(No Model.)

# L. PATTERSON.

## AIR SPRING BOTTOM FOR BEDS.

No. 362,532. Patented May 10, 1887.

Fig. 1.

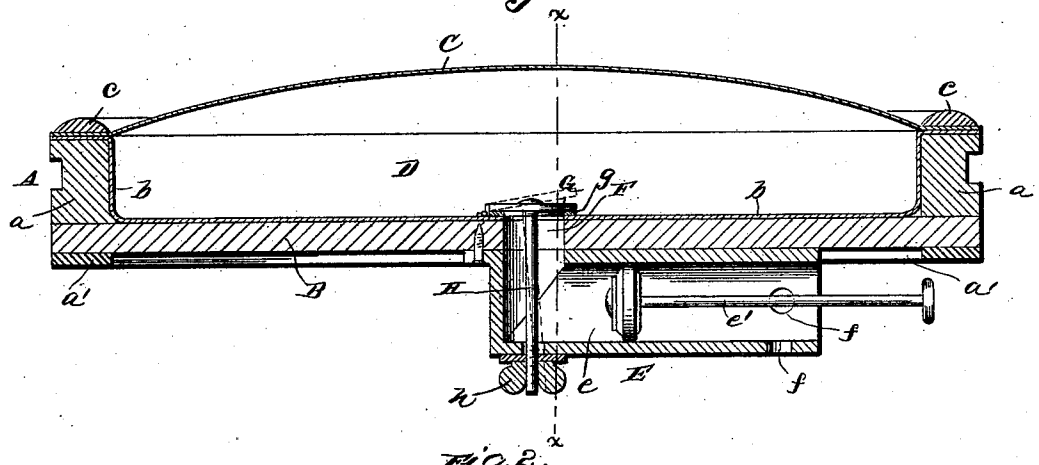



Fig. 2.

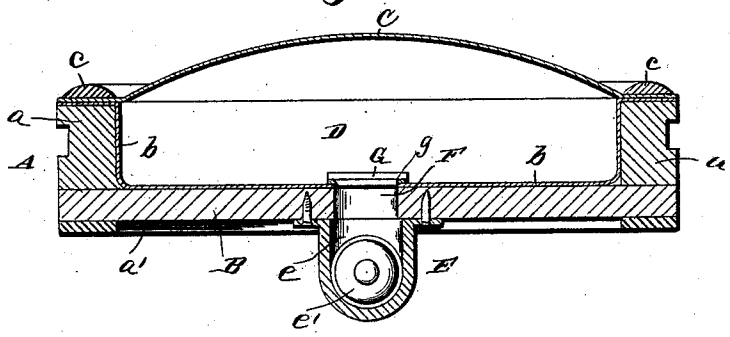
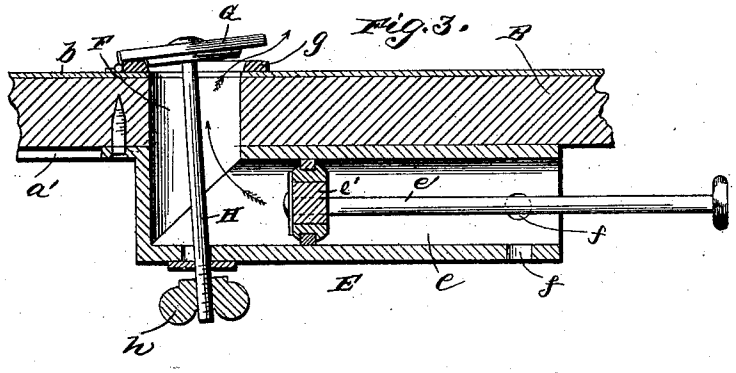



Fig. 3.




Witnesses

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E. G. Siggers

Inventor

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# UNITED STATES PATENT OFFICE.

LEMUEL PATTERSON, OF OLEAN, NEW YORK, ASSIGNOR OF ONE-HALF TO JOHN HAGAN, OF SAME PLACE.

## AIR-SPRING BOTTOM FOR BEDS.

SPECIFICATION forming part of Letters Patent No. 362,532, dated May 10, 1887.

Application filed February 17, 1887. Serial No. 227,939. (No model.)

*To all whom it may concern:*

Be it known that I, LEMUEL PATTERSON, a citizen of the United States, residing at Olean, in the county of Cattaraugus and State of New York, have invented a new and useful Improvement in Air-Spring Bottoms for Beds, of which the following is a specification.

The invention relates to improvements in air-spring bottoms for beds, sofas, and lounges; and its objects are to provide a bottom that will be sufficiently elastic to conform to the body and be comfortable to a person lying in any position, that will be cool in warm weather, and upon which a mattress can be placed in cold weather to render the bed sufficiently warm. These objects I accomplish by means of the construction and combination of the devices hereinafter described, pointed out in the claim, and illustrated in the accompanying drawings, in which—

Figure 1 represents a central longitudinal section of a bed-bottom in which the invention is embodied. Fig. 2 represents a transverse section of the same on the lines *x x* of Fig. 1. Fig. 3 represents a detail view, in vertical longitudinal section, of the means whereby the air is pumped into the device.

Referring to the drawings by letter, A designates a hollow rectangular frame, consisting of the vertical sides and end pieces, *a a*, and the bottom board, B, firmly and rigidly secured to the said piece by screws or nails, which pass through the re-enforcing strips *a' a'* below the bottom board and enter the lower edges of the pieces *a a*. If preferred, the frame A may be made of plate metal. The said frame is designed to rest upon two or more slats of a bedstead or within a suitable frame of a lounge or sofa.

The frame A is covered within with cloth or paper, or both, preferably arranged in a suitable number of continuous layers, forming a lining, *b*, secured by cement or otherwise to the bottom and sides of the frame. The layers are each coated with a size or paint, that will render them air-tight and will at the same time bind them together, and the lining, when so formed, is covered well with the same material. I have found that glue and molasses mixed in proper proportions make a desirable size for this purpose. The paint or size used should have a certain degree of elasticity when dried upon the cloth or paper, as the lining may expand or contract slightly under varying temperatures, and were the said size or paint unyielding or rigid the lining would soon become porous.

C is a cover formed of a suitable number of layers of cloth or equivalent material sewed together or cemented by a flexible and elastic size or paint, similarly to the lining *b*, coated externally with the same size or paint, and having its edges secured air-tight to the upper edges of the pieces *a* by means of the strips *c* and nails, screws, or other suitable means, thus forming, with the frame A, the air-space D.

E is the air-condensing-pump, by means of which the air-space D is filled, consisting of the cylinder *e*, piston-rod, and piston *e'*, properly packed to work air-tight in the cylinder, as shown in Fig. 3.

The cylinder is secured to the under surface of the bottom board, B, and its inner end turns upward at right angles and is flanged, as shown, to adapt it to be secured by screws passing through openings in said flange to the base-board B around the opening F therein. The cylinder is provided near its outer or open end with the openings *f f* for the entrance of air before the piston.

G is an upwardly-opening plate-valve hinged or pivoted on one side of the opening F to a valve-seat, *g*, the circular opening of which registers with the said opening.

H is a vertical rod with its head resting on the upper surface of the valve G, thence passing through the valve and through the vertical part of the cylinder *e*, and having upon its threaded end, outside of the same, the thumb-nut *h*.

The manner of forcing the air into the air-space D is apparent from the foregoing description. When the said space has received sufficient air, the thumb-nut is turned up so as to force the valve G down upon its seat and prevent any leakage at that point. To introduce more air the nut is turned down.

A great advantage of the described bed-bottom is that the top only is flexible and elastic material, so that there is much less surface liable to rupture, and, as the bottom and sides are of rigid and unyielding material, the flex-

ible top is better sustained and its edges are kept always in the same position.

Any desired ornamental cover can be placed over the top C, and a mattress will rest easily thereon on account of its rigid bottom and sides.

Having described my invention, I claim—

The herein-described improvement in air-beds, comprising the bed having the rigid bottom board provided with the opening F, the cylinder E, secured to the under side of the bottom board, provided with perforations *f* at one end, and having its other end turned up and communicating with the opening F, the piston *e'*, working in the cylinder, and the valve G, hinged upon the bottom board to one side of the opening F and closing the same, and a stem depending from said valve through the cylinder, substantially as specified.

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

LEMUEL PATTERSON.

Witnesses:

FRANK N. BLAKESLEE,

WM. M. ABRAMS, Jr.