the main are cloths or flannels soaked in hot water and then wrung out can supply heat only for a short duration before having to be renewed.

It is an object of this invention to provide a moist heat treatment device in the form of a partial face mask to cover the sinus areas and by which moist heat or steam is applied to these same areas.

It is another object of this invention to provide a moist heat treatment device which is extremely light and readily portable.

It is another object of this invention to provide a moist heat treatment device by which an even distribution of steam to the affected areas is achieved by means of suitable sponge material in direct contact with the skin.

It is further an object of this invention to provide a moist heat treatment device by which the immersion type heater associated with this device is controlled by conventional thermostat means and the overall heat can be manually regulated by means of a conventional four position switch that also has an OFF position.

It is still another object of this invention to provide a moist heat treatment device by which a medicated form of steam containing pine-needle oil or the like can be applied to the affected areas as required.

It is still further an object of this invention to provide a moist heat treatment device that can worn on the forehead similar to a pair of spectacles with uniform tightness being achieved by means of an elasticised plastic or rubber moulding all around the necessary edges.

It is yet another object of this invention to provide a moist heat treatment device that can be utilized by most persons suffering from sinus congestion or the like and is at the same time simple in structure, economical to manufacture and capable of long periods of service with the minimum of servicing or repair.

These and various other pertinent objects and features of the instant invention will become more readily apparent from the following detailed description of parts and assemblies and when taken in conjunction with the accompanying drawings wherein like characters of reference refer to like parts in the several views and in which:

FIG. 1 is a front elevational view of a moist heat treatment device constructed in accordance with and embodying the present invention as applied to the face of a user.

FIG. 2 is a side cross sectional elevational view of the moist heat treatment device illustrated in FIG. 1.

FIG. 3 is a partially cut-away sectional perspective view of the moist heat treatment device illustrated in FIG. 1.

FIG. 4 is a perspective view of an alternate form of the invention adapted for location about a leg or arm joint.

FIG. 5 is a perspective view of the alternate form of the invention and shows located about the knee of a user.



Referring more particularly to the illustrations, the moist heat treatment device generally designated by the arrow **10** comprises a waterproof moulded plastic container **11** that is of size suitable to cover all the sinus areas of the average face. The forward portion of the plastic container **11** comprises a water compartment **12** that contains in the lower part of said water compartment **12** a thermostatically controlled triple element immersion type heater **13** with automatic shut-off when the level of the liquid **14** falls below the said immersion heater **13**. Power for operation of the immersion heater **13** is fed from the standard commercial mains supply via plug **15** and two wire cable **16** into a four position switch **17** that can be selected to OFF-LOW MEDIUM-HIGH positions to give the degree of heat required. This is achieved by selecting the applicable element of the immersion heater **13** and placing it in circuit with the mains supply via a four wire cable **18** from the switch **17** to the heating element **13**. The moist heat treatment device **10** has conventionally fitted thereto a strap **19** that is preferably made of an elastic material such as rubber and fits around the back of the head of the user so that the moist heat treatment device **10** may be firmly held in contact with the face. The water compartment **12** is filled with the selected liquid **14** through a filler spout **20** having a conventional type snap-on filler cap **21** fitted thereto and which has a plurality of perforations **22** in order to allow excess steam to escape and to keep the supply of steam **23** or moist heat applied to the face and forehead of the user flowing at a steady and regular rate.

Attached to and forming the inner surface of the water compartment **12** is a porous heat resistant shield **24** in the form of a moulded pad of cellulose or the like through which the evolving steam **23** or moist heat can flow. A moulded pad **25** of sponge material or the like is attached to the shield **24** and is in direct contact with the skin of the user. This obviates the possibility of blistering and causes an even distribution of steam **23** or moist heat over all the sinus areas of the user. A flexible lip **26** composed of elasticised plastic or rubber moulding or the like, is fitted completely around the outside edges of the moist heat treatment device **10** and acts as a steam or moisture heat seal. It achieves uniform tightness of the unit when worn, by fitting snugly and following the contours of face and forehead of each particular user.

In use, the water compartment **12** is filled with water and if desired, some form of medication such as pine-needle oil etc. can be added. The plug **15** is connected to an electrical mains supply and the four position switch **17** is selected to low, medium, or high heat as desired. The moist heat treatment device **10** is then placed in position on the face and forehead of the user as illustrated in FIG. 1. Within a reasonably short time the device will produce steam **23** or moist heat that will be applied directly to the sinus areas, which stimulates the circulation of the blood in these areas, tends to cause the blood to eliminate the congestion which may be present at the sinuses and affords a considerable measure of relief to the user.

Referring to FIGS. 4 and 5, it will be seen that a modified form of moist heat treatment device designated generally by the arrow **30** includes a plastic container **31** having a forward portion adapted as in device **10** to retain a quantity of water. It will be readily apparent that device **30** is similar in all respects to device **10**, the only radical difference manifesting itself in the pronounced U configuration of container **31**. Device **30** is intended for use on arm, leg or other like joints as a therapeutic appliance for the treatment of such conditions as cramp, muscular fatigue, torn ligaments etc. Similarly by applying device **31** to the neck regions of a body, relief is

achieved from such conditions as have been heretofore described.

Referring particularly to FIG. 5 it will be seen that device 31 is supported about a knee 32 (depicted here in phantom).

The general design of the individual parts of my invention as explained above may be varied according to requirements in regards to manufacture and production thereof, while still remaining within the spirit and principle of my invention without prejudicing the novelty thereof.

The embodiments of this invention in which an exclusive property or privilege is claimed are defined as follows:

1. A therapeutic appliance for the application of steam, moist heat and the like to the sinus areas, said appliance including a moulded container of pliable character for the retention of a liquid, said container being moulded in the form of an upper face mask, said face mask including a compartment for the holding of a liquid; filler means in communication with said compartment; means for the securing of said mask to the face and forehead of a user; electrical heating means within said compartment for the conversion of said liquid into moist heat; a porous shield of cellulose or the like forming the inner side of said compartment, said shield being of substantially heat resistant nature; said porosity of said shield allowing the passage of moist heat therethrough; sponge means for the absorption of moisture from said porous shield, said sponge means being located immediately adjacent said shield and being in intimate contact therewith; said sponge means being held in pressural contact upon said sinus areas; and mains supply means in communication with said electrical heating means.



2. A therapeutic appliance as defined in claim 1 in which said mask is so designed as to conform to the contours of a wearer's face and includes sealing means for the retention of moist heat about the sinus areas, said sealing means comprising a flexible resilient lip, said lip being sealably attached to the peripheral edge of said mask.

3. A therapeutic appliance as defined in claim 1 in which said water filler means has a plurality of perforations formed therein, said perforations permitting release of excess steam within said compartment.

4. A therapeutic appliance as defined in claim 1 in which said electrical heating means includes a triple element immersion type heater, said heater being selectively operable for different heat outputs; and automatic cut out means, said cut-out means being operable upon the level of liquid within, said compartment falling below the level of said element.


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RICHARD A. GAUDET, *Primary Examiner.*

LOUIS R. PRINCE, *Examiner.*