T. H. O'Brien,

Cushion.

No. 108,043. Patented Oct. 4. 1870.

Fig. 1.

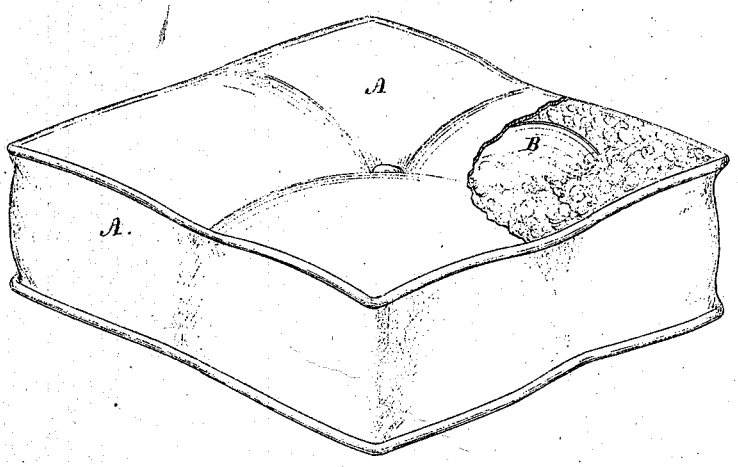


Fig. 2.

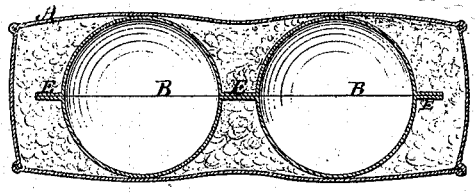
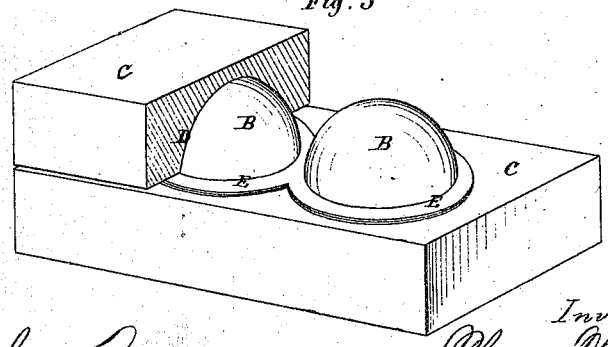


Fig. 3



Witnesses,
Phil. A. Larner
Frank A. Jackson

Inventor:
Thomas H. O'Brien
By Wm. C. Wood
Attorney.

United States Patent Office.

THOMAS H. O'BRIEN, OF PROVIDENCE, RHODE ISLAND.

Letters Patent No. 108,043, dated October 4, 1870.

IMPROVEMENT IN CUSHIONS, MATTRESSES, &c.

The Schedule referred to in these Letters Patent and making part of the same

To all whom it may concern:

Be it known that I, THOMAS H. O'BRIEN, of the city and county of Providence, in the State of Rhode Island, have invented a new and useful Improvement in Cushions, Mattresses, &c.

My invention is designed as an improvement on the ordinary spiral-wire springs now so commonly used in cushions and mattresses; and the same consists in forming the springs of inflated India-rubber balls, which are connected by means of a projecting rim formed with each spring during the process of molding, as hereafter described; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing forming part of this specification, and in which—

Figure 1 represents a perspective view of a cushion provided with my improved springs, a portion of the covering being removed.

Figure 2 represents a longitudinal vertical section of the same.

Figure 3 represents a sectional view of a portion of a mold, showing the manner in which the springs are formed.

A represents the casing or covering of an ordinary cushion or seat

B in each case represents the inflated India-rubber springs.

These springs I form in a mold, partly shown in fig. 3, the casing C of which is constructed in two sections, which are provided with molds, D, for the formation of as many springs as may be desired.

During the molding-process, each spring is provided with a projecting rim, E, which is formed at or near the center of the springs, and forms a connection between them. Instead of the rim E, each spring may be provided with four projecting lugs or ears, at opposite sides of the spring, the lugs of one spring being connected with those of the other by means of rivets, or in any other suitable manner.

Heretofore mattresses or cushions have been constructed by being stuffed with small India-rubber balls, but it will be seen that my improved method of forming the springs possesses many advantages over such construction. When a number of rubber balls is placed loosely in a mattress or cushion, they are liable to be forced in a mass to one side or end of the cushion by the pressure of the body upon them. This disadvantage is readily overcome by my method of constructing the springs, they remaining always in one position when placed in a cushion or mattress.

When any number of springs, say, for example, four or six, has been formed in the mold, they may be removed all connected, and, having been placed in a suitable casing or covering, they form, as it were, a frame-work around which the hair or other suitable packing-material may be placed, as shown in the drawing. When one spring becomes damaged in any manner, so as to cause the air to escape, the cushion will not become useless, as others still remain.

When the springs are constructed larger than at present contemplated, I design placing through the center of the spring, on a line with the projecting rim, a horizontal partition, so as to form two air-chambers in the spring instead of one. In such cases, when the spring becomes injured on one side, the effect produced on the cushion is less than where the spring is formed with only one chamber.

Although my invention may be used in mattresses, cushions, and seats of all kinds, it is especially desirable in the construction of mattresses for use on board of ships, the inflated India-rubber springs rendering the mattress an excellent life-preserver.

Having thus described my invention,

I claim as new and desire to secure by Letters Patent—

In combination with the sacks of a cushion or mattress, with or without a fibrous filling, the air-springs B, provided with the projections E, and connected together substantially in the manner described.

THOMAS H. O'BRIEN.

Witnesses:

JOSEPH G. JOHNSON,
JOHN C. TUFTS.