

(No Model.)

2 Sheets—Sheet 1.

N. N. HAY.  
HOT AIR AND VAPOR BED.

No. 586,036.

Patented July 6, 1897.

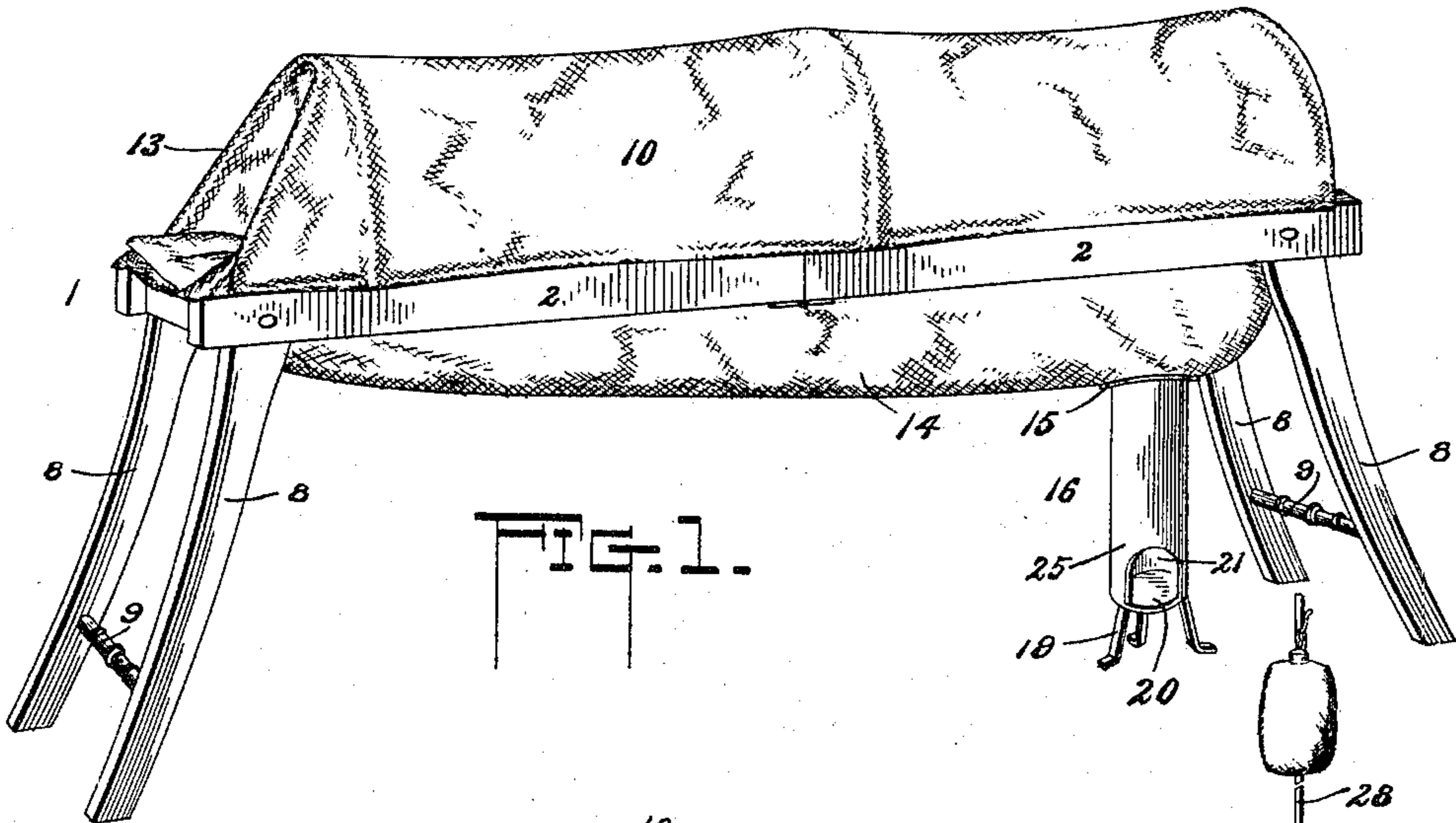


FIG. 1.

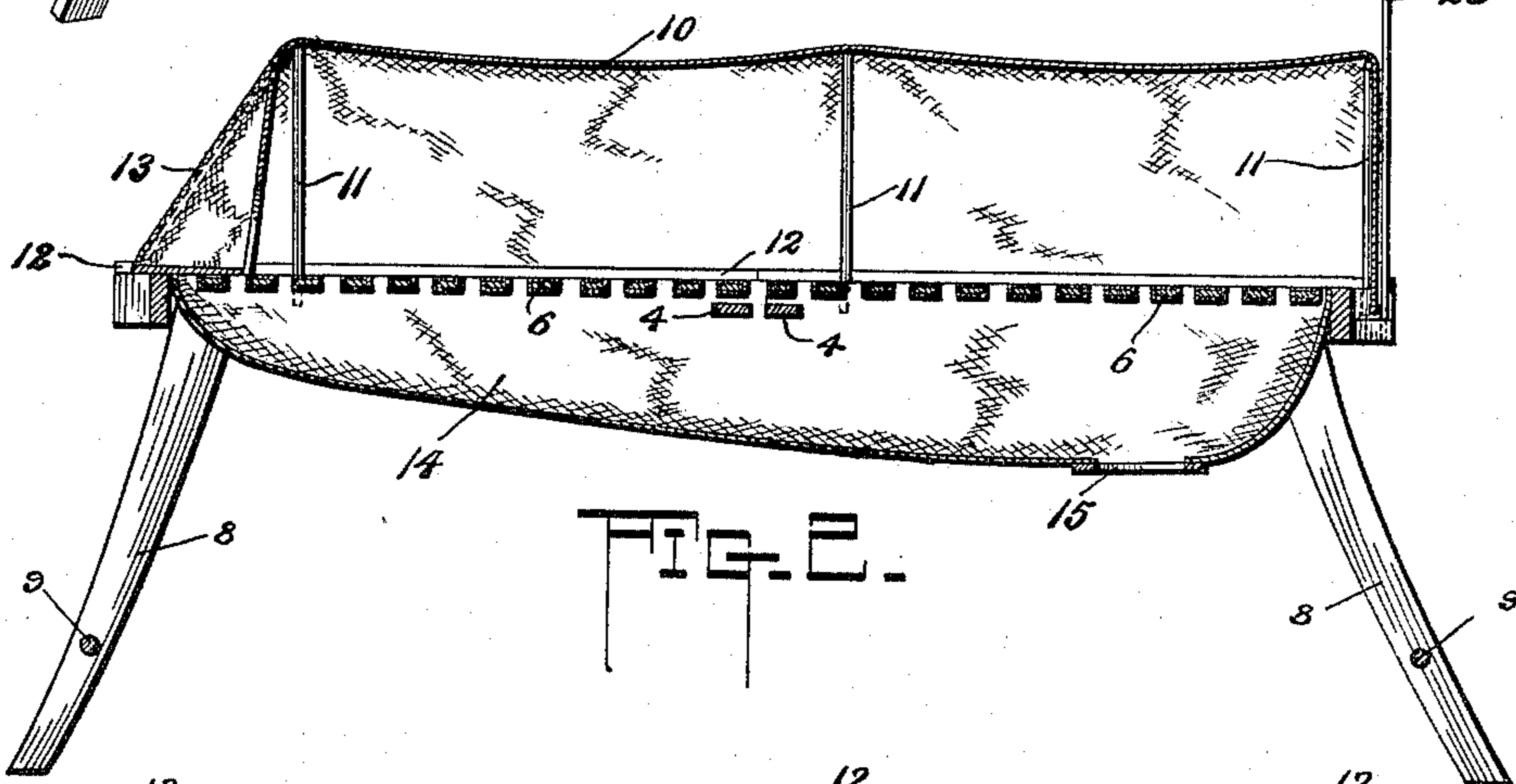


FIG. 2.

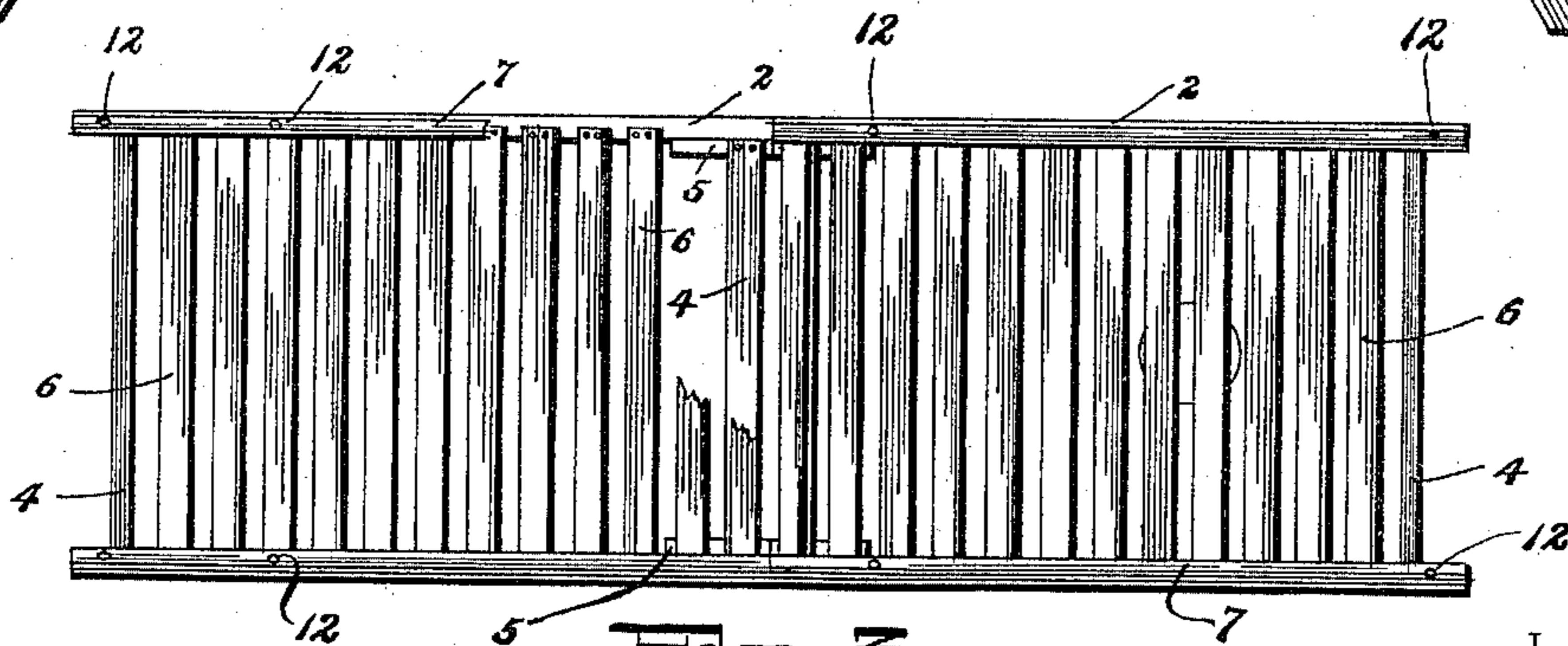


FIG. 3.

Witnesses

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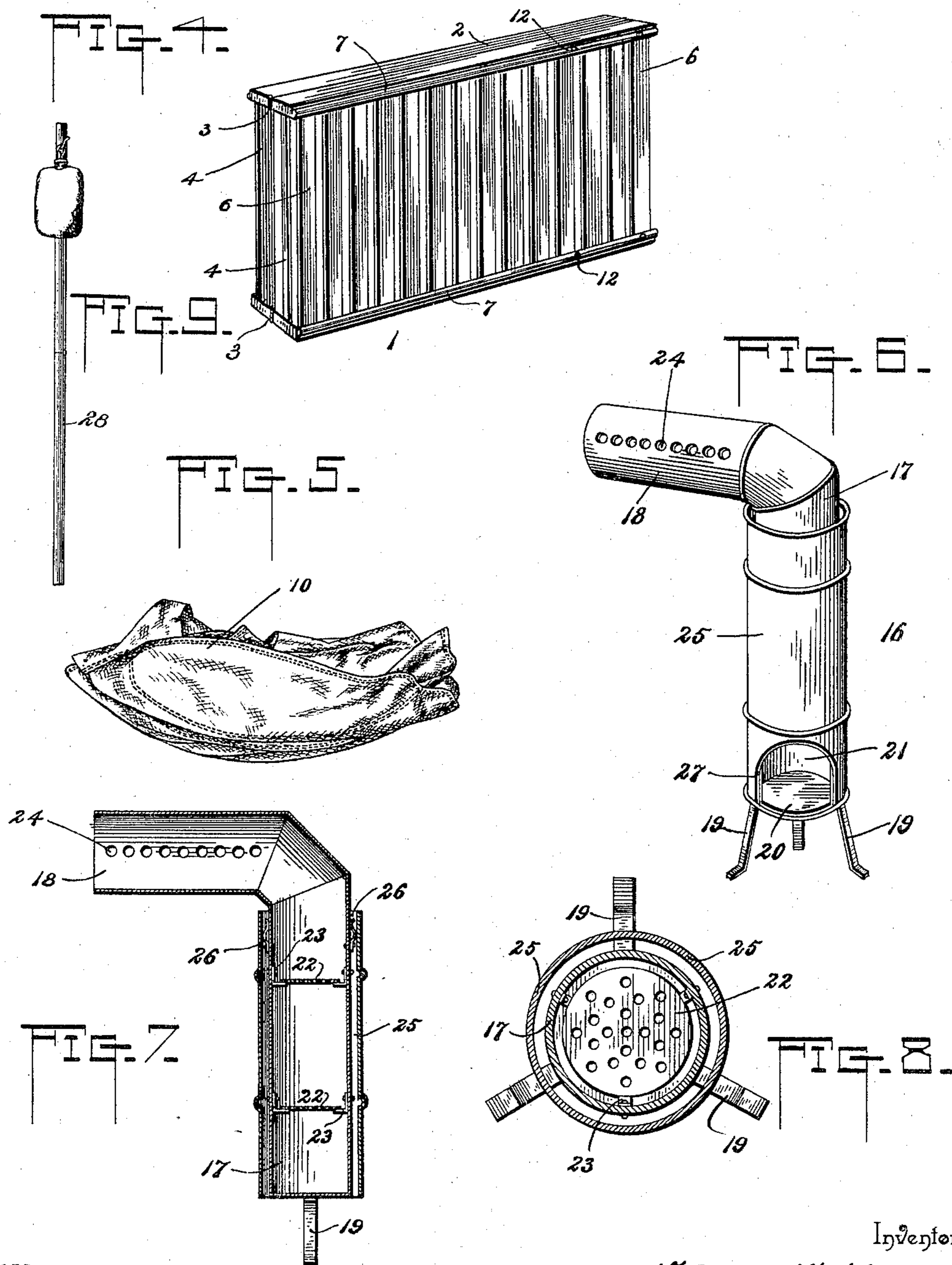
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Inventor  
*Nelson N. Hay.*

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# UNITED STATES PATENT OFFICE.

NELSON NARCISSE HAY, OF BATTLE CREEK, MICHIGAN

## HOT-AIR AND VAPOR BED.

SPECIFICATION forming part of Letters Patent No. 586,036, dated July 6, 1897.

Application filed March 4, 1896. Serial No. 581,792. (No model.)

*To all whom it may concern:*

Be it known that I, NELSON NARCISSE HAY, a citizen of the United States, residing at Battle Creek, in the county of Calhoun and State of Michigan, have invented a new and useful Hot-Air and Vapor Bed, of which the following is a specification.

This invention relates to an improvement in hot-air and vapor beds or baths, and has for its object to provide a complete vapor-bath apparatus which is in the form of a bed or stretcher made in jointed sections capable of being folded relatively to each other and having separable accessories which may be readily attached thereto or detached therefrom, thus rendering the same easily portable from place to place. Other objects and advantages of the invention will appear in the course of the subjoined description.

The invention consists in certain novel features and details of construction and arrangement of parts, as hereinafter fully described, illustrated in the drawings, and finally pointed out in the claims hereto appended.

In the accompanying drawings, Figure 1 is a perspective view of the complete apparatus. Fig. 2 is a longitudinal section through the same. Fig. 3 is a plan view of the bed-frame or stretcher with the cover removed. Fig. 4 is a detail perspective view of the same when folded for transportation. Fig. 5 is a similar view of the flexible hood or cover folded. Fig. 6 is an enlarged detail perspective view of the heater. Fig. 7 is a sectional view through the same. Fig. 8 is a detail horizontal section through the same. Fig. 9 is a detail view of the water-bag and the standard from which the same is suspended.

Similar numerals of reference designate corresponding parts in the several figures of the drawings.

Referring to the accompanying drawings, 1 designates the bed-frame or stretcher of the improved apparatus, which is made of sufficient length and width to accommodate with comfort the patient to be treated. It is substantially rectangular in form and composed of twin halves or sections 2, also rectangular and connected at a central meeting-point by means of hinges 3, adapting said halves or sections to be folded flatwise against each

other, said hinges being arranged at the bottom edges of the side bars of the halves or sections, so that the lower surfaces thereof will come together when folded, and so that the joint will not break downward when the bed is in its operative position with the patient resting thereon. At or near the inner meeting ends of the halves or sections 2 are located cross-bars 4, which at their opposite extremities are supported on cleats 5, secured to the side bars of the frame near the bottom edges thereof, so as to bring the upper surfaces of the cross-bars 4 below the plane of the upper edges of said side bars. These cleats 5 also provide additional width to the meeting edges of the side bars for the application of the hinges 3.

6 designates a plurality of transverse slats made, preferably, of strips of galvanized iron and having their opposite extremities secured to the top edges of the side bars of the bed-frame or stretcher, such extremities being thereafter covered by means of suitable moldings 7. These slats are arranged at regular intervals with intervening spaces and are covered with oil-cloth or rubber sheeting or other suitable material which will be comfortable to the patient and protect the slats against corrosion. The bed-frame or stretcher as a whole is supported at its opposite ends by means of folding legs 8, arranged one pair at each end of the stretcher and connected rigidly by cross-bars 9, so as to swing together, said legs being hinged at their upper ends to the bed-frame or stretcher, preferably upon the inside of the side bars thereof, so that they may be folded upward and inward at the same time that the halves or sections of the stretcher are folded. By this construction the bed-frame or stretcher, together with its supporting-legs, may be folded into the space equal to one-half of the stretcher.

10 designates a flexible cover or hood, of canvas or similar material which will retain the heat or vapor to which the patient is subjected. This hood is of sufficient length, width, and height to easily accommodate the body of the person under treatment and conforms closely at its lower edge to the stretcher, said lower edge being preferably roped or reinforced in any convenient manner. The cover or hood is supported at intervals by

means of U-shaped or semicircular frames 11, of wire or its equivalent, the terminals of such frames being inserted in sockets or perforations 12, located at corresponding points in the side bars of the frame 1. The frames 11 are permanently fastened to the cover or hood 10 and when placed in position serve to stretch the cover or hood and prevent sagging. The head-frame (indicated at 13) is given an inward inclination, so as to give a tapering form to the head end of the hood, and while the foot of the hood is imperforate the head thereof is formed with an aperture, through which is received the head of the patient, who while his body is inclosed in the hood has his head arranged outside thereof, whereby he is enabled to breathe fresh air and have cold applications placed to his head. The hood may be gathered about the neck of the patient in any convenient manner, or the aperture may be made of just sufficient size to enable the hood to fit closely about the neck.

Located beneath the frame of the stretcher is a hot-air sack 14, composed of oil-cloth, rubber, or equivalent material, secured at its upper edges to the frame 1 and preferably made tapering longitudinally of the frame 1, being larger and of greater capacity at the foot of the frame, where it is provided at its lowermost point with an annular plate or ring 15, bounding and reinforcing an opening in the sack, which is otherwise air-tight, and through which may be received the upper portion of a heater, (indicated at 16.) This sack dips or declines toward the foot of the stretcher, so that in spraying the patient the water will run toward the lower end and escape into a receptacle placed under the opening referred to. The heater comprises an inner tube having a vertical portion 17 and a horizontal portion 18, connected by an elbow. The vertical portion is supported upon legs 19, and has a bottom 20 and an opening 21, leading to the interior of the heater, through which a spirit or other lamp may be introduced. Within the vertical portion 17 are arranged hot-air checks 22, which are in the form of perforated disks of slightly less diameter than the internal diameter of the heater and supported in concentric relation thereto by means of radial straps 23, as shown. The horizontal portion 18 of the heater, which is located within the hot-air sack 14, is formed with a number of perforations 24, by which the hot air is given the proper radiation. 25 indicates an outer tube or casing of larger diameter than the inner heater, the said outer case surrounding the vertical portion 17 of the heater and fitting at its upper end within the ring 15 of the hot-air sack above described. The outer case or tube 25 is upheld by means of friction plates or springs 26, secured to the heater near the upper end of its vertical portion 17, three or more of said plates or springs being employed for holding the case 25 out of contact with the heater to

provide an annular space which will admit a sufficient supply of air to the interior of the hood. The outer case or tube 25 is provided at its lower end with an opening 27, which registers with the opening 20 in the heater for admitting the lamp.

It will be understood that the flexible hood may be easily removed from the stretcher and collapsed, as shown in Fig. 5, the frames 11 being held in place by being stitched or otherwise secured to the hood. The legs of the stretcher may be folded within the plane of the stretcher, as above described, and the stretcher-frame itself then folded into compact form. (Shown in Fig. 4.) When so folded, the different parts of the apparatus, which are in themselves very light and portable, may be placed inside the structure and carried to the desired place for use. A rod or standard 28 is inserted at its lower end in the foot cross-bar of the stretcher and has at its upper end a hook, as shown, to receive and support a water-bag with a suitable length of rubber pipe or hose, which may be used to spray or shampoo the patient, as desired. The rod or standard is also jointed, as shown, so that it may be folded compactly and placed in the stretcher with the other detached parts. In use a wet cloth is placed on the foot of the stretcher over the heater or a small vessel of water may be placed in the heater and over the lamp, and thus the hot air will be supplied with a proper amount of moisture and under ordinary circumstances will induce perspiration in from ten to twenty minutes. After the sweating process has proceeded far enough the water-bag referred to may be suspended from the standard 28, the cover removed, and the patient sprayed or otherwise treated, as may be necessary.

It will be apparent that the construction above described is susceptible of changes in the form, proportion, and minor details without departing from the spirit or sacrificing any of the advantages of this invention.

Having thus described the invention, what is claimed as new is—

1. A hot-air and vapor bed, comprising a sectional and folding stretcher, folding supporting-legs, an inclined collapsible hot-air sack located beneath and united at its edges closely to the stretcher and provided at its lowermost point with a reinforced opening for the application of a heater, and a flexible hood superposed above the stretcher and forming a sweating-chamber, the whole apparatus being capable of being folded compactly, substantially as described.

2. In a hot-air and vapor bed, an elevated stretcher, and a hot-air sack located beneath the same and provided with an opening, of a heater having its upper end removably fitted in said opening and provided with means whereby it may be supported from the floor, an inclosing case surrounding the heater and separated therefrom to form an intervening

annular air-space, and one or more hot-air checks consisting of disks of less diameter than the internal diameter of the heater and supported concentrically therein, substantially as described.

3. The herein-described heater for vapor-baths, comprising a vertical tubular portion, a horizontal tubular portion, means for supporting the heater out of contact with the floor, and an inclosing case surrounding the vertical portion of the heater and provided with an opening registering with a corre-

sponding opening in the heater through which the lamp or other heating device may be introduced, and the springs or plates for up-  
holding the inclosing case, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

NELSON NARCISSE HAY.

Witnesses:

B. G. SPENCER,

W. B. WOODRUFF.