No. 622,239. Patented Apr. 4, 1899.

J. J. LANE.

AIR BED OR CUSHION.

(Application filed Sept. 2, 1898.)

(No Model.)

Fig. 1.

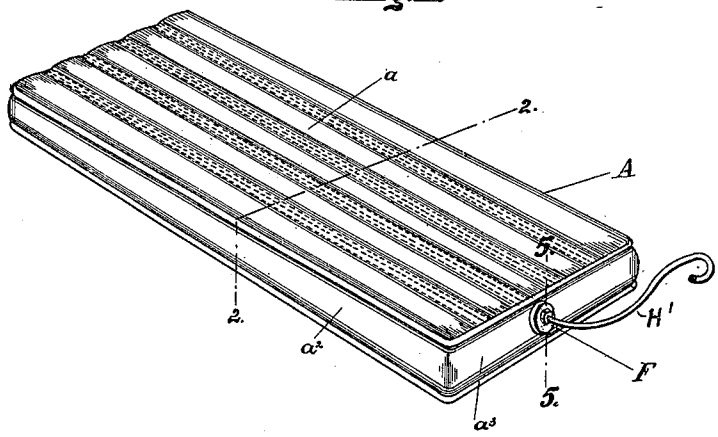
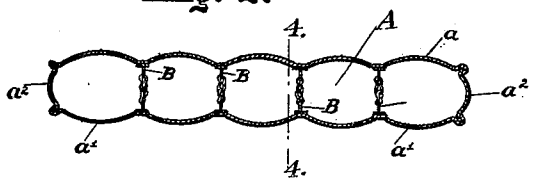


Fig. 2.



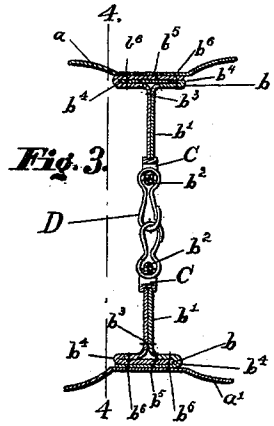


Fig. 3.

Fig. 4.

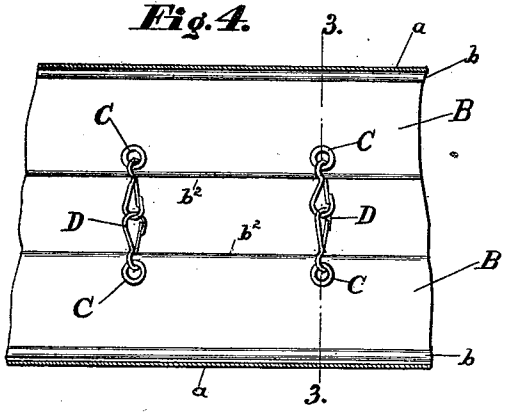


Fig. 5.

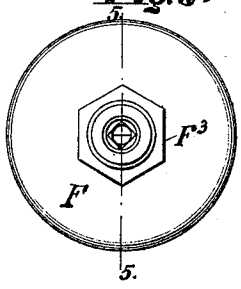
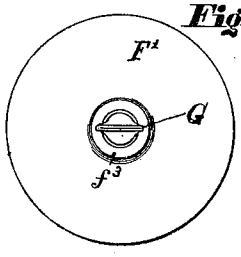


Fig. 6.



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UNITED STATES PATENT OFFICE.

JOHN J. LANE, OF ST. LOUIS, MISSOURI.

AIR BED OR CUSHION.

SPECIFICATION forming part of Letters Patent No. 622,239, dated April 4, 1899.

Application filed September 2, 1898. Serial No. 690,085. (No model.)

To all whom it may concern:

Be it known that I, JOHN J. LANE, a citizen of the United States, residing at St. Louis, in the State of Missouri, have invented certain new and useful Improvements in Air Beds, Cushions, and Analogous Devices, of which the following is a specification.

My invention relates to inflatable beds, cushions, and analogous devices, and especially to those made of textile fabric treated so as to make it air-proof; and the chief objects of my improvements are, first, to provide improved means for holding such articles in shape when inflated, and, second, to provide improved means for giving access to the interior of such articles when it becomes necessary to repair them. I attain these objects by means of mechanism whose preferred form is illustrated by the accompanying drawings, in which—

Figure 1 is a view in perspective of an air-bed embodying my improvements, with a tube attached thereto for inflating it. Fig. 2 is a vertical cross-section on line 2 2, Fig. 1. Fig. 3 is a vertical cross-section on line 3 3, Fig. 4. Fig. 4 is a detailed fragmentary view, on an enlarged scale, on line 4 4, Fig. 2. Fig. 5 is a front elevation of a detail. Fig. 6 is a detailed rear elevation.

Similar letters refer to similar parts throughout the several views.

A represents an air-bed of common form whose body is preferably made of a textile fabric rendered air-proof by suitable treatment. The top of the bed is lettered a, the bottom a', the sides a^2, and the ends a^3. To the top a of the bed I attach a number of stays B, each preferably consisting of a base b and a projecting strip b'. The strip b' is preferably formed by doubling a piece of textile fabric, so that its fold b^2 forms the outer edge of the strip, and then sewing a longitudinal seam b^3 through the strip near the base b. The base b is preferably formed by first bending the fabric outward on each side below the strip b', so as to form opposite wings b^4, and then bending them back below the strip b', so as to overlap each other, substantially as shown in Fig. 3. The stays B, attached to the top of the bed, are preferably completed by sewing three parallel longitudinal seams b^5 and b^6 through and the base b of each of them and the sheet of fabric forming the top of the bed. I preferably sew one seam b^5 near each edge of the base b and one near one side of the strip b'. The preferred construction is shown clearly in Fig. 3.

The stays B are arranged parallel to each other and preferably run substantially from one end of the bed or the other article to the other. Directly below each stay B, attached to the top a of the bed or other article, I arrange a similar parallel stay B with its strip b' extending upward toward the strip b' of the stay above it. I preferably attach the lower stays B to the bottom a' of the bed exactly as I do the upper ones to the top. The bases of the stays are useful not only as means of attachment to the bed, but as means for strengthening it where strength is most important, and the inwardly-projecting strips are peculiarly efficient as stays by reason of the fact that they distribute strains in such a way as to make the bed or other article stronger and more durable than it would be if ordinary stays were used.

The number of stays used differs in different constructions and may be spaced more or less widely apart to suit the necessities of any given case. Fig. 2 represents an actual construction and is drawn to a scale.

Near the fold b^2 of the strip b' of each stay B, I preferably insert a series of eyelets C of common form and secure them in place by bending the edges of their ends, so as to form rivet-heads in the usual manner. I arrange these eyelets a suitable distance apart and preferably so that those in each stay will come opposite those in the strip b' of the stay opposite thereto. I then connect the strip b' of each stay with the strip b' of the opposite stay, preferably by means of spring-snaps D, one of which I preferably pass through each eyelet, and I link each snap D into the snap D in the opposite eyelet, as shown in Figs. 2, 3, and 4. I thus provide flexible connections between opposite stays, which while they cause the bed to assume the proper form when inflated enable it to give in a proper manner when any one is lying upon it.

The described construction of stays, snaps, and eyelets is, moreover, especially valuable for the reason that it enables air-beds and other articles to be made far more rapidly, and

for that reason much more cheaply, than they have been made in the past.

At a convenient point in the bed or other article and preferably at one end I preferably form a circular hand-hole E, large enough to enable the hand to be introduced into the interior of the bed when necessary, and I preferably reinforce the edges of the hand-hole by washers *e*, one on each side. I preferably close this opening by means of a pair of plates F and F′, one arranged on the outside and the other on the inside of the bed. The inner plate F′ is preferably provided with an externally-screw-threaded tubular extension F^2, projecting outward therefrom, and the plate F is provided with a nut F^3, preferably formed integral therewith, which is adapted to be screwed onto the extension F^2 and compress the washers *e* between the plates F and F′, so as to make an air-tight joint. The interior of the extension F^2 is preferably screw-threaded internally near its outer end and at the inner end thereof terminates in a seat f', from which an opening f^2 extends inward through a surrounding lip f^3. This opening is preferably screw-threaded near its outer end and preferably contains perforations f^4 between said screw-threading and the seat f'.

I claim—

1. In inflatable devices the combination of two separate, and detachable, series of flexible stay-strips arranged opposite each other and secured along opposite inner sides of the device and provided with opposite eyelet-holes arranged at intervals, and means securing the strips together through said eyelets and forming flexible connections between opposite strips.

2. In inflatable devices, the combination of two separate, and detachable, flexible stay-strips arranged opposite each other and secured along opposite inner sides of the device and provided with opposite eyelets arranged at intervals, and spring-snaps linked in said eyelets and connecting said strips.

3. In inflatable devices, the combination of two separate, and detachable, stay-strips arranged opposite each other and secured along opposite inner sides of the device and provided with opposite eyelets, and a series of spring-snaps, one snap passing through each eyelet, and the spring-snaps passing through the eyelets of one strip, being linked to opposite spring-snaps passing through eyelets in the opposite strip.

4. The combination in an inflatable device of a pair of opposite separate, and detachable, flexible stay-strips B secured along opposite inner sides of the device each having a base *b* and a projecting strip *b′*, substantially as shown and described and each strip *b′* being provided with eyelets C, arranged at intervals; and means securing the strips together through said eyelets and forming a flexible connection between opposite strips, substantially as described.

5. In inflatable devices, the combination of two separate, and detachable, series of stay-strips arranged opposite each other and secured along opposite inner sides of the device, detachable means for connecting opposite strips, a hand-hole at one end of the article and means for opening and closing it.

6. In inflatable devices composed of flexible material, two separate, and detachable, series of inwardly-projecting, flexible stay-strips, arranged opposite each other, and one series attached to the top, and the other to the bottom, of the inflatable device, and means connecting said stay-strips together.

7. In an oblong inflatable bed of air-proofed, textile material; two opposite separate, and detachable, series of longitudinal, inwardly-projecting, flexible, stay-strips secured along opposite inner sides of the device, one series projecting up from the bottom of the bed and the other down from the top, and means connecting said stay-strips together.

8. In inflatable beds and analogous articles, two opposite series of parallel stay-strips, one series extending downward from the top and the other up from the bottom of the article, and arranged so that each upper stay-strip comes opposite a lower one, with spaces between opposite strips; and, removable means for detachably fastening opposite stay-strips together, substantially as described.

JOHN J. LANE.

Witnesses:
BENJ. F. REX,
PETER PETERSEN.