

No. 660,466.

Patented Oct. 23, 1900.

A. H. SAWTELL.
AIR MATTRESS OR CUSHION.

(Application filed Dec. 7, 1899.)

(No Model.)

FIG. 1.

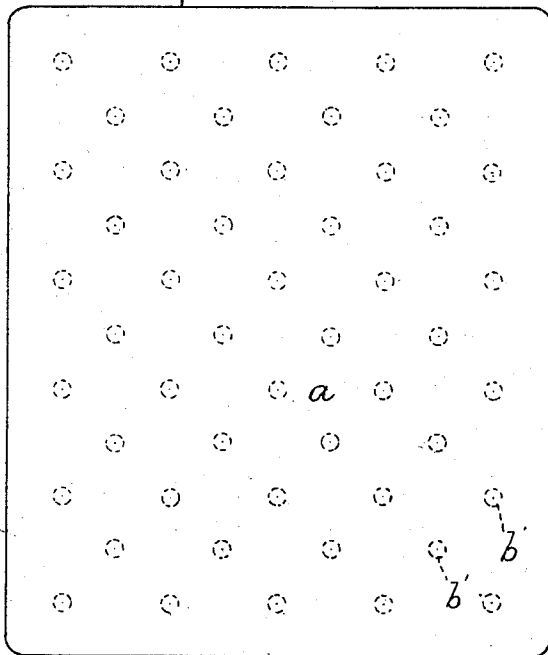


FIG. 3.

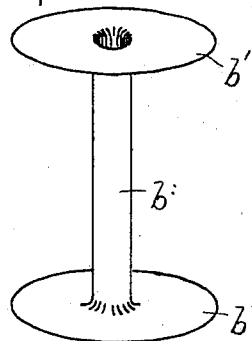


FIG. 4.

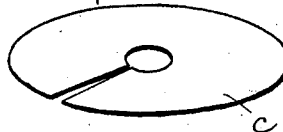
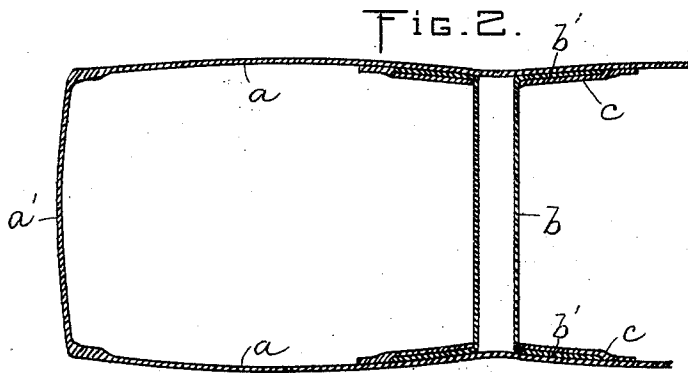


FIG. 2.



WITNESSES:

A. D. Harrison
A. H. Brown

INVENTOR

A. H. Sawtell

BY

Wright Brown & Quincy
ATTORNEY.

UNITED STATES PATENT OFFICE.

ALBERT H. SAWTELL, OF MALDEN, MASSACHUSETTS, ASSIGNOR TO THE
PNEUMATIC GOODS COMPANY, OF BOSTON, MASSACHUSETTS.

AIR MATTRESS OR CUSHION.

SPECIFICATION forming part of Letters Patent No. 660,466, dated October 23, 1900.

Application filed December 7, 1899. Serial No. 739,497. (No model.)

To all whom it may concern:

Be it known that I, ALBERT H. SAWTELL, of Malden, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Air Mattresses or Cushions, of which the following is a specification.

This invention relates to mattresses or cushions comprising a flexible bag of air-tight construction adapted to be inflated. In mattresses or cushions of this character the side pieces or parts forming the top and bottom are connected by stays secured to the inner surface of the side pieces extending across the intermediate air-space. Heretofore the connection of these stays with the side pieces has been such as to require protuberances from the outer surfaces of the side pieces, said protuberances interfering more or less with the comfort of the mattress or cushion and requiring perforations in the side pieces, which perforations are liable to ultimately cause leakage of air.

My invention has for its object to provide a pneumatic mattress or cushion the side pieces of which shall be imperforate and the connecting-stays secured wholly within the side pieces.

The invention has for its object to provide an improved connecting-stay which shall be equally flexible in all directions in which it is liable to be bent and shall be adapted to have a firm and durable connection with the side pieces.

To these ends the invention consists in the improvements which I will now proceed to describe and claim.

Of the accompanying drawings, forming a part of this specification, Figure 1 represents a top view of a pneumatic mattress or cushion embodying my invention. Fig. 2 represents a cross-section through a part of Fig. 1 on a larger scale. Fig. 3 represents a perspective view of one of the stays. Fig. 4 represents a perspective view of one of the reinforcing-pieces employed to aid in securing the stays to the side pieces of the mattress or cushion.

The same letters of reference indicate the same parts in all of the figures.

In the drawings, *a a* represent the side pieces of a pneumatic mattress or cushion,

the same being connected at their edges by edge pieces *a'*, the whole forming an air-tight bag having suitable provision whereby the bag may be filled with air under pressure. The side pieces *a a* are continuous and imperforate, so that their outer surfaces are smooth and free from protuberances or interruptions. The side pieces are connected by transverse tubular stays *b*, each of which is a piece of tubular seamless woven fabric the ends of which are enlarged in the weaving operation to form seamless annular flanges *b' b'*, which are integral parts of the tubular body of the stay. The outer portions of the flanges *b' b'* are placed in contact with the inner surfaces of the side pieces *a a*, the contacting parts being treated with suitable cement adapted to be hardened or cured by heat.

c c represent reinforcing-pieces which are made in the form of disks or washers cut out centrally at *c'* to receive the tubular stays *b* and slit at *c''* to permit their application to the stays. The reinforcing-pieces *c* are of greater area than the flanges *b'* and extend beyond the latter, their outer portions being in contact with the side pieces *a a*. The side pieces *a a* and reinforcing-pieces *c c* are preferably made of frictioned stock—that is to say, strong fabric treated with green or uncured rubber.

In assembling the parts the flanges *b' b'* are pressed against the inner surfaces of the uncured side pieces and the reinforcing-pieces *c c* are placed against the inner surfaces of the flanges and the surrounding portions of the side pieces, and the whole is then subjected to heat in such manner as to vulcanize or cure the green rubber portions. The result is a firm and intimate union between the stays and side pieces without external protuberances or projections.

It will be seen that the tubular form of the stays and the annular form of the flanges *b'* enable the stays to be very firmly attached to the side pieces without liability of pulling away and loosening the cement connection, the firmness of the connection being very materially increased by the reinforcing-pieces *c*. The tubular form of the stays also increases their flexibility, the stays being adapted to bend with equal facility in all directions lat-

erally. The tubular stays are, moreover, somewhat elastic, so that they will stretch to a limited extent, and thus somewhat add to the elasticity of the mattress or cushion.

5 I claim—

1. An air mattress or cushion comprising imperforate flexible side pieces, and tubular fabric stays having integral end flanges cemented directly to the inner surfaces of the side pieces.

10 2. An air mattress or cushion comprising imperforate flexible side pieces, tubular fab-

ric stays having integral end flanges cemented directly to the inner surfaces of the side pieces, and reinforcing-pieces of greater area than the flanges secured to the inner surfaces of the flanges and to the side pieces. 15

In testimony whereof I have affixed my signature in presence of two witnesses.

ALBERT H. SAWTELL.

Witnesses:

C. F. BROWN,
H. L. ROBBINS.