H. V. BARCLAY.

HOT APPLIANCE.

APPLICATION FILED MAY 22, 1918.

1,351,986. Patented Sept. 7, 1920.

Fig. 1.

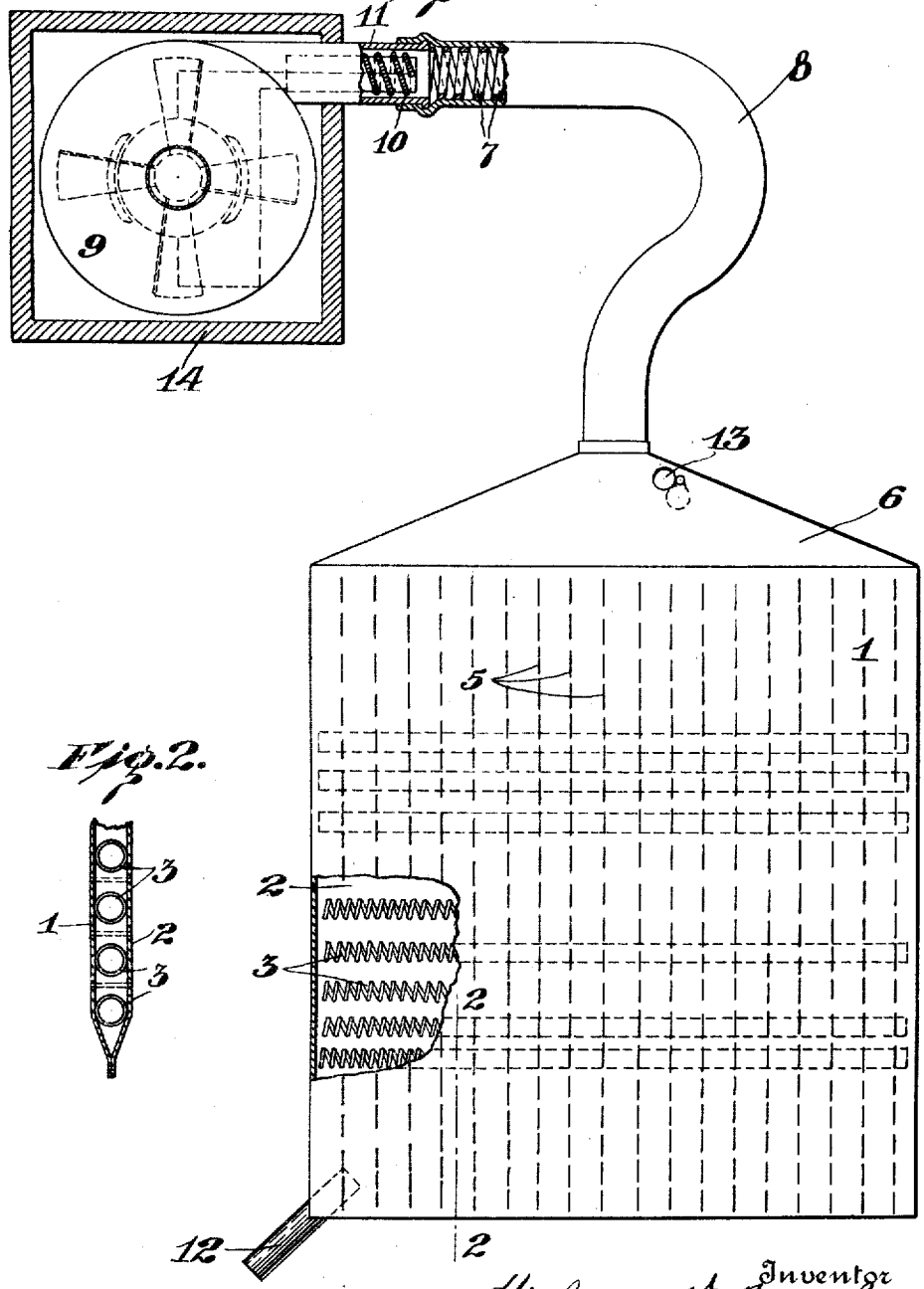


Fig. 2.

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HOT APPLIANCE.

1,351,986. Specification of Letters Patent. Patented Sept. 7, 1920.

Application filed May 22, 1918. Serial No. 236,022.

To all whom it may concern:

Be it known that I, HJALMAR V. BARCLAY, a citizen of the United States, and resident of the borough of Manhattan, in the city, county, and State of New York, have invented certain new and useful Improvements in Hot Appliances, of which the following is a specification.

This invention relates to hot appliances for therapeutic purposes, and my improvement comprehends the employment of a hollow pad or bandage, for application to the part of the body to be treated; together with means for passing a current of heated air through said pad or bandage, to accord thereto the desired temperature.

The pad or bandage comprising my improved hot appliance is characterized as composed of a double fold of flexible material, such as textile fabric, in the form of a hollow, flat cushion, the folds or plies thereof being separated by such means as will permit the passage of air therethrough, while at the same time serving to prevent both the distention of the appliance or its collapse at any portion of its area. In other words it is my aim to provide a flat and relatively thin, hollow pad, of suitable size and shape, which, without distortion, can be heated by a flow of hot air passing freely therethrough.

For convenience, electric power may be employed to operate a blower to create a current of air, and also to energize a resistance coil, located intermediate said blower and a flexible tube, which latter is in communication with the air inlet to the appliance; the appliance also being provided with an outlet for the heated air at a point distant from the inlet.

By the means indicated the appliance will become heated up very quickly through the use of the electric blower, which may be like those commonly employed by barbers for drying the hair.

Should the heat developed be excessive for a particular treatment, it may be moderated by the admixture of cold air, which can be drawn into the appliance through a valve adjacent to the inlet for hot air.

Other features and advantages of my invention will hereinafter appear.

In the drawing:—

Figure 1 is a plan view, partly in section, comprising the several elements included in my invention, and

Fig. 2 is a section on the line 2—2 of Fig. 1.

My improved hot appliance, which may be styled a hollow pad, bandage or wrapper, is here shown as composed of two plies of fabric 1, 2, connected at their edges to form a container. The material of said fabric may be either coated or treated to enable it to resist deterioration under the influence of heat; and also whereby it may be substantially impermeable to the passage of air under moderate pressure.

Interposed between the plies 1 and 2 is a separator 3, which may consist, as shown in the example, of a coil or series of coils of wire, lying in such manner as to extend over the entire intervening area, to hold apart said plies and thus to maintain an intermediate space of equal cross-sectional extent throughout. The coil or coils 3 may be secured from shifting as by means of stitches 5, which also serve to bind the plies 1 and 2 in their relative parallel arrangement, so that they cannot bulge apart or distend locally under the influence of internal air pressure. Obviously the wire coils aforesaid answer the purpose of separating the plies of fabric without themselves interfering with the passage of air therebetween. At one end or edge of the appliance it is provided with a neck portion 6, serving as an air inlet, which connects with a duct 7, that may be in the form of a flexible metal tube; said tube being here shown as provided with an asbestos covering 8.

A small electric blower, as 9, having a connector for engagement with an electric light socket, may be utilized to generate a current of air, for delivery, through duct 7, to inlet 6. Air heating means, energized by the blower motor, are located in the path of the air current, and, as here shown, consist of a resistance coil 10, contained within a casing 11, and located between the blower and tube 7; thus forming a section of the air passage.

The hot appliance, at a point distant from inlet 6, is provided with an air outlet 12,

which may be in form of a nozzle, to which a flexible tube may be fitted, for carrying off the exhaust hot air.

A valve 13 in the inlet 6 is provided for the admission of cool air under the aspirating influence of the flow of heated air, when it is desired to regulate the temperature of the latter by such admixture. Said valve may be either closed or opened to a greater or less extent.

The hot appliance, being flexible, may be wrapped as a bandage about the patient's limb or other part to be treated, or it may be made of any desired shape and size suited for special applications. Being pliable in its substance, it will adapt itself to surface contours, to thus impart the heat it receives directly to the affected part of the body requiring treatment.

The temperature available by means of this appliance may be greater and more quickly generated than can be supplied by electrical conductors threaded through the fabric, because in that instance the insulating means which must be provided, detract from the output of useful heat.

The noise created by the whir of the motor may be muffled by inclosing said motor in a case, as 14.

Obviously, for cold applications, the air may be chilled or refrigerated, by suitable means, in its passage to the appliance.

Variations may be resorted to within the spirit and scope of my said invention and parts thereof used without others.

I claim:—

1. In a hot appliance, in combination, a hollow, flexible pad, having an inlet and an outlet, a blower, an electric heater, means for conveying air from said blower and heater to said inlet, and means for admitting regulated quantities of cool air to said inlet.

2. In a hot appliance, in combination, a hollow, flexible pad, having an inlet and an outlet, a blower, a motor to drive said blower, a tube connecting said blower and inlet, and a resistance coil located in said tube and included in the motor circuit to the energized thereby, whereby air delivered by said blower is heated in its passage to said pad.

3. In a hot appliance, in combination, a hollow flexible pad having an inlet and an outlet, a blower, an electric heater, and means for conveying heated air therefrom to said inlet.

Signed at the borough of Manhattan, in the city, county, and State of New York this 20th day of May A. D. 1918.

HJALMAR V. BARCLAY.

Witnesses:
F. W. Barker,
A. B. Barker.