US 20060117486A1

(19) **United States**

(12) **Patent Application Publication** (10) **Pub. No.: US 2006/0117486 A1**

Clark et al. (43) **Pub. Date: Jun. 8, 2006**

(54) **MATTRESS REPAIR APPARATUS**

(76) Inventors: **Ted D. Clark**, San Diego, CA (US); **Lorrin Meronoff**, Carlsbad, CA (US)

Correspondence Address:
RICHARD D. CLARKE
LAW OFFICE OF RICHARD D. CLARKE
3755 AVOCADO BLVD., #1000
LA MESA, CA 91941-7301 (US)

(21) Appl. No.: **11/293,989**

(22) Filed: **Dec. 5, 2005**

Related U.S. Application Data

(60) Provisional application No. 60/633,285, filed on Dec. 3, 2004.

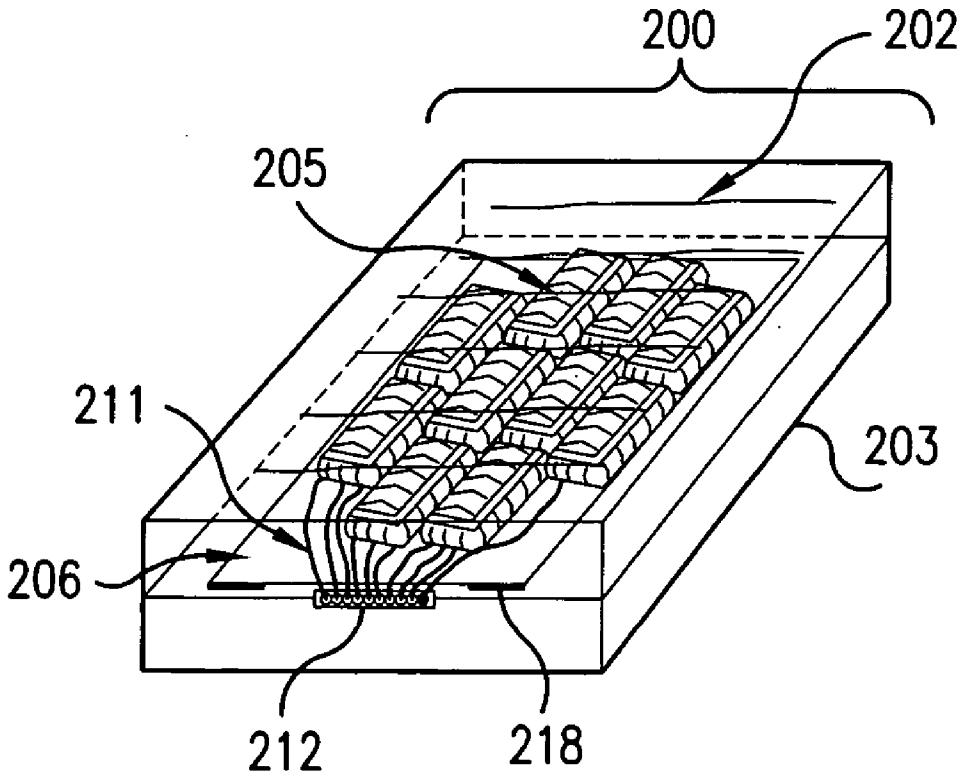
Publication Classification

(51) **Int. Cl.**
A47C 31/00 (2006.01)
A47C 27/10 (2006.01)

(52) **U.S. Cl.** **5/659**; 5/655.3

(57) **ABSTRACT**

A new apparatus and process for repairing any mattress using inflatable cells that can be folded under each other in order to be able to effectively repair one or more sagging areas of any size mattress. The preferred embodiment has a built in manifold created by joining the top and bottom of two sheets of flexible but air tight material together so as to form a plurality of individual air cells, each with a separate manifold connected to a separate valve means, with all of the valve means being located at a common area at one end of the apparatus.



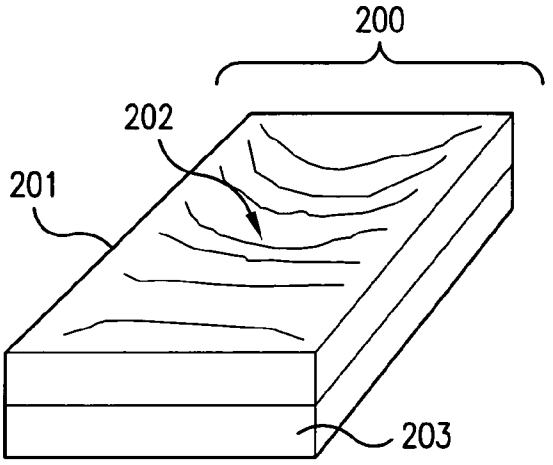


FIG. 1

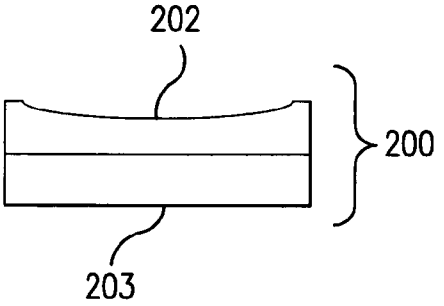


FIG. 2

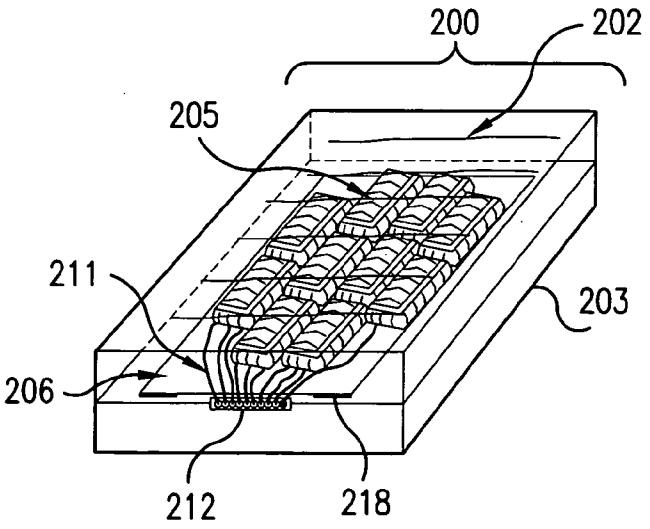


FIG. 3

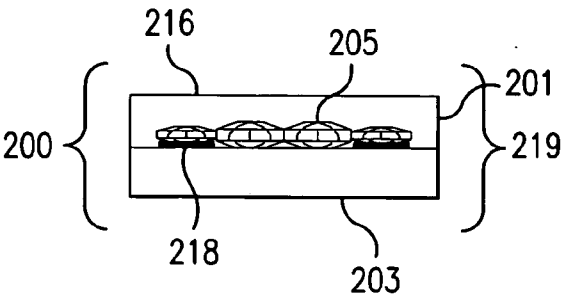


FIG. 4

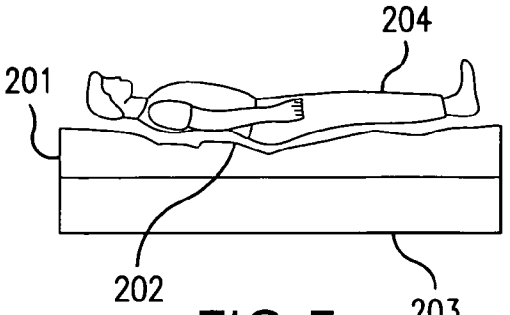


FIG.5

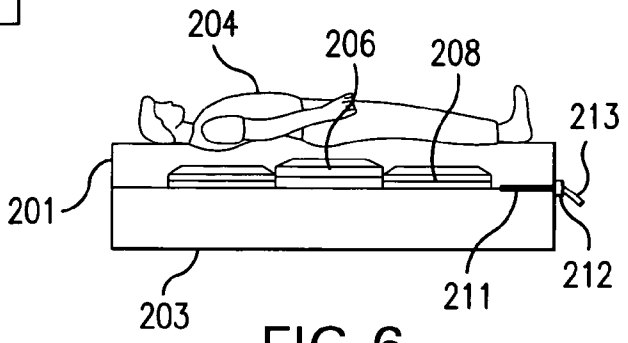


FIG.6

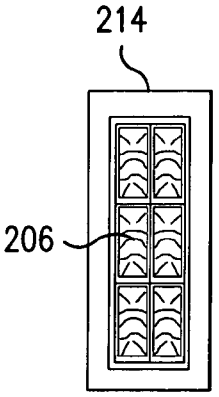


FIG.7

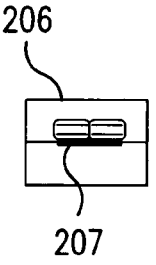


FIG.8

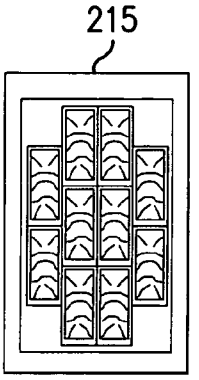


FIG.9

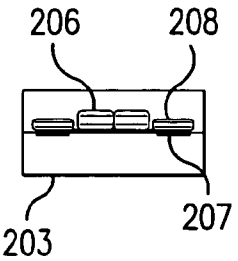


FIG.10

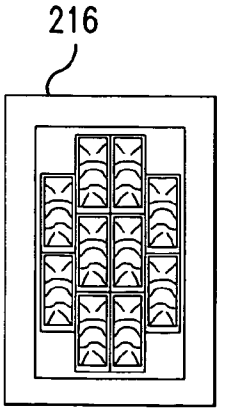


FIG.11

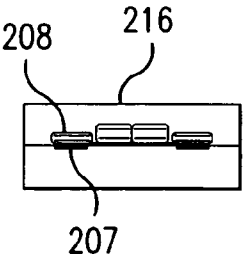


FIG.12

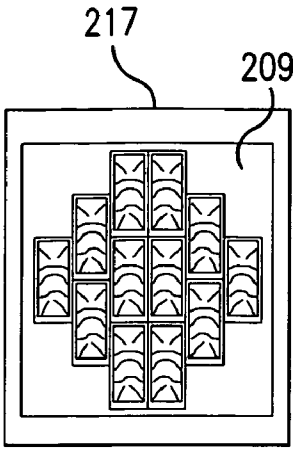


FIG. 13

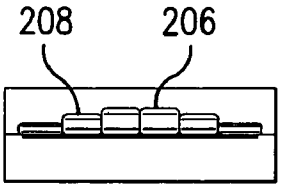


FIG. 14

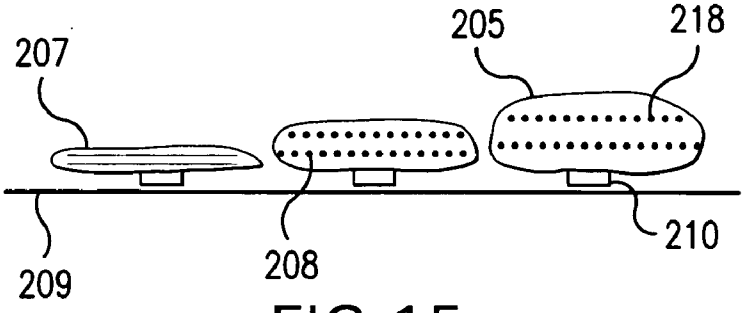


FIG. 15

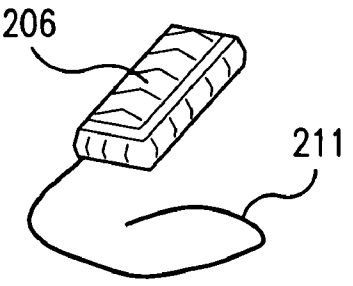


FIG. 16

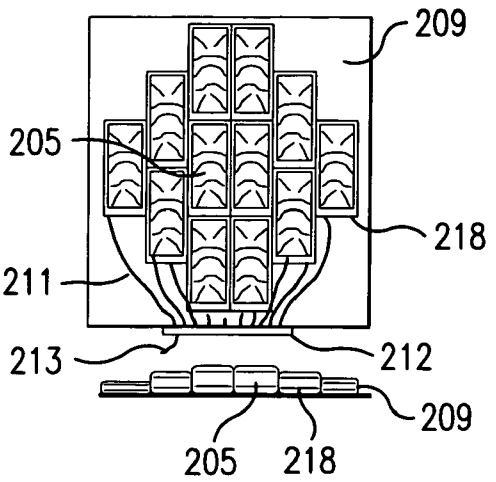


FIG.17

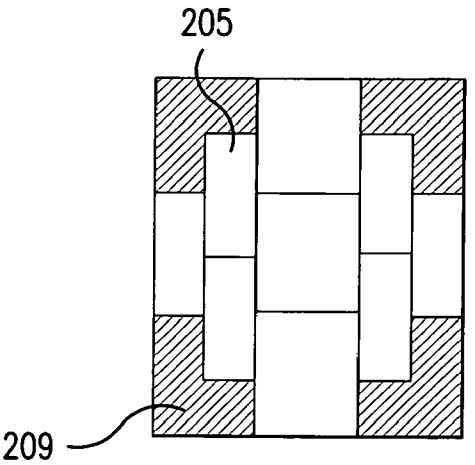


FIG.18

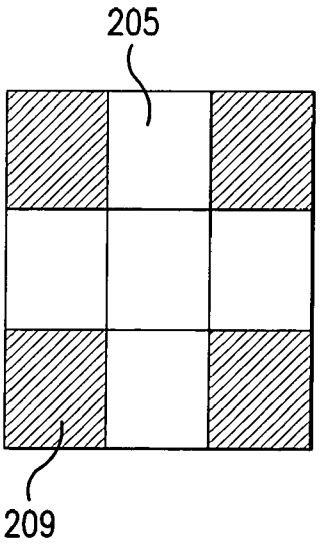


FIG.19

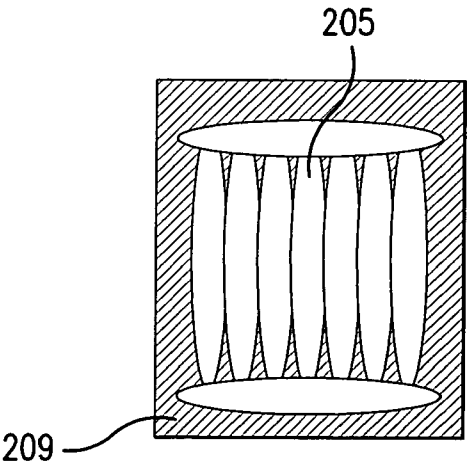


FIG.20

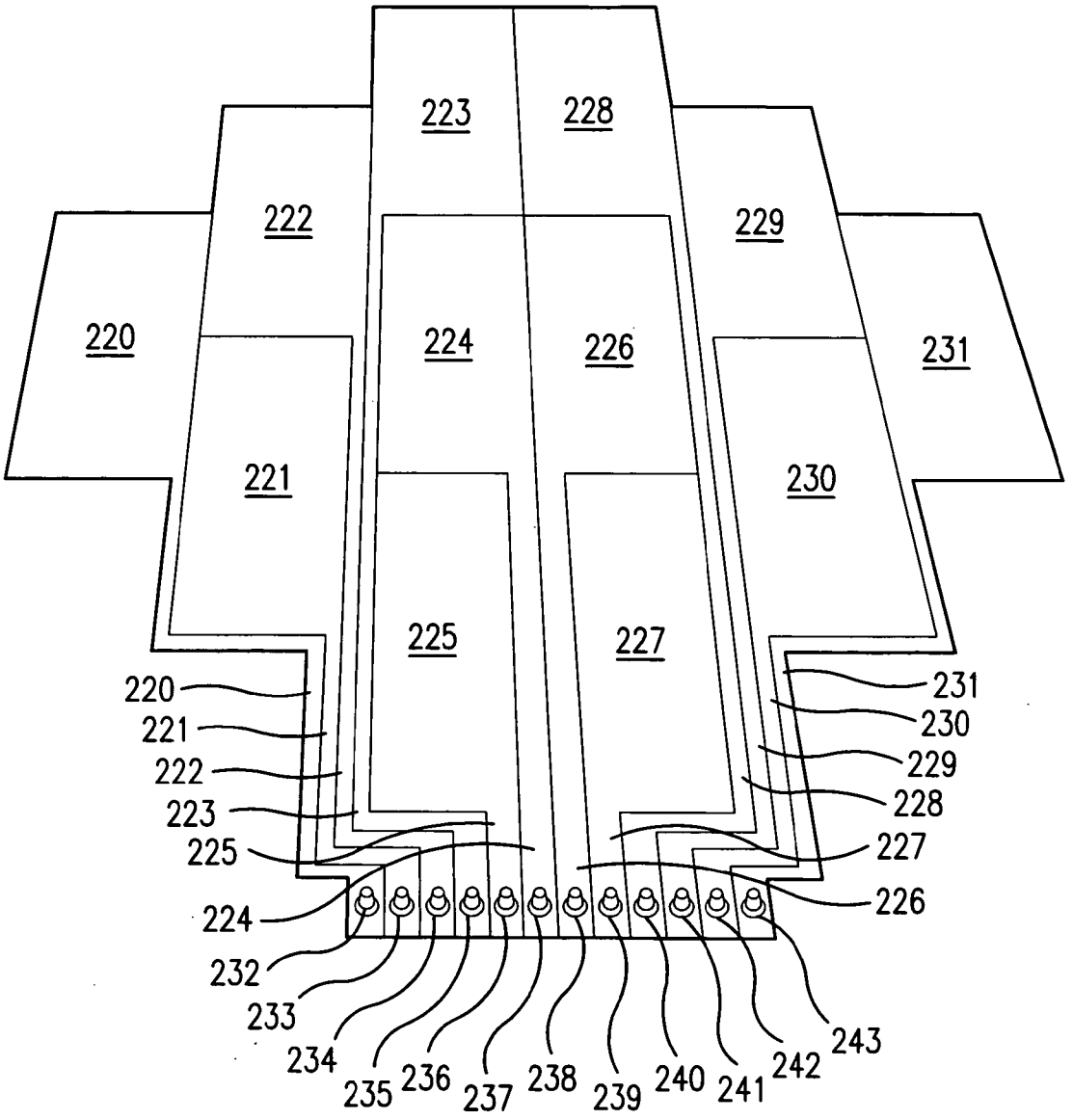

223
228
222
229
220
224
226
231
221
230
225
227
220
221
222
223
225
224
232
233
234
235
236
237
238
239
240
241
242
243
231
230
229
228
227
226

FIG. 21

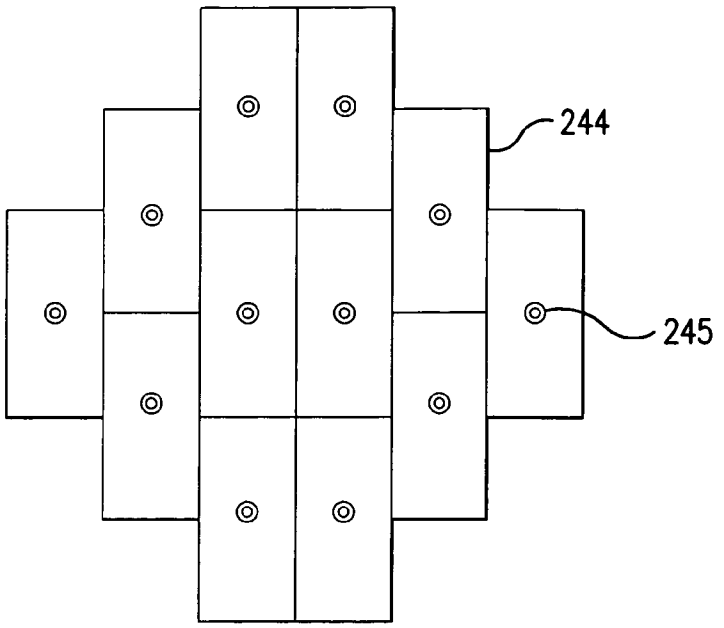


FIG.22A

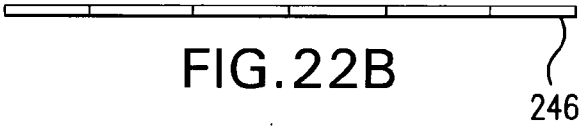


FIG.22B

FIG.22C

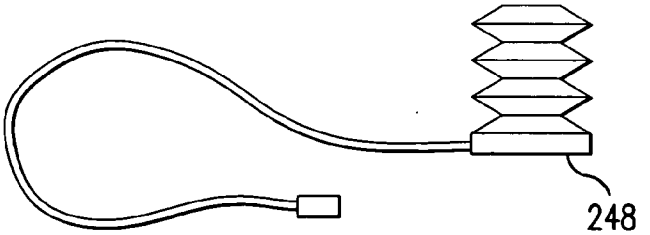


FIG.22D

MATTRESS REPAIR APPARATUS

CROSS REFERENCE TO RELATED APPLICATIONS

[0001] This application is entitled to the benefit of the provisional patent application No. 60/633,285 filed Dec. 3, 2004 with the United States Patent Office.

STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT

[0002] No Federal money or grant was used in the development of this invention.

BACKGROUND OF THE INVENTION

[0003] Sagging mattresses have been a problem for their users far into the distant past. Frequent use of any mattress over time tends to result in uneven areas caused by the increased pressure repeatedly caused in specific areas by parts of the user's body while sleeping on the mattress.

[0004] The sale of new mattresses is a large segment of the retail market. According to conservative estimates, the current retail market for new mattresses in the United States is in excess of seven billion dollars per year. Most households have more than one mattress and sometimes there are several mattresses in a household. The number of mattresses in households in the U.S. is estimated to exceed 200 million. Additionally, tens of millions of additional mattresses are used regularly in hotels and motels for commercial use.

[0005] Mattresses can be of low quality or high quality, but average life expectancy is about 10 years. Sales of new mattresses annually are estimated at between 15 and 20 million units. A typical mattress today may cost hundreds of dollars. Frequently the replacement of a mattress which is sagging or has become uncomfortably uneven is prohibitively expensive for many consumers. In some cases it may not be viable as an option, such as when the mattress is rented from a landlord as part of a furnished apartment.

[0006] Unlike fashion or technologically driven industries such as the automotive, electronics, or clothing industry, people tend to avoid purchasing a mattress unless there is a real need to do so. Many people replace their mattress only when it becomes uncomfortable. The primary reason a mattress becomes uncomfortable is that it begins to sag or sink, often towards the center but often at other points as well, depending upon the number of persons using the mattress, their weight distribution, the support under the mattress, and other contributing factors. This occurs because weight distribution eventually exerts enough pressure on the inner components of a mattress to create a depression or weak spot. The timeframe for this sagging to take place is quite varied. Some consumers find that their mattresses hold integrity for quite a long time, while many others have a problem with sagging after just a year or two, or even less.

[0007] There are very limited remedies for a sagging mattress. Some people have put boards under their mattresses, but this doesn't restore the original shape and provide adequate support. In some cases, mattresses can be sent back to a manufacturer for repairs. However, the costs of shipping and the work entailed with repair can be quite significant. Heretofore, actual repair of mattresses has generally required that the mattress be returned to a facility with heavy duty sewing machines, and that the mattress be opened up and repaired, then sewn back up. This remedy is also largely ineffective because most people cannot be without a mattress for any length of time.

[0008] Information relevant to attempts to address these problems can be found in U.S. Pat. Nos. 6,871,369, 6,665,898, 6,098,223, 5,502,855, 5,533,220, 4,745,645, and Patent Application Nos. 20050172412, 20030172412, and 20030024051. However, each one of these references suffers from one or more of the following disadvantages:

[0009] 1) Some other remedies only place a single inflatable chamber or a relatively small footprint under a sagging mattress. This will support a mattress only in one area to the exclusion of other areas that may require lifting support. To address only one sagging center of a mattress with one or a small number of lobes clustered together in a small footprint ignores problems of multiple sagging areas in large mattresses. Furthermore, a single small footprint can create a wobbly condition and instability over the repair site. Even when a multitude of lobes is used, if these designs do not separately inflate each lobe, such devices are not truly customizable. When pressure is exerted downward, each lobe will have the same amount of pressure in it;

[0010] 2) Others require multiple types and different sizes of elements to be chosen and inserted under the mattress. To have to install different size elements to repair a mattress is complicated and confusing for consumers;

[0011] 3) Unlike the present apparatus, other remedies cannot be efficiently used to fix all sizes of mattresses and types of sagging problems. Some other remedies use a convex cross-sectional shape that is thicker in the center region and gradually becomes thinner near the edges. This is a "one solution serves all" remedy which does not allow as much customization as the present invention;

[0012] 4) With some other remedies, individual air cells must be manufactured and assembled in the final product, increasing manufacturing costs significantly over the instant invention;

[0013] 5) The inserts used with some remedies are individual pieces of rigid material which must be adjusted laboriously and exactly with the right combination of pieces to complete the repair. Such remedies if used would have to be delivered in large, bulky packages which are inconvenient for the consumer;

[0014] 6) Baffle systems which are complicated and expensive to manufacture must be installed with some remedies to prevent individual cells from flattening out in unwanted shapes;

[0015] 7) Different size cells stacked on top of each other must be used with some other systems to allow a higher point at one part of the underside of the mattress than another. Stacking cells on top of each other tends to result in slippage, instability and concurrent recurrence of sagging of the mattress attempting to be repaired;

[0016] 8) Other systems use expensive and complicated to manufacture barrier systems to prevent collapse of the inflatable cells to an unusable height.

[0017] 9) Other systems utilize complicated and expensive to manufacture valves, piping systems, fluid exhaust control systems, pressure relief valves, pressure monitoring systems, interconnected ports, regulator control systems, zippers, continuous air or fluid monitoring systems making the system uneconomical to manufacture are used.

[0018] 10) Other systems are only designed to work with fluid and not with air.

[0019] 11) Some are only designed to be used when originally built into the mattress or bed assembly and cannot be used optionally to inexpensively repair a sagging mattress.

[0020] 12) Some systems require springs in the integral design with the inflatable air cells.

[0021] 13) Unlike the preferred embodiment, fill valves on other systems are much more complicated to operate.

[0022] 14) Also unlike the preferred embodiment, other system's manifolds are not integrated into the cells, necessitating separate cumbersome tube systems.

[0023] For the foregoing reasons, there is a need for a better apparatus for repairing sagging mattresses. The current invention will fit a need which is currently not being met. It provides an inexpensive apparatus and method to repair a sagging mattress which has hitherto been unknown. Because new mattresses are very expensive, this new process of repair will make economic sense for many consumers.

[0024] Commercial users such as proprietors of hotels and motels will also find this process for repairing sagging mattresses an improved cost saving alternative to replacing worn mattresses.

SUMMARY OF THE INVENTION

[0025] This application is for a new apparatus and process for repairing mattresses using inflatable sections that can be folded under each other in order to be able to effectively repair any size mattress. The preferred embodiment is created by joining the top and bottom of two sheets of flexible but air tight material together so as to form individual air cells, each with a separate manifold for inflation, all of which are connected to a common area at one end of the apparatus. This enables the repair process to be accomplished faster and more accurately on any size mattress, allows one size of apparatus to be able to repair any mattress, and comprises a device which is simpler and more economical to manufacture than any currently available.

BRIEF DESCRIPTION OF THE DRAWINGS

[0026] **FIG. 1** illustrates an isometric view of a typical sagging mattress bed assembly.

[0027] **FIG. 2** illustrates an end view of a typical sagging mattress bed assembly.

[0028] **FIG. 3** illustrates an isometric view with the mattress repair apparatus and process in use.

[0029] **FIG. 4** illustrates an end view of a sagging mattress with the repair apparatus and process in use.

[0030] **FIG. 5** illustrates a side view of a typical sagging mattress in use.

[0031] **FIG. 6** illustrates a side view of a typical sagging mattress with the repair apparatus and process in use.

[0032] **FIG. 7** illustrates a top view of a twin size mattress with the repair apparatus and process in use.

[0033] **FIG. 8** illustrates an end view of a twin size mattress with the repair apparatus and process in use.

[0034] **FIG. 9** illustrates a top view of a full size mattress with the repair apparatus and process in use.

[0035] **FIG. 10** illustrates an end view of a full size mattress with the repair apparatus and process in use.

[0036] **FIG. 11** illustrates a top view of a queen mattress with the repair apparatus and process in use.

[0037] **FIG. 12** illustrates an end view of a queen size mattress with the repair apparatus and process in use.

[0038] **FIG. 13** illustrates a top view of a king size mattress with the repair apparatus and process in use.

[0039] **FIG. 14** illustrates an end view of a king size mattress with the repair apparatus and process in use.

[0040] **FIG. 15** illustrates filled, partially filled, and unfilled air cell sections.

[0041] **FIG. 16** illustrates an isometric view of an inflatable section removed from a mattress with its air fill line attached.

[0042] **FIG. 17** illustrates inflated sections arranged on a mat inflated at different levels.

[0043] **FIGS. 18, 19**, and **20** illustrate alternate inflatable assemblies using different size geometric shapes and arrangement of inflatable sections.

[0044] **FIG. 21** illustrates an isometric view of the preferred embodiment of the apparatus manufactured using two sheets of impervious material joined to form a plurality of separately inflatable air cells, each with its own air channel for inflation leading to a separate outlet with a valve at one end of the apparatus. The cells and manifolds are all arranged so that the apparatus can be folded along straight lines so as to fit under any size mattress.

[0045] **FIG. 22A** illustrates a top view of the apparatus manufactured using two sheets of impervious material joined to form a plurality of separately inflatable air cells, each with its own valve directly on each separate inflatable air cell itself. The cells and manifolds are still arranged so that the apparatus can be folded along straight lines so as to fit under any size mattress.

[0046] **FIG. 22B** illustrates cross-section side view of the apparatus manufactured using two sheets of impervious material joined to form a plurality of separately inflatable air cells, when it is uninflated.

[0047] **FIG. 22C** illustrates a cross-section side view of the apparatus manufactured using two sheets of impervious material joined to form a plurality of separately inflatable air cells, when it is uninflated.

[0048] **FIG. 22D** illustrates a cross section side view of a typical inflation means for the apparatus or process to inflate

it. Although a hand air pump is shown, any inflation means, whether by hand, foot, or electrical etc. can be used to inflate each cell as required.

DETAILED DESCRIPTION OF THE DRAWINGS

[0049] In **FIG. 1 a** typical mattress bed assembly (**200**) contains a mattress (**201**) on top of a box spring assembly (**203**). The sagging portion of the mattress (**202**) is typically in the center of the mattress but it can be in other places and there can be more than one sagging area.

[0050] In **FIG. 2** an end view of a typical sagging mattress bed assembly (**200**) showing the box spring (**203**) and the sagging section (**202**) is shown.

[0051] In **FIG. 3** the inflatable sections (**205**) are shown in place under a restored sagging portion of the mattress (**202**) supported by the box spring (**203**). Also shown are typical examples of the air inflation tubes (**211**) connected to valve means (**212**). Also shown is a section of the inflatable section (**205**) turned under (**218**) to fit a smaller size bed, such as a queen size bed.

[0052] In **FIG. 4** an end view of a restored mattress (**219**) no longer sagging with the inflatable sections (**205**) in use is shown. Also shown is a section of the inflatable section (**205**) turned under (**218**) to fit on a typical queen size bed (**216**).

[0053] In **FIG. 5 a** side view of a typical sagging mattress (**202**) with a resting person (**204**) is shown.

[0054] In **FIG. 6** is shown a repaired mattress with a resting person (**204**) on top while the inflated sections (**206**) and partially inflated sections (**208**) are in use. Also shown are the air inflation tubes (**211**), valve means (**212**), and inflation means (**213**).

[0055] In **FIG. 7 a** top view of a typical twin size mattress (**214**) with the repair apparatus process in use is shown with each of the inflated sections (**206**) placed under the portion of the mattress which is sagging. Several of the uninflated side sections on each side are not visible because they have been folded under the inflated sections (**206**) so as to fit within the typical dimensions of a twin size mattress which is typically 39 inches by 72 inches.

[0056] In **FIG. 8** an end view of a typical twin size mattress with the repair apparatus process in use is shown. Several of the uninflated side sections (**207**) on each side have been folded under the inflated sections (**206**) so as to fit within the typical dimensions of a twin size mattress.

[0057] In **FIG. 9 a** top view of a full size mattress (**215**) with the repair apparatus process in use is shown with each of the variable inflated sections placed under the portion of the mattress which is sagging. Less of the uninflated side sections on each side have been folded under the inflated sections so as to fit within the dimensions of a full size mattress which is typically 54 inches by 72 inches.

[0058] In **FIG. 10** an end view of a typical full size mattress (**203**) with the repair apparatus process in use is shown. Less of the uninflated side sections (**207**) on each side have been folded under the inflated sections (**206**) so as to fit within the typical dimensions of a full size mattress. Because of the larger width of the mat and inflatable sections, typically there are now partially inflated sections (**208**) as well as fully inflated sections (**206**) and un-inflated sections (**207**).

[0059] In **FIG. 11 a** top view of a queen size mattress (**216**) with the repair apparatus process in use is shown with some of the inflated sections placed under the portion of the mattress which is sagging. A smaller proportion of the uninflated side sections on each side have been folded under the inflated sections so as to fit within the dimensions of a queen size mattress which is typically 60 inches by 80 inches. Here the drawing shows the same number of sections being inflated as would be used for a full size mattress but the actual configuration of cells being folded under could change depending upon the actual size of the mattress repair apparatus being used and the actual size of the mattress being repaired.

[0060] In **FIG. 12** an end view of a queen size mattress (**216**) with the repair apparatus process in use is shown with a typical configuration of inflated sections, partially inflated sections (**208**) and uninflated sections (**207**). A smaller proportion of the uninflated side sections (**207**) on each side have been folded under the inflated sections (**207**) so as to fit within the typical dimensions of a queen size mattress. Because of the larger width of the mat and inflatable sections, typically there are now partially inflated sections (**208**) as well as fully inflated sections and uninflated sections (**207**).

[0061] In **FIG. 13 a** top view of a typical king size mattress (**217**) with the repair apparatus process in use is shown with all of the inflatable sections (**206**) and placed under the portion of the mattress which is sagging. All sections are unfolded and inflated as necessary to repair a king size mattress which is typically 76 inches by 82.

[0062] In **FIG. 14** an end view of a king size mattress with the repair apparatus process in use is shown with a typical configuration of inflated sections (**206**) and partially inflated sections (**208**).

[0063] In **FIG. 15 a** cross section of the inflatable sections (**205**) is shown mounted on the anchor mat (**209**) using an anchor means (**210**). A fully inflated section (**205**), partially inflated (**208**), and un-inflated section (**207**) is shown. The inflatable section seams used to form a rectangular section are shown (**218**).

[0064] In **FIG. 16 a** single inflatable section (**206**) with its inflation tubing means (**211**) is shown.

[0065] In **FIG. 17 a** full layout of the inflatable sections on an anchor mat (**209**), an inflation tubing means (**211**) and a valve means (**212**) for inflation by an inflation means such as a hand pump (**213**) are shown.

[0066] In **FIGS. 18 and 19** show alternate sizes of inflatable sections (**205**) and arrangements for folding on an anchor mat (**209**) are shown. All arrangements in **FIGS. 18 and 19** are designed so the unused inflatable air cells can be folded along a linear axis underneath inflated air cells if necessary, to be able to fit the size the apparatus under the mattress being repaired.

[0067] **FIG. 20** shows a design that would not be suitable to use because there would be no straight axis lines upon to which to fold uninflated air cells under ones to be used.

[0068] In **FIG. 21** the current preferred embodiment is shown. Each inflatable air cell (**220**, **221**, **222**, **223**, **224**, **225**, **226**, **227**, **228**, **229**, **230** and **231**) formed by joining the two sheets of plastic or vinyl is shown, as is the joining together of these two sheets of material to form each air cell's connecting manifold for inflation. Each cell's manifold connecting to each air cell's own valve means (**232**, **233**, **234**, **235**, **236**, **237**, **238**, **239**, **240**, **241**, **242**, **243**) is also shown.

[0069] In **FIG. 22A** another embodiment is shown with each separately inflatable air cell (**244**) having its own separate air valve (**245**) directly on it.

[0070] In **FIG. 22B** the apparatus manufactured using two sheets of impervious material joined to form a plurality of separately inflatable air cells, is shown uninflated (**246**).

[0071] In **FIG. 22C** the apparatus manufactured using the preferred embodiment of two sheets of impervious material joined to form a plurality of separately inflatable air cells, is shown with various air cells (**247**) inflated in one type of possible repair configuration.

[0072] In **FIG. 22D** a side view of a typical inflation means for the apparatus or process is shown. (**248**) Although a hand air pump is shown, any inflation means, whether by hand, foot, or electrical etc. can be used to inflate each cell as required.

DETAILED DESCRIPTION OF THE INVENTION

[0073] The invention described herein is a new apparatus which can be used to quickly repair an uneven mattress at a low cost. It has the ability to both leave certain cells uninflated, as well as to fold unused cells underneath ones being used. This allows it to fit under, and repair any size mattress. As a result, this apparatus can be used with any size mattress that has lost its original shape and is sagging and uncomfortable in one or more spots.

[0074] The apparatus is comprised of a plurality of separately inflatable air cells which can be placed under a mattress directly underneath the sagging or depressed areas of the mattress using a firm foundation such as a box spring. The apparatus has the advantage of being able to repair any size mattress because it can be folded under itself until it fits under the size of mattress to be repaired. When the user places the sagging mattress over the inflatable air cells, and inflates each air cell necessary with an inflation means to a sufficient air pressure necessary to raise the sagging or depressed area of the mattress up to a comfortable level, the mattress is now repaired. The apparatus seals each air cell with a valve means so that the air pressure will remain stable and not lose pressure.

[0075] In the preferred embodiment, the twelve inflatable air cells and the manifolds connecting each air cell to a valve means, are all integrated into the apparatus as one unit made out of only two identical sheets of heavy duty plastic or vinyl joined at the periphery in such a manner as to form the necessary number of air cells and their connecting air manifolds. The two sheets of flexible plastic or vinyl are impervious to gas and fluids so that the air cells are all contiguous to each other on at least one side. In addition, each individual cell has a manifold connecting it to one end of the apparatus where all of the valve means for each air channel are located in close proximity to each other. (**FIG. 21**) This unitary construction allows a simple, inexpensive way to produce the invention by a manufacturing facility. The cells and manifolds are arranged along straight axis lines so that the outer cells can be folded under each other as needed to fit any size mattress. Also, in the preferred embodiment, the valves for sealing of the air in the inflated cells of the apparatus are all located at one end of the apparatus for ease of use and adjustment. This invention is a simple, economical, comprehensive and effective mattress repair apparatus for the end-user.

[0076] The preferred embodiment valve means to use is an inflatable air valve such as is commonly used on inflatable toys, air mattresses and water toys. However the valve means may be any method which can shut off the flow of gas or liquid in order to keep each individual cell at the required state of inflation pressure for the mattress to be most comfortable for the user. The inflatable cells can be inflated by blowing air into them with the user's mouth, by a hand pump means, a mechanical pumping or electrical pumping means, and the valve means used may be a simple on and off valve system, or may be a continuously variable inflation pressure adjustment means.

[0077] Although the present invention has been described in considerable detail with reference to preferred versions above, other versions are possible. For example:

[0078] A box spring does not have to be the firm foundation upon which the apparatus rests. It can also work on a wood foundation, plywood deck or any type of floor that does not puncture the air cells in the apparatus.

[0079] Different sizes, shapes, numbers, geometric configurations and placements of air cells can be used depending upon the size of the mattress or type of repair needed to raise a particular mattress back up to a comfortable level, so long as they form a pattern allowing the unused air cells to be folded under the ones which will be used for the size of the particular mattress being repaired. Different sizes of the apparatus can be formed by folding the unused cells underneath the used cells along pre-formed foldable lines as needed to allow repairs of all sizes and configurations of beds, whether short, tall, and from very small size mattresses to king size or larger.

[0080] The apparatus also has the advantage of being able to have a fluid circulating waterbed heater means installed inside the apparatus thereby enabling the entire mattress to be heated from underneath.

[0081] The composition of the material of which the air cells and the manifolds are made can be of any composition that will be impervious to inert gases or liquids, and which will allow variable inflation pressures while preventing deflation after the individual cells are sealed off.

[0082] In order to both adjust the size, and prevent slippage and movement of the air cells, the cells are contiguously connected to each other on at least one side with pre-formed foldable linear lines allowed by the pattern of the cells. Alternatively, a method of preventing slippage by using an anchoring mat can used. Embodiments of anchoring means can be of several types. A typical embodiment of an anchoring mat means is to anchor by heat sealing or gluing the inflatable cells to the mat in the configuration desired so long as the configuration allows the unused cells to be folded underneath the cells to be used.

[0083] Another way to anchor the air cells would comprise the placing of anti-skid materials between the bottom of the inflatable air cells and the surface of the mat directly below the cells. These can be of various types, including Velcro

fasteners, adhesive strips and squares, or an adjustable barrier around the cells underneath the mattress.

[0084] Therefore the spirit and scope of the appended claims should not be limited to the description of the preferred versions contained therein.

What is claimed is:

1. An apparatus for repairing a sagging mattress comprising:

(a) a plurality of separately inflatable cells made out of a flexible material forming an airtight external skin that encloses an internal volume;

(b) each cell being connected on one or more sides to one or more other separately inflatable cells;

(c) one or more of each separately inflatable cells being oriented along a straight linear axis allowing one or more of the cells to be folded underneath the others if it is not inflated;

(d) each cell having a separate manifold to deliver air to it;

(e) a separate valve means connected to each cell manifold allowing the air pressure in each cell to be adjusted as required to fix any sagging areas of the mattress.

2. An apparatus for repairing a sagging mattress comprising:

(a) a plurality of separately inflatable cells made out of a flexible material forming an airtight external skin that encloses an internal volume;

(b) each cell being attached to a flexible backing;

(c) one or more of each separately inflatable air filled cells attached to the flexible backing being oriented along a straight linear axis allowing one or more of the cells on the flexible backing to be folded underneath the others if it is not inflated;

(d) each cell having a separate manifold to deliver air to it;

(e) a separate valve means connected to each cell's manifold allowing the air pressure in each cell to be adjusted as required to fix any sagging areas of the mattress.

3. An apparatus for repairing a sagging mattress comprising:

(a) two identically shaped sheets of flexible air impervious material placed on top of each other forming a periphery;

(b) the two identically shaped sheets being joined at the periphery so as to be airtight;

(c) the interior portions of the top and bottom two identically shaped sheets being joined together to form a plurality of separately inflatable cells that enclose an internal volume;

(d) one or more of each of these separately inflatable cells being oriented along a straight linear axis allowing one or more of the cells to be folded underneath the others if it is not inflated;

(e) each separately inflatable cell being connected to its own separate manifold to deliver air to it formed by joining interior portions of the top and bottom sheets;

(f) a separate valve means connected to each cell's manifold allowing the air pressure in each cell to be adjusted as required to fix any sagging areas of the mattress.

4. A process for repairing a sagging mattress which comprises the steps of:

(a) inserting a plurality of separately inflatable cells made out of a flexible material forming an airtight external skin that encloses an internal volume underneath the sagging areas of the mattress;

(b) positioning the cells in such a way that any cells that will not need to be inflated to raise up sagging portions of the mattress may be folded underneath the cells that will be needed to raise up sagging portions of the mattress;

(b) folding the cells that will not need to be inflated along a straight linear axis underneath the cells which will be used to lift up the sagging portions of the mattress;

(c) inflating each separately inflatable air cell under each sagging area of the mattress with air using an inflation means through a separate manifold for each cell to a sufficient air pressure necessary to raise the sagging area of the mattress up to a comfortable level;

(d) sealing off each air cell with a valve means on each separate manifold connected to the cell which was inflated so that the air pressure in each air cell being used remains stable.

5. An apparatus for repairing a mattress as recited in claim 1, 2, or **3** in which the manifold for each separate air cell is connected to a valve means which is placed at the same end of the apparatus as all of the other valve means.

6. An apparatus for repairing a mattress as recited in claim 1, 2 or **3**, in which the valve means are located directly on each inflatable air cell itself without using a manifold.

7. An apparatus for repairing a mattress as recited in claim 1, 2 or **3** in which the inflatable cells are inflated with an inert gas rather than air.

8. An apparatus for repairing a mattress as recited in claim 1, 2 or **3** in which the inflatable cells are inflated with a non-reactive fluid rather than air.

9. An apparatus for repairing a mattress as recited in claim 1, 2 or **3** in which the non-reactive fluid is heated by a fluid heater means once the separate cells have been inflated.

10. A process to repair a mattress as recited in claim 4 in which the manifold for each separate air cell is connected to a valve means which is placed at the same end of the apparatus as all of the other valve means.

11. A process to repair a mattress as recited in claim 4 in which the inflatable cells are inflated with an inert gas rather than air.

12. A process to repair a mattress as recited in claim 4 in which the inflatable cells are inflated with a non-reactive fluid rather than air.

13. A process to repair a mattress as recited in claim 4 in which the non-reactive fluid is heated by a fluid heater means once the separate cells have been inflated.

* * * * *