United States Patent [19]

Noda

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[54] **COLLAPSIBLE SAUNA**

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[52] **U.S. Cl.** **4/164**

[51] **Int. Cl.** **A61h 33/06**

[58] **Field of Search** 4/160, 164, 162–163

[56] **References Cited**

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Primary Examiner—Henry K. Artis

[57] **ABSTRACT**

A portable sauna consisting of a case having a front cover hinged for movement from a closed position to an open positionn parallel to the floor, a collapsible seat within the case, a cover sheet enclosing the open case and cover and heating means within the case.

2 Claims, 3 Drawing Figures

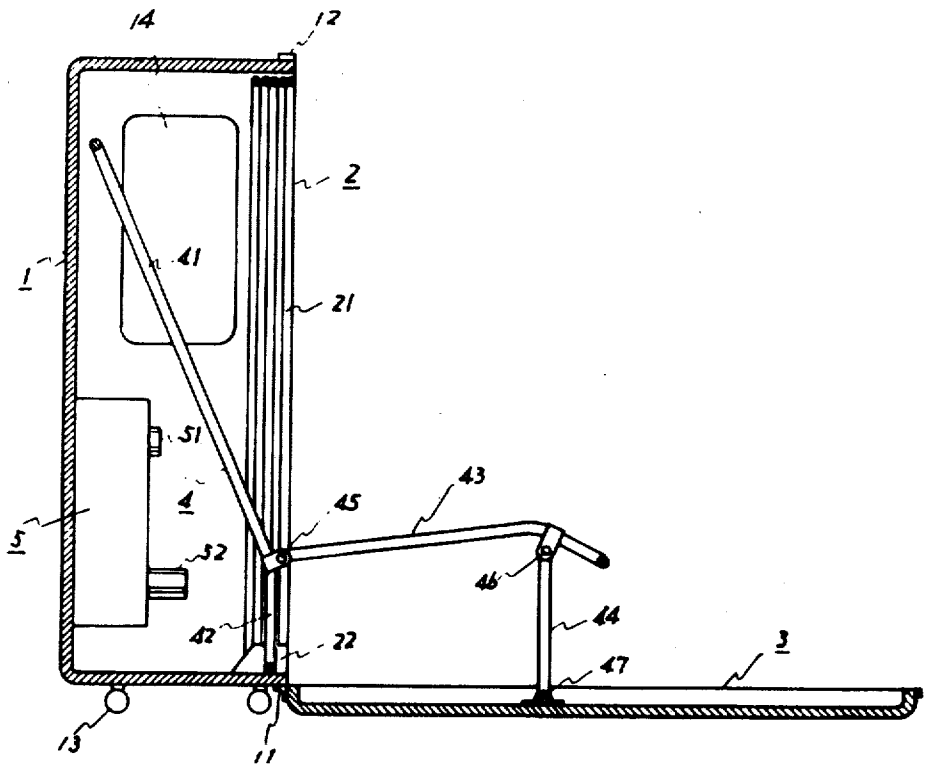
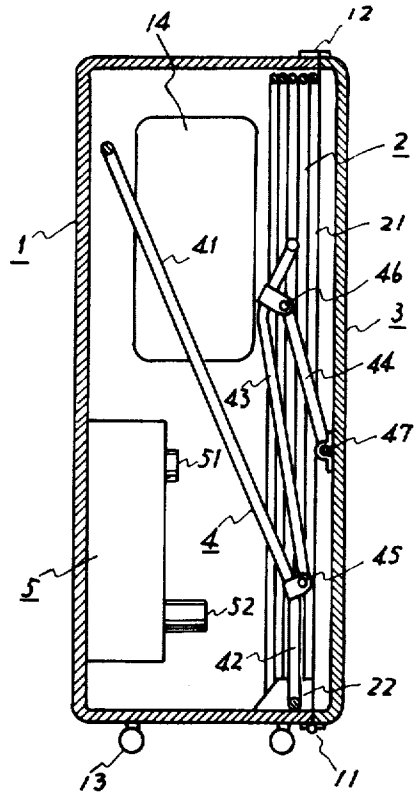


FIG. 1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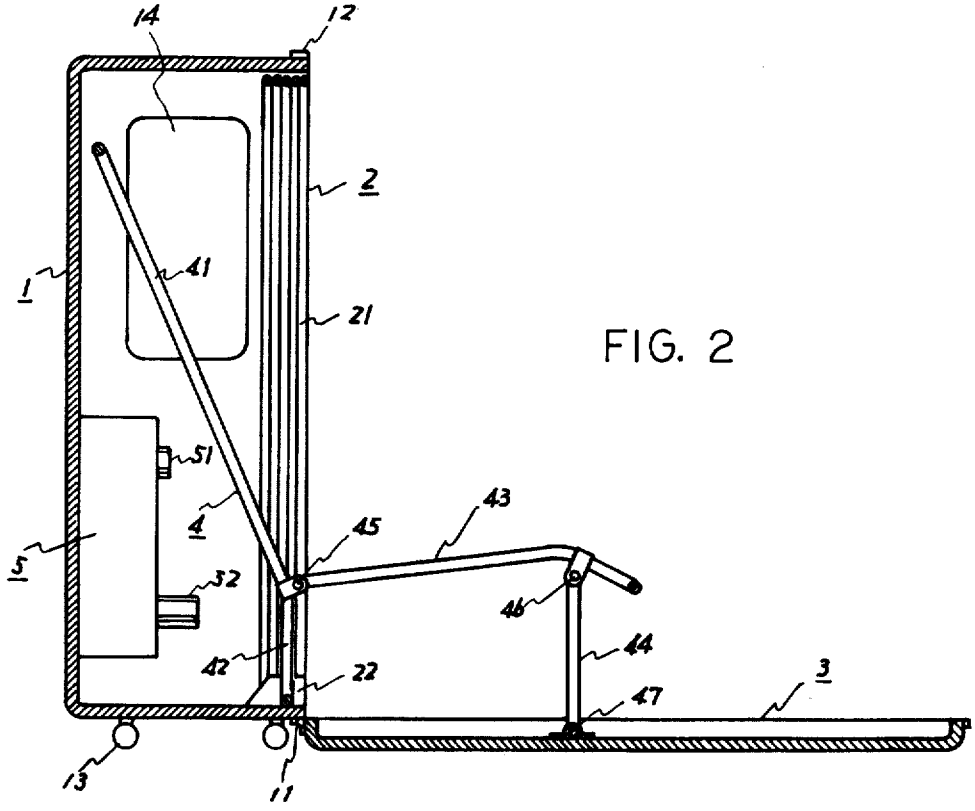
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FIG. 2

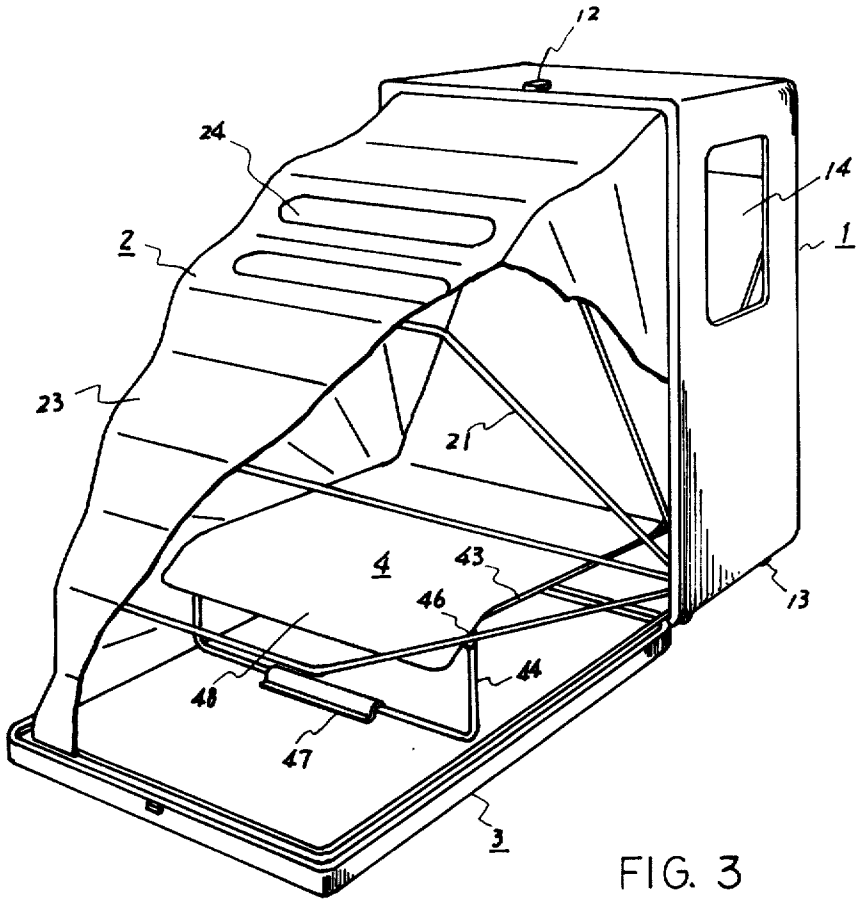

FIG. 3

COLLAPSIBLE SAUNA

This invention relates to a small collapsible sauna particularly suited for domestic use.

There are many kinds of saunas ranging from a large bath room type to a small cabinet type for one person. However, even small known saunas will accommodate one person together with a fixed chair. Such a sauna, even though it is the smallest one, is substantially large in size and heavy in weight and cannot be moved easily. Such saunas are usually installed in a fixed location and occupy a substantial part of the living space even when not in use.

One object of this invention is to provide a small collapsible sauna which can be expanded for comfortable use and collapsed compactly for transportation and storage.

The collapsible sauna according to this invention comprises a box-like body portion having an opening in the front, a flat cover portion hinged to said body portion at the lower end of said opening so that it can be opened downwardly to the horizontal position, a collapsible hood consisting of a pair of quadrantal side portions and a quarter cylinder portion connecting said side portions, said hood being fixed at one end to the inside of the opening of said body portion and pivoted at the centers of said quandrantal side portions, whereby said hood can be expanded downwardly like a fan to the open position of said cover portion and folded upwardly to the inside of said body portion, a collapsible chair having a back portion and hind legs fixed to the inside of said body portion, a seat portion pivoted at the rear end to the lower end of said back portion and fore legs each pivoted at one end to said seat portion and at the other end to said cover portion, whereby said chair can be expanded and folded with the opening and closing of the cover portion, and an air heating and circulating unit attached to the rear wall of said body portion and to the rear of said collapsible chair.

This invention will be described in detail hereinunder with reference to the accompanying drawings.

In the Drawings:

FIG. 1 is a cross-sectional side view of an embodiment of a collapsible sauna according to this invention, which is in a completely collapsed state,

FIG. 2 is a cross-sectional side view of the embodiment of FIG. 1, which is in a state that only the cover portion is opened but the hood is left folded; and

FIG. 3 is a partly broken away perspective view of the embodiment of FIGS. 1 and 2, which is in a completely expanded state.

Throughout the drawings, like reference numerals are used to denote the corresponding structural components.

Referring to FIGS. 1, 2 and 3, the small collapsible sauna of this invention consists of a box-like body portion 1, a collapsible hood 2, a cover portion 3, a collapsible chair 4 and an air heating and circulating unit 5.

The body portion 1 is box-shaped and open at the front, and is preferably constructed as rigid and light as possible. It is made of airtight and thermally insulating material such as wood or synthetic resin. It may also be made of a thin metal sheet and lined with a thermally insulating material or constructed as a framework of metal pipes and covered with a thermally insulating material, or constructed as a framework of metal pipes and covered with a thermally insulated cloth. The bottom of the body portion 1 is preferably supported by four wheels 13 for movement and the side walls each have a glass window 14. The cover portion 2 is made of a material similar to the body portion and coupled to the body portion by hinges 11 at the lower end so that it can be opened and closed just like the cover of a suitcase and it contacts with the floor to serve as the floor of the sauna when opened as shown in FIGS. 2 and 3. When the cover 2 is closed, it is secured by a hasp 12 which may be similar to that of a suitcase.

The hood 2 comprises a plurality of angular U-shaped frames 21 (five frames are shown in the drawings) and a cover sheet 23 which is omitted from FIGS. 1 and 2 to prevent unnecessary complication of the drawings. The frames 21 are made of metal pipes arranged side by side from front to back and coupled rotatably at the lower ends of both legs to a pair of pivot plates 22 which are respectively fixed to the lower inside corners of the front opening of the body portion 1. The cover sheet 23 consists of a pair of quadrant side portions and a quarter cylinder portion connected both side portions. The rear edge of the cover sheet 23 is fixed to the inside of the opening of the body portion 1 and the front edge thereof is fixed to the forefront of the frames 21. The other frames 21 are arranged at equal intervals between the front and rear edges of the cover sheet 23 and fixed thereto. The cover sheet 23 is made of an airtight and thermally insulating material such as laminated cloth and previously creased so that it can be smoothly expanded and folded like a fan or wagon hood. The hood 23 is preferably provided with a transparent window or windows 24 in the upper front as shown in FIG. 3.

The collapsible chair 4 consists of a back portion 41, hind legs 42, a seat portion 43 and fore legs 44. The back portion 41 and hind legs 42 may be made of a single pipe frame and fixed to the inside of the body portion 1. The seat portion 43 may also be made of a single pipe frame and rotatably coupled at the rear end to the lower end of the back portion 41 through a pivot 45. The fore legs 44 may be made of a single folded pipe and is rotatably coupled to the seat portion 43 at the upper ends through a pivot 46 and to the cover portion 3 at the lower ends through a pivot 47. The back and seat portions are comfortably covered with an appropriate sheet material, or may be made of wood. It is essential that the relative geometries of the respective components of the chair 4 are properly selected so that the chair 4 can be completely folded into the body portion 1 as shown in FIG. 1 when the cover portion 3 is closed and that it can be expanded into a comfortable chair as shown in FIGS. 2 and 3 when the cover portion 3 is opened to the horizontal position.

While the heating unit 5 may be a simple plane electric heater, it is preferably in the form of an electric heater and an air blower for circulating a heated air throughout the interior of the hood 2. The unit 5 of FIGS. 1 and 2 is an air heating circulating unit having a suction port 51 and an exhaust port 52. However, as the structure of this unit 5 is not the subject matter of this invention, no further description is deemed necessary.

In the case of utilizing the sauna of this invention, the collapsed sauna in the state of FIG. 1 is moved by the wheels 13 to a suitable location and the cover portion

3 is opened to the horizontal position as shown in FIG. 2 by releasing the hasp 12 and the folded chair 4 is expanded into a proper comfortable shape. Then, the front edge of the hood 2 is pulled forwardly and downwardly and expanded until the front edge contacts with the cover portion 3 as shown in FIG. 3. The heating unit 5 is connected to a line voltage supply and the air within the hood is heated to a suitable temperature, for example 60°–70°C. Entering and leaving the hood can be done by opening the hood. The finishing procedure is a complete inversion of the above starting procedure.

As described in the above, the sauna of this invention can be made in a small size, such as 76 centimeters wide, 45 centimeters deep and 45 centimeters high, in its collapsed state, and also in a light weight such as 30 killograms. Therefore, it is convenient for movement, transportation and storage and especially suitable for domestic use.

What is claimed is:

1. A collapsible sauna comprising an elongated vertically positioned box-shaped body portion having an opening in the front thereof, a flat cover portion hinged to said body portion at the lower end of said opening, whereby said cover portion can be opened downwardly to the horizontal position, a collapsible hood consisting of a plurality of inverted U-Shaped supports having their legs hinged to the bottom of the body portion, and a flexible covering having a pair of quadrant side portions and a quarter cylindrical surface portion connecting both side portions, said hood being fixed at one end of the inside of the opening of said body portion and attached at intervals to said U-shaped supports whereby said hood can be expanded and folded like a fan within the quadrant, a collapsible chair which is expanded and folded with opening and closing of said cover portion, said chair having rear legs fixed to the bottom side of said box, front legs hinged to said cover and a seat hinged to both said front and rear legs and an air heating unit attached to the rear wall of said body portion.

2. A collapsible sauna according to claim 1 wherein said collapsible chair includes a back portion and hind legs fixed to said body portion, a seat portion rotatably coupled at the rear end to the lower end of said back portion and fore legs rotatably coupled at the upper end to said seat portion and at the lower end to said cover portion.

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