

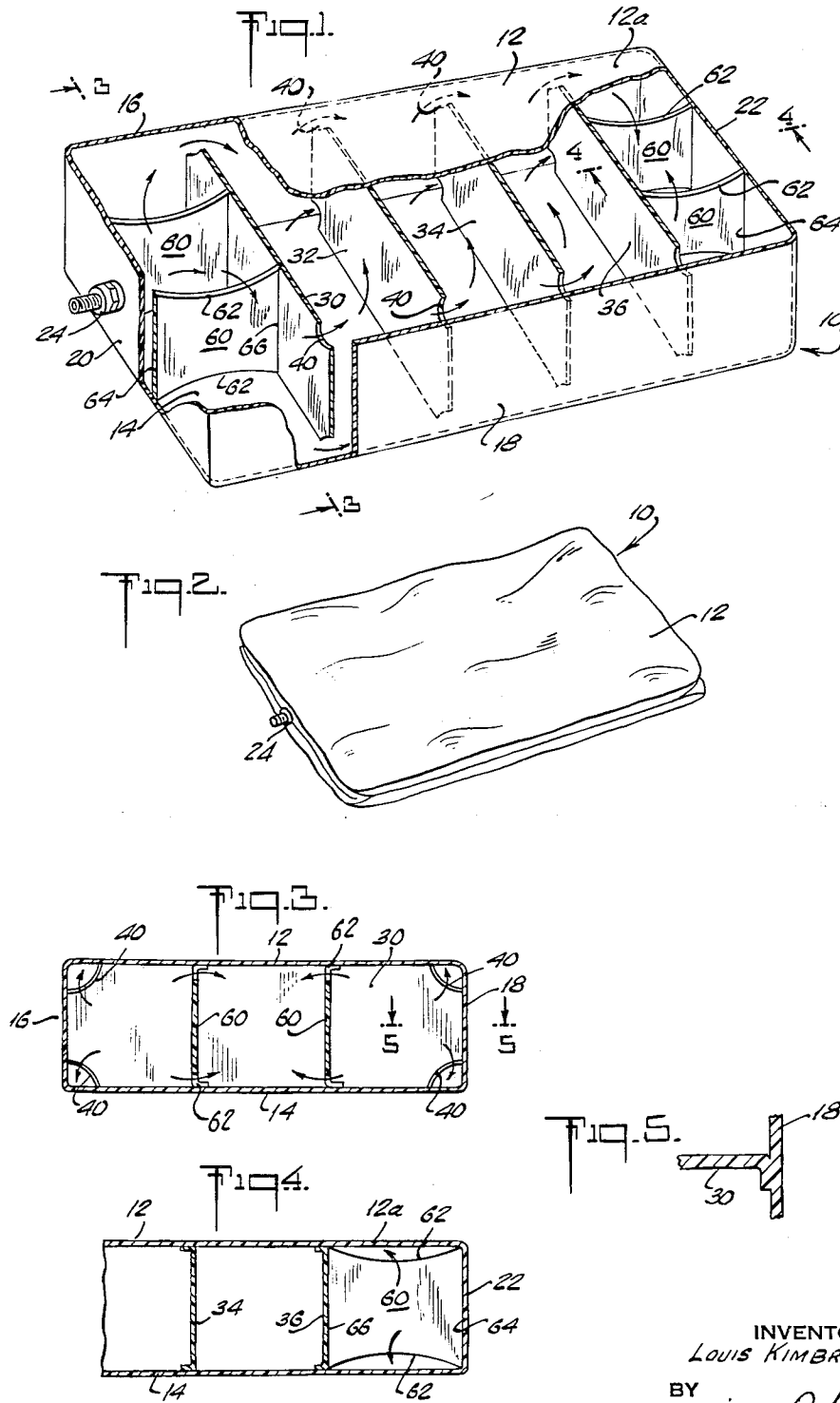
April 17, 1956

L. KIMBRIG

2,741,780

INFLATABLE MATTRESS CORE

Filed March 31, 1953



INVENTOR
LOUIS KIMBRIG
BY
William R. Liberman
ATTORNEY

1

2,741,780

INFLATABLE MATTRESS CORE

Louis Kimbrig, Brooklyn, N. Y.

Application March 31, 1953, Serial No. 345,856

2 Claims. (Cl. 5—348)

The present invention relates to inflatable cores for mattresses, cushions, pillows and the like. While it is not to be so limited, the present invention will be hereinafter described in relation to its application to mattresses. The cover usually applied over these cores is not here-involved.

The main object of the present invention is to provide a new and useful inflatable core for mattresses and the like.

Many different types of inflatable cores have been provided in the past, and while many thereof have been useful to a limited extent, they have in the main been unsatisfactory for a variety of reasons. Among such reasons have been the following defects: outward bulging at the sides and ends; upward bulging of the top; lack of definition at the side edges. The article of the present invention eliminates these and other defects.

An associated main object of the present invention is the provision of an inflatable core for mattresses or the like having a plurality of compartments and air communication therebetween, the communication between certain of the compartments extending along the sides, at the top and bottom thereof, and the communication between others extending across the top and bottom of the core in from the ends thereof.

Another object of the present invention is the provision of an inflatable core for mattresses and the like having an air inlet and composed of a plurality of compartments extending the full width and transversely of the core throughout the body thereof and a plurality of compartments extending lengthwise of the core at the ends thereof.

Still another object of the present invention is the provision of an inflatable core for mattresses and the like having an air inlet and composed of similarly sized and shaped top and bottom panels, vertically spaced-apart by side, front and back panels, a plurality of vertically extending partitions interposed between the top and bottom panels, certain of which partition members are bonded to the top, bottom and side panels, and others of which partition members are bonded to the front and back panels and to first referred to partitions, and air communication between the compartments defined by the panels and the partitions.

Still another object of the present invention is the provision of an inflatable core for mattresses and the like having an air inlet and consisting of generally rectangularly shaped, vertically spaced-apart top and bottom panels, a pair of horizontally spaced-apart side panels and horizontally spaced-apart front and rear panels connecting the top and bottom panels, a first plurality of horizontally spaced-apart, vertically extending partitions interposed between the top and bottom panels and bonded thereto and to side panels, a second plurality of vertically disposed, horizontally spaced-apart partitions, extending at right angles to the first plurality of partitions and interposed between the top and bottom panels and bonded by one side thereof to either the front or rear panels and by the other side thereof to one of the first plurality

2

of partitions, and air communication between the compartments defined by the partitions.

Other, further and more specific objects of the present invention will be recited below, in connection with the following description of an illustrative embodiment thereof.

In the drawings annexed hereto and forming a part hereof,

Figure 1 is a perspective view of one form of device constructed according to and embodying the present invention, in expanded condition, partly broken away to illustrate interior structural details;

Figure 2 is a perspective view of the core in collapsed condition;

Figure 3 is a section on the line 3—3 of Figure 1;

Figure 4 is a section on the line 4—4 of Figure 1; and

Figure 5 is a section on the line 6—6 of Figure 3.

The core of the present invention is indicated by the reference numeral 10 and comprises a horizontally extending top panel 12 and a horizontally extending bottom panel 14 of identical outline vertically spaced from said top panel 12. Connecting the top and bottom panels 12, 14, at the marginal edges thereof, are vertically extending, horizontally spaced-apart side panels 16, 18 and a front panel 20 and a rear panel 22. The side, front and back panels 16, 18, 20, 22 may be formed of a single, elongated strip, or of separate pieces. Thin, pliable vinyl plastic sheeting has been found to be particularly well adapted for the components of the core of my invention, although other heat sealable, imperforate sheet material may also be used. The upper and lower marginal edges of the side, front and back panels are bonded or sealed in the usual manner to the outer edges of panels 12, 14, and the adjacent ends of the side, front and back panels are bonded or sealed to each other to complete the shell of the core. A valve as 24 is mounted in front panel 20 in order that air or any other suitable gas may be fed into and retained within the core or permitted to escape from the core.

Within the core, I dispose a first plurality of vertically disposed and horizontally spaced apart partition members as 30, 32, 34, 36, extending the full width of the core from side panel 16 to the side panel 18. Four partitions are shown but, as will readily be understood more may be provided, or fewer, as desired. The height of these partitions 30 . . . 36 is equal to the height of the side, front and back panels.

The corner portions of each of partition members 30, 32, 34, 36 are cut away, as indicated at 40. Thus, when the straight upper and lower edges of members 30 . . . 36 are bonded to the top and bottom panels 12, 14 respectively, and the straight side edges of the partitions are heat sealed to side panels 16, 18, the openings defined by the cut-away corners 40, 40 will permit the flow of air past the several partitions. As illustrated in Figure 1, the endmost partitions 30, 36 are parallel to the front and back panels 20, 22, but spaced inwardly therefrom.

Within each of the compartments defined by the front wall 20 and the first partition 30, and by the rear wall 22 and the last partition 36, I dispose a second plurality of partition members 60, 60, also vertically arranged and at right angles to the first plurality of partitions. This second set of partitions comprises strips of the same vinyl plastic material, the top and bottom edges 62, 62 of which are inwardly curved. The ends of strips 60, 60 are perfectly straight, and of height equal to that of the side, front and back panels. One end of each strip 60, as 64, is bonded either to the front or back panel 20 or 22 and the other end thereof as 66 is bonded to the first or last partition member 30 or 36.

As seen in Figure 5, the edges of the partitions are

disposed flatly against the body of the panel with which it is heat-secured.

When the two sets of partition members have been secured as above described, the core will contain a plurality of compartments extending transversely thereof through the body portion. Each end of the core will be divided into a plurality of smaller compartments. As air is introduced through valve 24 into the particular end compartment, it will bleed therefrom over the top and bottom arcuate edges 62, 62 of the partition members 60 into the adjacent end compartments, from which it will flow successively into the transversely extending compartments via the corner cut-outs 40, 40, thence into the smaller compartments at the other end of the core until the air pressure is stabilized at the desired amount. The air bleed passageways along the upper and lower side edges of the core serve to keep the side edges firm. The provision of the arcuate edges 62, 62 in the compartments at the ends of the core reduces the relative vertical support and these compartments will be slightly more yieldable than the transverse compartments.

The above detailed securement of partitions 30, 32, 34, 36 to the top panel 12, the bottom panel 14, and the side panels 16, 18 ensures the rectangularity of the core when viewed in transverse section, as in Figure 3, since the top and bottom panels, and the side panels will be firmly held under restraint by the partitions 30 . . . 36. The provision of the air passages at the corners of these partitions ensures the firmness of the core edges when the same is fully inflated. The top panel 12 will be flat lying throughout the body of the core and the side, front and back panels 16, 18, 20, 22.

The partition members 60, 60 of the second set are unsecured to the top or bottom panels, as illustrated in Figure 4. Thus, when the core is inflated, there will be a resilience or increased cushioning effect at the ends of the core as at 12^a, 12^a. This resilience at the ends of the core is a desirable feature because when used, for example, as a bed mattress, the pillow is normally disposed at an end of the mattress and the head rested thereon.

Having now described my invention, what I claim and desire to secure by Letters Patent is:

1. An inflatable core for mattresses and the like having an air valve and comprising similarly shaped top and bottom panels of air-impervious material; side, front and back panels bonded to and vertically spacing apart the top and bottom panels, a first plurality of elongated, horizontally spaced-apart partition members of air-impervious imperforate material disposed within the core, spaced from the front and back ends thereof and vertically disposed between the top and bottom panels and edge-bonded to the top, bottom and side panels; a second plurality of shorter partition member of air-impervious imperforate material disposed within the core at right angles to the first plurality and also vertically disposed between the top and bottom panels, certain of which partitions of the second plurality are located between and sides edge-bonded to the front panel and

the partition member of the first plurality adjacent to said front panel, and the other partitions of the second plurality are disposed between and sides edge-bonded to the rear panel and the partition member of the first plurality adjacent to said rear panel, the upper and lower outer corners of the first plurality of partitions are notched, to permit air bleeding past the partitions lengthwise of the core at the upper and lower side edges thereof, and the top and bottom edges of the second plurality of partition members are concavely arcuate and unsecured to the top and bottom panels, to permit air bleeding past the partitions of the second plurality transversely of the core and spaced from the front and back edges thereof.

2. An inflatable core for mattresses and the like having an air valve and comprising rectangularly shaped top and bottom imperforate, air-impervious panels; elongated, rectangular side, front and back panels of imperforate, air-impervious material bonded to and vertically spacing apart the said top and bottom panels; a first set of elongated, rectangular partition members of imperforate, air-impervious material each substantially as long as the front and back panels and having the upper and lower corners thereof cut away, said first set being disposed within the core and spaced from the front and back thereof and vertically arranged in horizontally spaced-apart relationship between the top and bottom panels and edge-bonded thereto and to the side panels to define a first set of compartments each extending the full width of the core; a second set of partitions disposed within the core at the ends thereof at right angles to the first set and to the front and back panels, said second set also being vertically disposed between the top and bottom panels in horizontally spaced-apart relationship; certain of the partition members of the second set being vertically edge-bonded to the front panel and the partition member of the first set first adjacent thereto and otherwise unsecured, the other partitions of the second set being vertically edge-bonded to the rear panel and the partition member of the first set adjacent thereto and otherwise unsecured to define a second set of compartments at both ends of the core, the air bleeding into, through and out of the first set of compartments past the cut-away upper and lower corners in the first set of partition members, and through and out of the second set of compartments over the unsecured top and bottom edges of the second set of partition members and in from the front and back upper and lower edges of the core.

References Cited in the file of this patent

UNITED STATES PATENTS

585,834	Ruth	July 6, 1897
1,985,432	Tucker et al.	Dec. 25, 1934
2,614,272	Morner	Oct. 21, 1952
2,691,179	Kann	Oct. 12, 1954

FOREIGN PATENTS

313,023	Great Britain	June 4, 1929
---------	---------------	--------------