

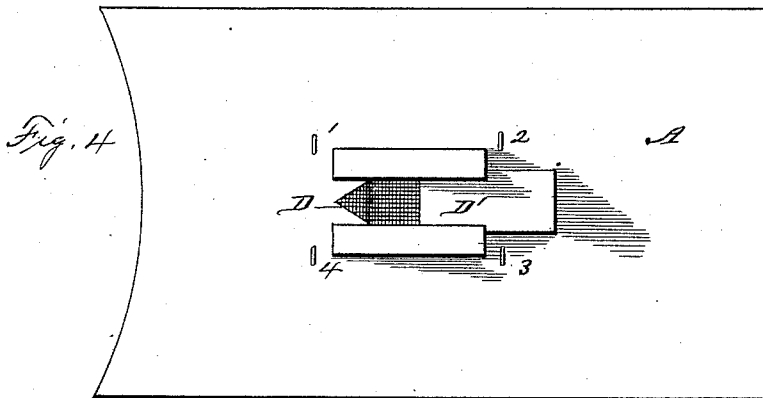
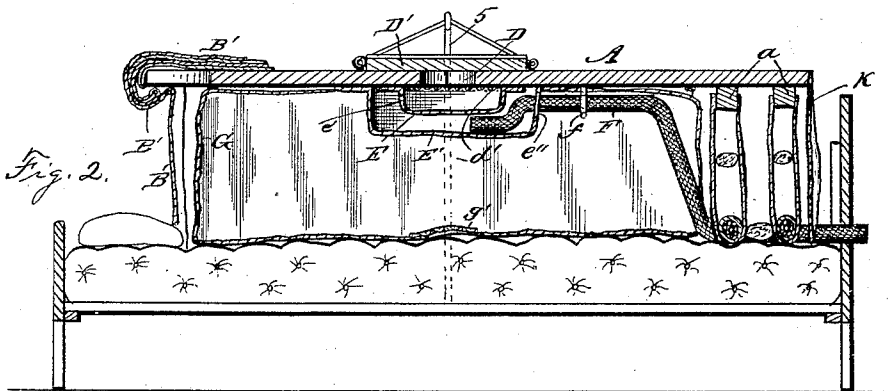
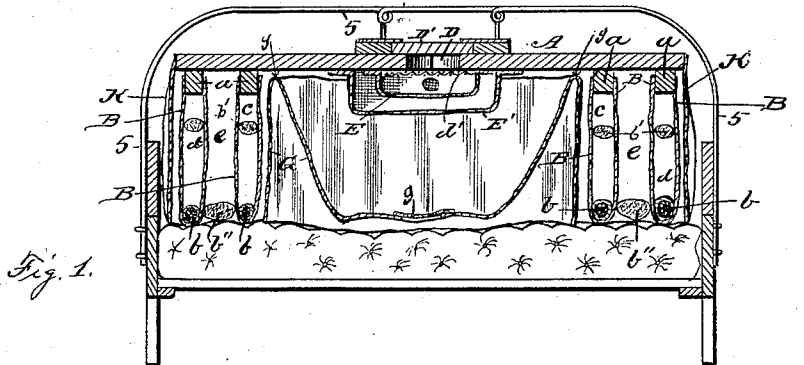
(No Model.)

3 Sheets—Sheet 1.

W. HOLDER.  
ATMOSPHERIC BED COVERING.

No. 469,247.

Patented Feb. 23, 1892.



Witnesses:  
J. H. Brooke

Inventor  
William Holder M.D.  
By Chas. E. Barber  
att.

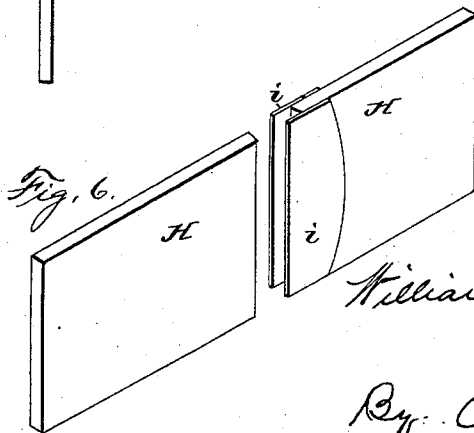
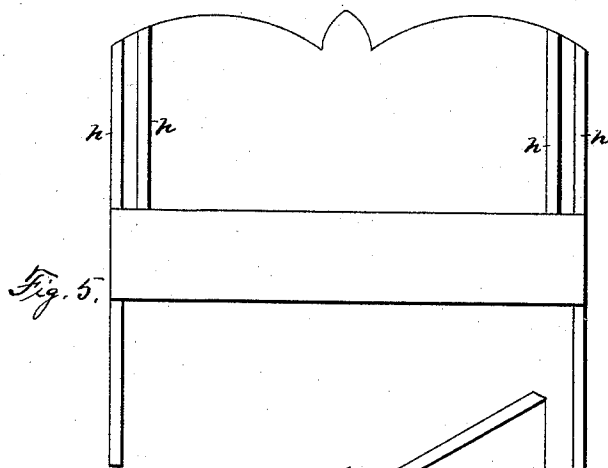
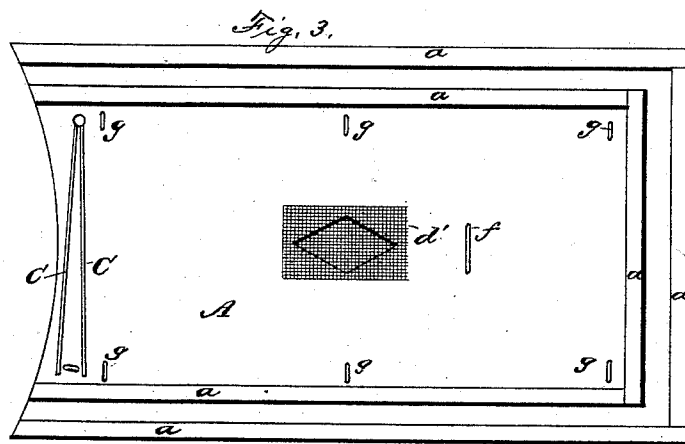
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3 Sheets—Sheet 2.

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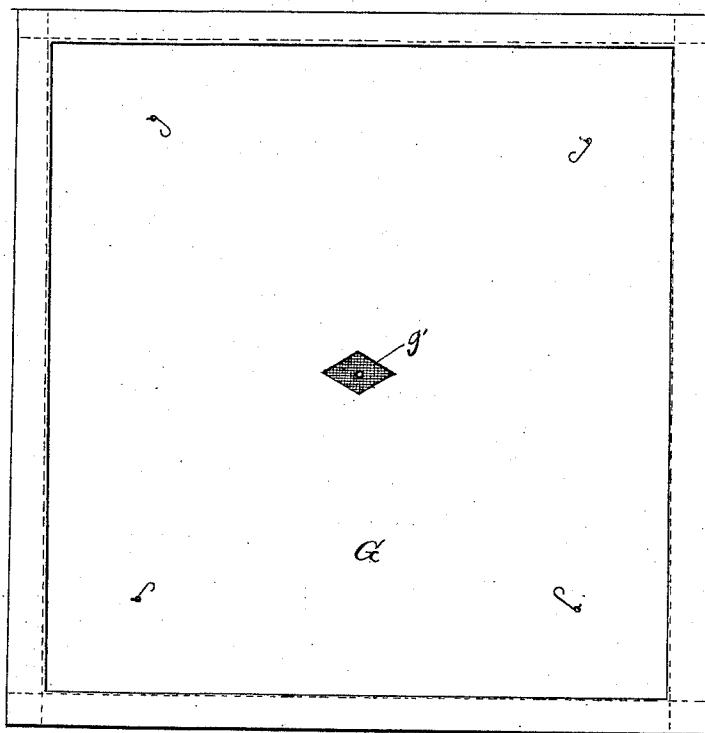
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W. HOLDER.  
ATMOSPHERIC BED COVERING.

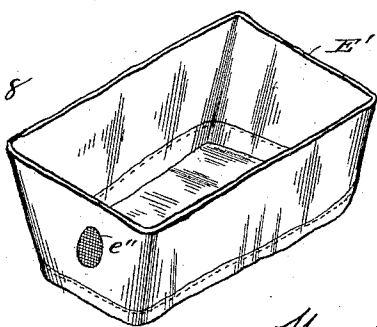
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*Fig. 7*



*Fig. 8*



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# UNITED STATES PATENT OFFICE.

WILLIAM HOLDER, OF MOKELUMNE HILL, CALIFORNIA.

## ATMOSPHERIC BED-COVERING.

SPECIFICATION forming part of Letters Patent No. 469,247, dated February 23, 1892.

Application filed April 6, 1891. Serial No. 387,785. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM HOLDER, a citizen of the United States, residing at Mokelumne Hill, in the county of Calaveras and State of California, have invented a certain new and useful Improved Atmospheric Bed-Covering, of which the following is so full, clear, and exact a description as will enable others skilled in the art to which my invention ap-  
10 pertains to make and use the same, reference being had to the accompanying drawings.

It is well known that the animal heat given off from the body of a healthy person is sufficient, if properly confined within a limited  
15 space around the person, to keep the body comfortable without the application of artificial heat, and that the use of heavy clothing as a protection against cold is for the purpose of confining the animal heat to prevent it  
20 from being carried away from the body by drafts or currents of air and from being absorbed by the colder surrounding atmosphere.

The object of my invention is to provide a cover for beds to protect the occupant from  
25 drafts or currents of cold air, to confine the animal heat given off from the body within a limited space around the body, and to prevent the same from being carried away or absorbed by the colder surrounding atmosphere  
30 and to avoid the use of heavy bedclothing as a protection against cold.

The invention comprises a board or frame adapted to be suspended in a horizontal position above the bed, and provided along its  
35 edges with several depending flexible curtains spaced to form between them dead-air chambers or cells, and of such length as to rest upon the bed and form a closed chamber between the board and the bed to protect the  
40 occupant from drafts and currents of cold air and to prevent warm air within the chamber from escaping and being absorbed by the colder outside air.

It consists, further, in ventilating devices  
45 for admitting fresh air into the chamber, for discharging therefrom the warm air as it becomes saturated with moisture and charged with exhalations arising from the body, and for regulating the temperature within the  
50 chamber, all as hereinafter fully described, and pointed out in the claims.

In the accompanying drawings, which illus-

trate my invention and form a part of this specification, Figures 1 and 2 are respectively transverse and longitudinal vertical sections  
55 through my bed-cover, showing its relation to the bed when in proper position for use. Figs. 3 and 4 are respectively bottom and top plan views of the board or frame to which the curtains are attached. Fig. 5 is an elevation of  
60 the head-board of a bedstead, adapted to receive and hold side boards auxiliary to my invention. Fig. 6 is a perspective view of two sections of a side board adapted to be set up  
65 on the side rails of the bed to inclose the latter. Fig. 7 is an under side view of the board with a sheet attached thereto. Fig. 8 is a perspective view of one of the depending sacks  
70 to be attached to the board or frame around a central opening.

A designates a board or frame, rectangular  
in shape and of a size somewhat less than that of the bed in connection with which it is  
75 to be used. This board or frame is suspended above the bed at a sufficient height to be out of the way of the occupant and to enable him to assume any comfortable position and to change when desired.

The board is provided on its upper face with  
80 eyes or staples 1 2 3 4, by which it is suspended from a bracket 5, attached to the bedstead.

On the under side of the board A, along the side edges and across the lower or foot end,  
85 are two parallel ribs or cleats *a a*, arranged a short distance apart, so as to leave a space between them. (See Fig. 3.) To each of the cleats *a*, against opposite sides of the same,  
90 are attached flexible curtains B B, made of canvas or other suitable fabric and of such length that their lower edges will rest upon the bed. At the bottom the curtains of each pair are held apart by continuous spacing-  
95 strips *b* of flexible material (preferably made of cloth rolled or folded together to the required thickness) secured between the same. These spacing-strips are weighted with sand  
100 or shot to cause them to lie down close upon the bed or mattress and to conform to any inequalities in the same. Intermediately between the cleats *a* and the spacing-strips *b* are other spacing-strips *b'*, secured between the curtains of each pair to hold the same apart,  
so as to form air spaces or chambers *c d* be-

tween them. The two pairs of curtains are united at the bottom by spacing-strips *b''*, secured between them so as to form an intermediate air-chamber *e* between the chambers *c d*. Thus the four curtains form three dead-air chambers, which extend from the head of the bed entirely and continuously around the foot and back to the head.

At the head end of the board A on the under side are two transverse rods C C, which support double curtains B' B'. These curtains hang down across the neck of the occupant of the bed and form a continuation of the side and foot curtains B B, so as to entirely inclose the body, leaving only the head protruding outside. Thus the entire body is protected against drafts and currents of cold air, and the animal heat given off is confined and retained within the chamber formed by the board A and its depending curtains B B, while the sleeper or occupant with his head outside of said chamber breathes fresh cool air.

At or near the center of the board A is formed an opening D, which is provided on the upper side with a sliding door D', by which it is opened or closed wholly or partially as may be necessary or desirable, for the discharge or retention of the heated sudoriferous air within the chamber. Over the opening, on the under side, is a fine wire-gauze *d'*. Against the under side of the board A, around the opening D, are secured two depending bags E E', one within the other, the inner one being smaller and shorter than the outer so as to leave an open space between the two for the circulation of fresh cool air, which is conveyed into the same by a pipe or tube F from the outside of the curtains B B, said pipe or tube being supported by a loop or staple *f* on the under side of the board A. The bags E E' have gauze-covered openings *e' e''* in their side walls, the said openings being on opposite sides of the respective bags—*i. e.*, one in the side toward the head and the other in the side toward the foot of the bed. Thus a system of ventilation is provided whose constant, but imperceptible currents renew the air in the several compartments or chambers, carry off all effluvia and sudorific exhalations arising from the body, prevent saturation by moisture of the air within the chamber, and keep the body, the body-linen, and the whole bed constantly dry.

On the under side of the board A, just within the inner curtains B, are a number of rings, hooks, or loops *g*, to which the sheet G is attached in such manner that its center will hang down and rest lightly upon the occupant, the edges hanging down vertically from said hooks within the curtain. At the center the sheet is provided with a gauze-covered opening *g'*, through which the exhalations arising from the body escape in their passage toward the ventilating-openings in the top.

The curtains B' B' are preferably supplemented by some starched fabric hung between them to prevent air from passing through them either inward or outward. By throwing back upon the board A one or more of the curtains B and the supplemental starched curtains the temperature of the air within the chamber may be further regulated and controlled to meet the condition or temperature of the outside atmosphere.

The several curtains B B, depending from the board A and resting upon the bed, effectually shut off the outside air and prevent drafts and currents from striking the occupant of the bed and carrying off the animal heat given off from the body, while the dead air contained in the chambers or cells between the curtains forms a non-conductor to prevent the warm air within from passing out and being absorbed by the colder atmosphere without, whereby an even and comfortable temperature of the air within the chamber is maintained, which temperature is regulated by the ventilating devices, whereby fresh air is admitted from the outside and the heated and sudoriferous air within the chamber is allowed to pass off.

Around the edges of the board A is tacked a gathered or plaited blanket, which hangs down around the bed and forms an outside curtain, which shields and hides the canvas curtain B and forms a further protection.

In extremely cold climates a still further protection is afforded by side boards H H, which are set upon the side rails of the bedstead and which for convenience may be made in short sections, as shown in Fig. 6. The end of the first section is held between two cleats *h h* on the head-board or post, and the next section by cleats or strips *i i*, projecting from the end of the first. These boards may extend from the head of the bed to the foot or only part way, as may be necessary or desirable.

Having described the uses and advantages of my device, what I believe to be new and of my invention, and what I therefore wish to secure by Letters Patent, is—

1. A bed-cover comprising a solid or rigid top adapted to be suspended above a bed, with several depending flexible curtains extending along both sides and across one end and separated to form air chambers or spaces between them, said curtains being held apart at the bottom by flexible and weighted spacing-strips, substantially as shown and described.

2. In a bed-cover, the combination of a solid or rigid top adapted to be suspended above a bed and having a ventilating-opening through it, flexible curtains depending from the edges, flexible bags, one within the other, secured at their edges around said ventilating-opening and depending below the same and having in their walls screened ventilating-openings, and an air-pipe leading from the outside of said cover into the space between the two de-

pending bags, substantially as shown and described.

3. In a bed-cover, the combination of a solid or rigid top adapted to be suspended above a  
5 bed and having a ventilating-opening through it, flexible curtains depending from the edges, flexible bags, one within the other, secured at their edges around said ventilating-opening and depending below the same and each hav-  
10 ing in its vertical wall a screened ventilating-opening, said openings being in opposite sides

of the respective bags, and an air-pipe leading from the outside of said cover into the space between the two depending bags, substantially as shown and described.

In testimony whereof I affix my signature in the presence of two witnesses.

15

WILLIAM HOLDER.

Witnesses:

J. M. FOWLER, Jr.,

CHAS. E. BARBER.