June 7, 1960 B. P. BAKER 2,939,158

AIR MATTRESS

Filed July 12, 1957

Fig. 1

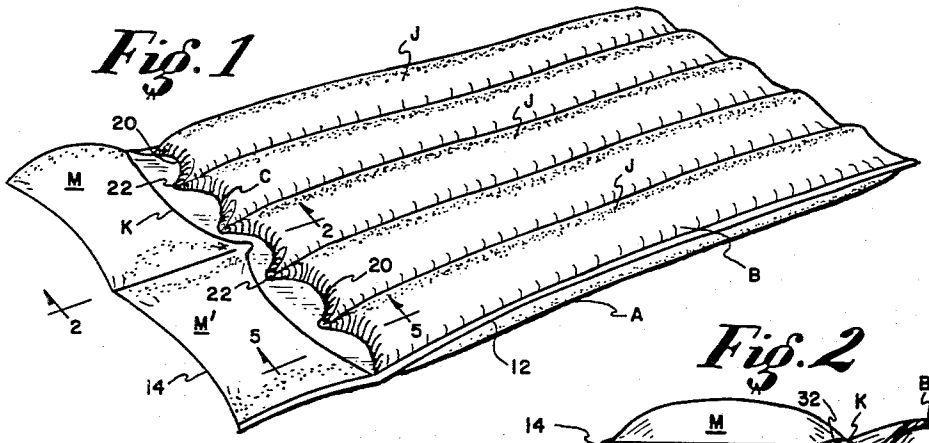


Fig. 2

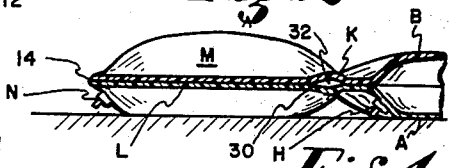


Fig. 3

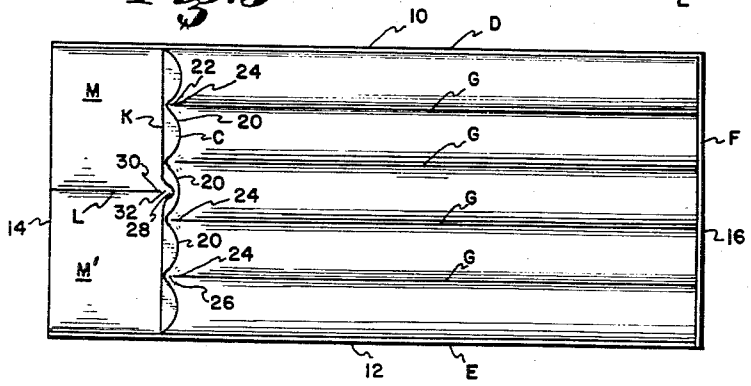


Fig. 4

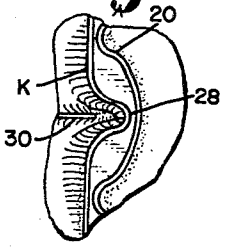


Fig. 5

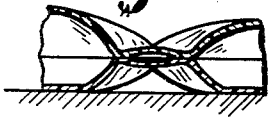


Fig. 6

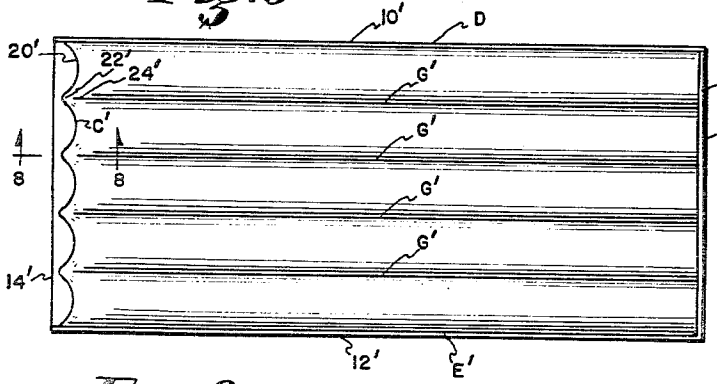


Fig. 7

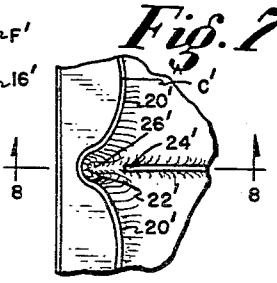
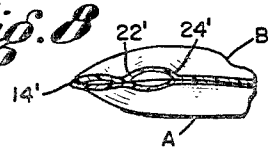


Fig. 8



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1 Claim. (Cl. 5—349)

The present invention relates generally to the field of mattresses, and more particularly to an improved air mattress.

Although air mattresses are by no means new, heretofore their use has been limited due to the fact that those portions of previously available mattresses of this type defining the connecting passage between the longitudinally extending pockets have a tendency to fail.

A major object of the present invention is to provide an air mattress construction that is so arranged as to minimize the strain to which the sheet material defining same is placed adjacent the passage that interconnects the longitudinally extending inflated pockets thereof.

A further object of the invention is to provide a compartmented pillow construction that is particularly adapted for use with my improved mattress, which is so arranged as to place a minimum strain on the sheet material defining the connecting passage between the compartments when the pillow is inflated.

A still further object of the invention is to supply a combined inflatable mattress and pillow which are subdivided into pockets and compartments, respectively, and in which a minimum strain is placed on the sheet material adjacent the interconnecting passages between the pockets and compartments.

These and other objects and advantages of the invention will become apparent from the following description of a preferred and alternate form thereof, and from the accompanying drawing illustrating same, in which:

Figure 1 is a perspective view of the preferred form of the invention which is embodied in a combined inflatable air mattress and pillow;

Figure 2 is a fragmentary vertical cross-sectional view of the combined air mattress and pillow taken on line 2—2 of Figure 1;

Figure 3 is a top plan view of the device shown in Figure 1;

Figure 4 is an enlarged plan view of a portion of the device shown in Figure 1, illustrating the manner in which the seams thereof are arranged to minimize the strain placed on sheet material adjacent the interconnecting passages between the pockets in the bed and the compartments in the pillow;

Figure 5 is a fragmentary vertical cross-sectional view of the combined air mattress and pillow taken on line 5—5 of Figure 1;

Figure 6 is a top plan view of an inflatable mattress embodying the invention;

Figure 7 is an enlarged plan view of a portion of the device shown in Figure 6, illustrating the seam arrangement which minimizes the strain placed on sheet material adjacent the passage that interconnects the inflated pockets; and

Figure 8 is an enlarged vertical cross-sectional view of a portion of the device shown in Figure 6, taken on line 8—8 thereof.

Referring to the drawing for the general arrangement of the invention, it will be seen in Figures 1 to 5 inclusive, to include a base sheet A formed of a resilient airtight material such as one of the present-day polymerized resins commercially available for this purpose, and a superimposed sheet B that is identical in size and material to sheet A. Sheets A and B are rectangular, defined by two parallel side edges 10 and 12, and first and second end edges 14 and 16. Although for the sake of clarity herein sheets A and B are referred to as separate sheets, from the standpoint of manufacturing economy it is preferable to fold a single sheet along a line that serves as edge 14 and provides base sheet A on which sheet B is superimposed.

A first transversely disposed seam C is provided that is located inwardly from edge 14 and includes a number of segments 20 of curved configuration that are concave toward edge 14. These segments 20 are connected by a number of rounded lobes 22 that are convex toward edge 14. Seam C is formed by bonding together portions of the interior surfaces of sheets A and B by heat or other suitable means. Two second longitudinally extending seams D and E are also provided which bond the portions of sheets A and B together that are situated adjacent edges 10 and 12, and a third seam F bonds portions of sheets A and B together that are adjacent the second end edges 16.

A fourth group of parallel, laterally spaced seams G are provided that bond portions of the interior surfaces of sheets A and B together. These seams extend from third seam F to points 24 adjacent the lobes 22. Points 24 are separated from lobes 22 by air passage spaces 26. When the mattress is inflated by use of a valve H, as will hereinafter be explained, seams C, D, E, F and G cooperatively define a number of longitudinally extending pockets J that are interconnected by the air passage spaces 26.

A fifth transverse seam K is formed in sheets A and B that includes a central curved lobe 28 which is convex toward first edge 14. Seam K is located intermediately between seam C and first edge 14. A sixth seam L is formed in substantially the center of sheets A and B that leads from edge 14 to a point 30 adjacent lobe 28 but separated therefrom by an air passage space 32. Edge 14, seams L and K, and portions of seams D and E cooperatively define two laterally separated pillows M and M' that are adapted to be inflated by a valve N (Figure 2) of conventional design.

The alternate form of the invention shown in Figures 6, 7 and 8 is identical to the preferred form just described except that the pillows M and M' are not provided therein. The same numerals used in identifying the components of the preferred form of the invention are employed with this alternate form, but to which for the sake of clarity a prime has been added.

In use, operation of the invention is extremely simple. Taking the alternate form of the device as an example, it is inflated by means of the valve H'. The seams C', D', E', F' and G' bond sheets A' and B' together in such a manner that when inflated, a mattress configuration is created. Each of the points 24' is in substantially transverse alignment with the innermost portions of seam sections 20'. In addition, one of the lobe-defining seams 22' is situated outwardly from each point 24'. Due to the configuration thereof, each seam 24' defines a nose-like shape of relatively small area in the portions of sheets A' and B' adjacent thereto. These nose-like portions project inwardly to points 24' and are subjected to a minimum of strain when this form of the invention is inflated.

As in the case of points 24', the same situation prevails at point 30 and points 24 when the preferred form of the invention is inflated, and accordingly a description thereof need not be repeated herein. It will be apparent that inasmuch as little or no stress is placed on points 24,

30 and 24', there is no tendency for the seams G, L and G' to fail at these points as commonly occurs in previously available air mattresses of this type.

While the forms of the present invention have been described herein as embodying a predetermined number of air pockets and seams, it is to be understood that the manufacture of the device is in no way limited to any particular number of seams or pockets, but may be varied at the option of the manufacturer without in any way departing from the inventive concept.

Although my invention is fully capable of achieving the results and providing the advantages hereinbefore mentioned, it is to be understood that it is merely the presently preferred embodiment thereof, and that I do not mean to be limited to the details of construction above described other than as defined in the appended claim.

I claim:

In an inflatable air mattress comprised of opposed rectangular sheets of sealable flexible material sealed together airtight about their periphery and also sealed to each other by longitudinally extending, laterally spaced, parallel seams that terminate short of a first end of said sealed periphery, the improvement wherein a first transversely disposed seam seals said sheets together and is intermediately disposed between said first end and the ends of said seams adjacent thereto, said first seam being of curved configuration and defined by a plurality of transversely disposed curved segments that are concave toward said first end and a plurality of curved lobes aligned with said longitudinally extending seams that are convex toward said first end, said lobe portions of said first seam cooperating with the ends of said longitudinally extending seams adjacent thereto to define a plurality of curved air passages that connect interior confined pockets defined by said sheets between said longitudinally extending seams, with said sheets when said mattress is inflated assuming a configuration in which a plurality of elongate, parallel, laterally spaced shapes are defined which curve outwardly in convex configuration along the length thereof except adjacent said lobes where said sheets assume creased shapes which place the ends of said longitudinally extending seams adjacent said lobes under no greater stress than the balance of said longitudinally extending seams.

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