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(54) **SELF-ASSEMBLY AND CUSTOMIZABLE MATTRESS SYSTEM**

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(57)

ABSTRACT

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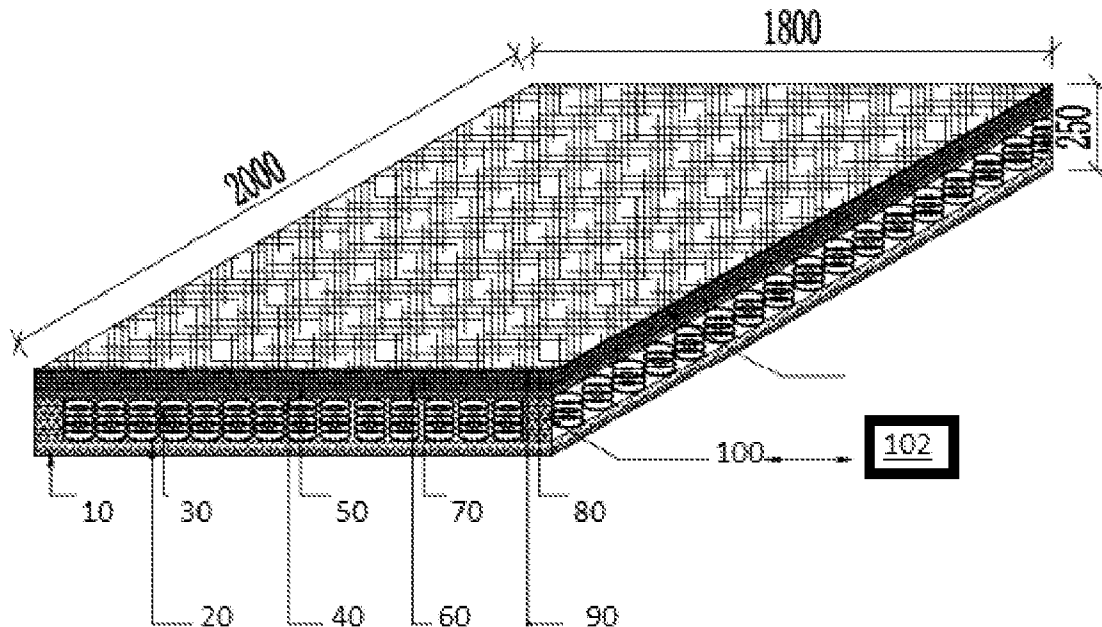
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A self-assembly and customizable mattress system. The mattress system has a bottom sponge layer, a hard composite material layer that is layered above the bottom sponge layer, a surrounding sponge frame that is place above the hard composite material layer, the surrounding sponge frame having hook and loop attachment means that can attach to either a knitted fabric or a zipper, a spring system that is placed within the surrounding sponge frame, at least one hard pressed cotton layer that is placed above the spring system, at least one middle sponge layer that is placed above the hard pressed cotton layer, at least one particle emulsion layer that is placed above the middle sponge layer, a top sponge layer that is placed above the particle emulsion layer, and at least one shell knitted fabric layer, each shell knitted fabric layer having a zipper and the shell knitted fabric layer(s) encompassing the top sponge layer, the sponge frame, and the bottom layer, the shell knitted fabric layer(s) attach to each other using the zippers.



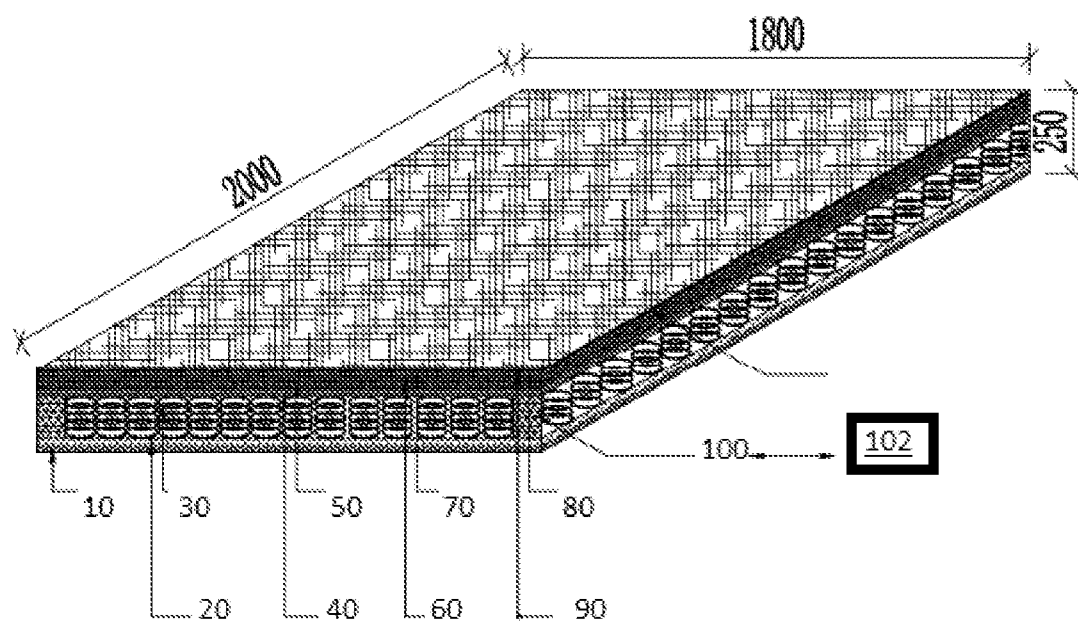
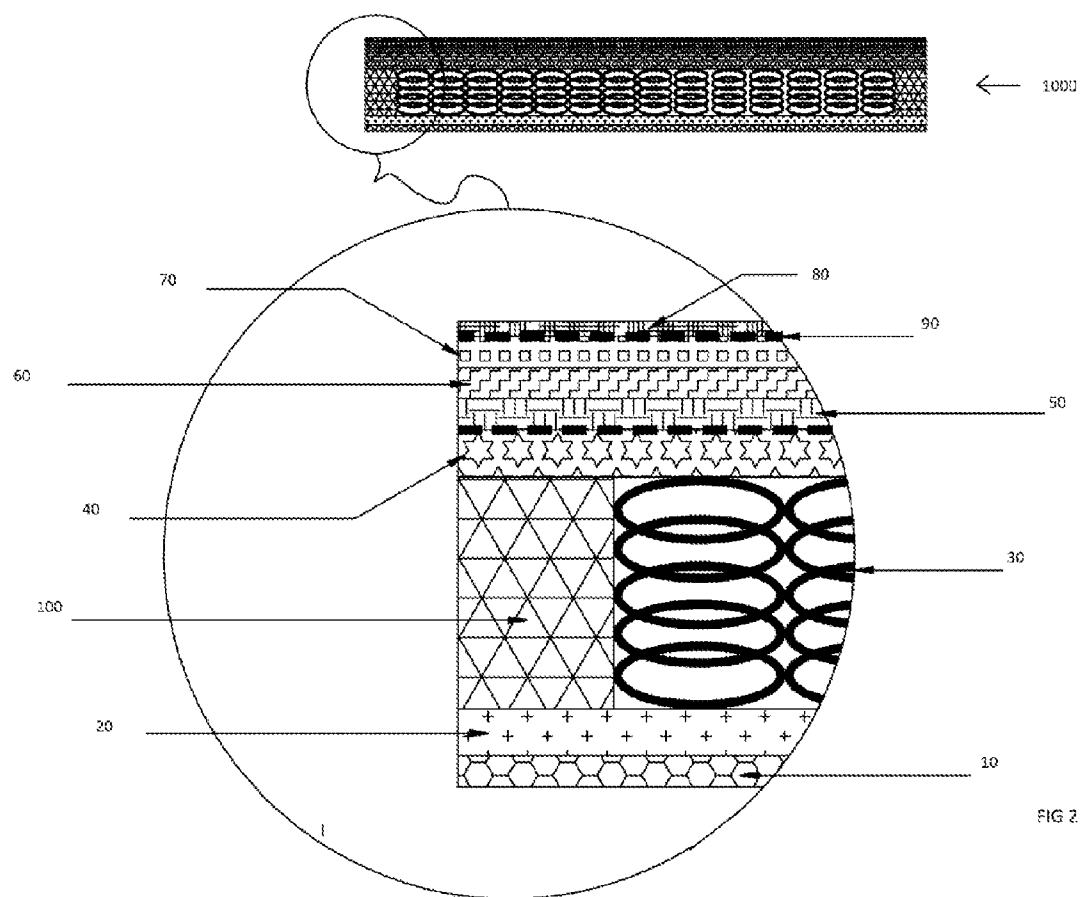


FIG . 1



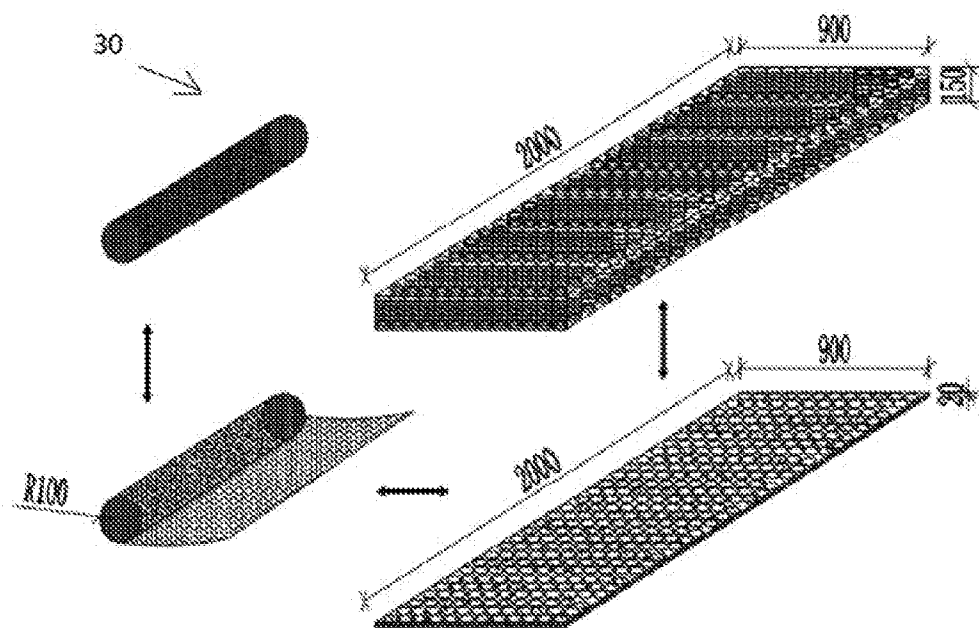


Fig. 3

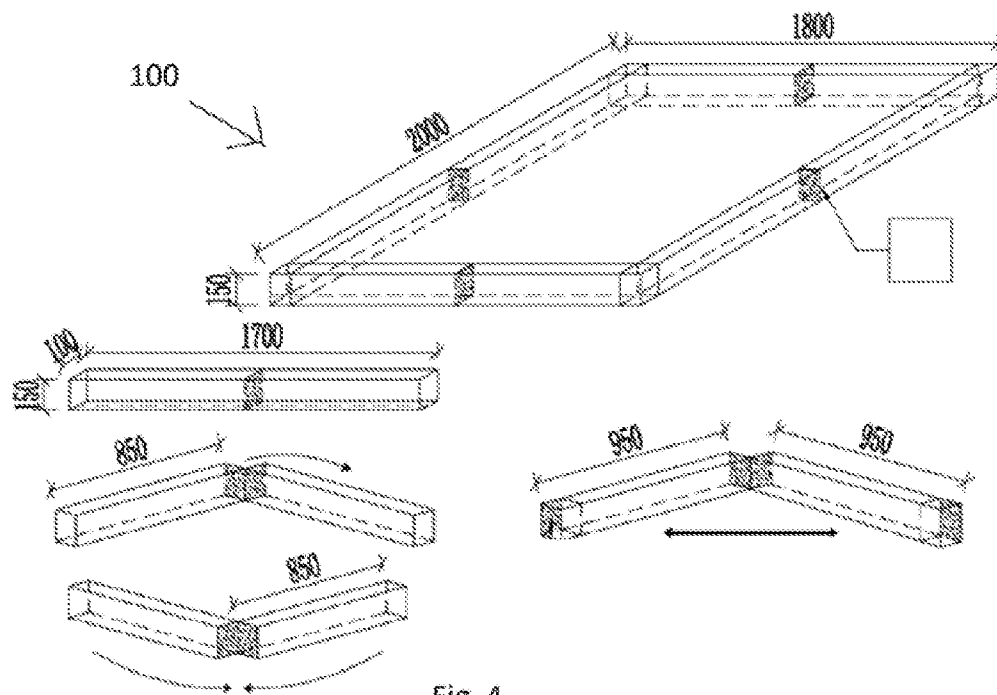
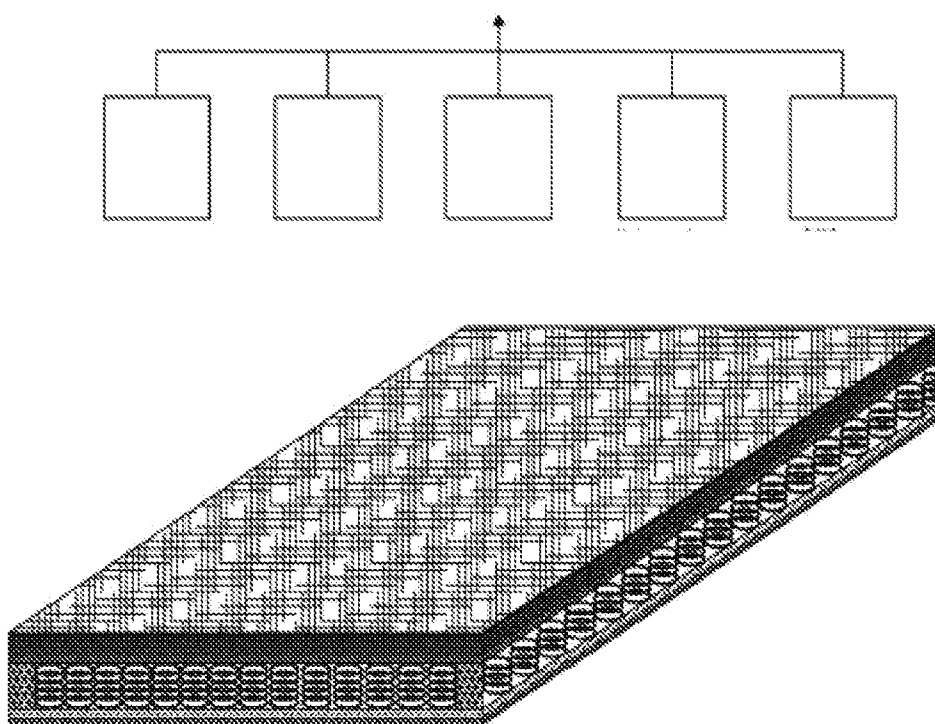


Fig. 5



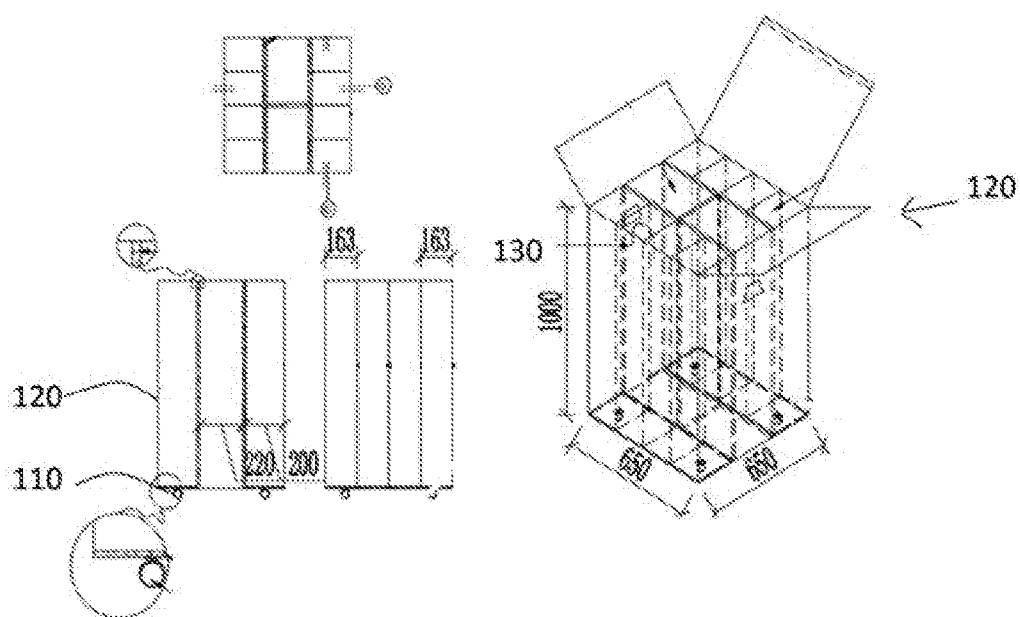


Fig. 6

SELF-ASSEMBLY AND CUSTOMIZABLE MATTRESS SYSTEM

CROSS REFERENCES

[0001] This application is a continuation application that claims the priority to Chinese Patent Application No. 201520010924.x, filed on Jan. 7, 2015, the entire contents of which are incorporated herein by reference.

FIELD OF THE INVENTION

[0002] The present invention is directed to a self-assembly and customizable mattress system that incorporates its packaging box as part of the mattress.

BACKGROUND

[0003] Anyone whom has shipped or moved a mattress understands the difficulty in moving the mattress from point A to point B.

[0004] The difficulty arises because of the flaccidness of the mattress and the size of the mattress. The present invention aims to help solve that problem. The present invention also allows a user to replace elements of the mattress system if an element is damaged or soiled.

[0005] The inventors of the present invention invented a mattress system that will be packed in a packing box that is easily transportable and that will, upon the mattress reaching its point of destination, unfold into being a stabilizing element of the mattress.

[0006] The present invention also provides a system that allows a user of the mattress to control the softness or hardness of the mattress by selectively inserting or withdrawing layers of the mattress system.

[0007] There is a need for a self-assembly and customizable mattress system that will be easy to transport and that will incorporate its packing box into part of the framework of the mattress. The present invention will also allow a user to replace elements of the mattress system if an element is damaged or soiled, as well as it will allow a user to control the firmness of the mattress.

SUMMARY

[0008] The present invention provides a self-assembly and customizable mattress system that will be easy to transport and that will incorporate its packing box into part of the framework of the mattress. The present invention allows a user to replace elements of the mattress system if an element is damaged or soiled, as well as it allows a user to control the firmness of the mattress.

[0009] The self-assembly and customizable mattress system has a bottom sponge layer, a hard composite material layer that is layered above the bottom sponge layer, a surrounding sponge frame that is place above the hard composite material layer, the surrounding sponge frame having hook and loop attachment means that can attach to either a knitted fabric or a zipper, a spring system that is placed within the surrounding sponge frame, at least one hard pressed cotton layer that is placed above the spring system, at least one middle sponge layer that is placed above the hard pressed cotton layer, at least one particle emulsion layer that is placed above the middle sponge layer, a top sponge layer that is placed above the particle emulsion layer, and at least one shell knitted fabric layer, each shell knitted fabric layer having a zipper and the shell knitted fabric

layer(s) encompassing the top sponge layer, the sponge frame, and the bottom layer, the shell knitted fabric layer(s) attach to each other using the zippers.

[0010] The layers of the mattress system can be adjusted to the firmness that the user requires by either placing additional layers of foam, cotton, or emulsion within the system.

[0011] An object of the present invention is to provide a mattress system that can easily be transported and assembled.

[0012] Another object of the present invention is to provide a functional mattress system that all elements of its packaging container can be used to assemble the mattress and move the mattress.

[0013] Yet another object of the present invention is to provide a mattress system that allows a user to replace elements of the system if the elements are damaged or soiled.

DRAWINGS

[0014] These and other features, aspects, and advantages of the present invention will become better understood with regard to the previous description and drawings where:

[0015] FIG. 1 shows a perspective of the mattress system of the present invention;

[0016] FIG. 2 shows an exploded view of the layers of the present invention;

[0017] FIG. 3 shows a perspective view diagram that shows how the spring system of the present invention is compressed and decompressed;

[0018] FIG. 4 shows a perspective view of the surrounding sponge frame of the present invention;

[0019] FIG. 5 shows a perspective view of an embodiment of the present invention;

[0020] FIG. 6 shows the top view, a side view and a perspective view of the packaging box of the present invention; and

[0021] FIG. 7 shows a top plan view of the open packaging box of the present invention and a perspective view of the assembled packaging box.

DESCRIPTION

[0022] As seen in FIG. 1-7, the present invention is a self-assembly and customizable mattress system 1000. The mattress system 1000 comprises of a bottom sponge layer 10, a hard composite material layer 20 that is layered above the bottom sponge layer 10, a surrounding sponge frame 100 that is place above the hard composite material layer 20, the surrounding sponge frame 100 having hook and loop attachment means 102 that can attach to either a knitted fabric 80 or a zipper 90, a spring system 30 that is placed within the surrounding sponge frame 100, at least one hard pressed cotton layer 40 that is placed above the spring system 30, at least one middle sponge layer 50 that is placed above the hard pressed cotton layer 40, at least one particle emulsion layer 60 that is placed above the middle sponge layer 50, a top sponge layer 70 that is placed above the particle emulsion layer 60, and at least one shell knitted fabric layer 80, each shell knitted fabric layer 80 having a zipper 90 and the shell knitted fabric layer(s) 80 encompassing the top sponge layer 70, the sponge frame 100, and the bottom layer 10, the shell knitted fabric layer(s) 80 attach to each other using the zippers 90.

[0023] As seen in FIG. 3, the spring system 30 of the present invention is compressed and rolled prior to placing it within the surrounding sponge frame 100.

[0024] As seen in FIGS. 6-7, the hard composite material layer 20 of the mattress system 1000 of the present invention is made from a packaging box 120 in which the customizable mattress 1000 is shipped. The packaging box 120 has compartments wherein all of the elements of the mattress system 1000 are packaged.

[0025] As seen in FIG. 7, the packaging box of the present invention opens into a platform/composite material layer 20 that is placed above the bottom sponge layer 10.

[0026] As seen in FIG. 6, in an embodiment of the present invention, the packaging box 120 comprises of at least 4 casters 110 and a handle 130.

[0027] In preferred embodiments of the present invention, the sponge layers are comprised of at least one 2 cm sponge.

[0028] The present invention has been designed to allow a user to replace individual elements of the mattress. The invention is made to use hook and loop materials to provide strong attachment means and zippers to secure the fabric from one section to another. The invention is made to allow a user to self-assemble the system without the need of a professional.

[0029] An advantage of the present invention is that it provides a mattress system that is easily transported and assembled.

[0030] Another advantage of the present invention is that it provides a functional mattress system in which the elements of its packaging container can be used to assemble the mattress and move the mattress from point A to point B.

[0031] Yet another advantage of the present invention is that it provides a mattress system that allows a user to replace the elements of the system when the elements are damaged or soiled.

[0032] Although the present invention has been described in considerable detail in reference to preferred versions, other versions are possible. Therefore, the spirit and scope of the present invention should not be limited to the description of the preferred versions contained herein.

What is claimed is:

1. A self-assembly and customizable mattress system, the mattress system comprising:

- a bottom sponge layer;
- a hard composite material layer that is layered above the bottom sponge layer;
- a surrounding sponge frame that is place above the hard composite material layer, the surrounding sponge frame having hook and loop attachment means that can attach to either a knitted fabric or a zipper;
- a spring system that is placed within the surrounding sponge frame;
- at least one hard pressed cotton layer that is placed above the spring system;
- at least one middle sponge layer that is placed above the hard pressed cotton layer;
- at least one particle emulsion layer that is placed above the middle sponge;
- a top sponge layer that is placed above the particle emulsion layer; and
- at least one shell knitted fabric layer, each shell knitted fabric layer having a zipper and the shell knitted fabric layer(s) encompassing the top sponge layer, the sponge frame, and the bottom layer, the shell knitted fabric layer(s) attach to each other using the zippers.

2. The self-assembly and customizable mattress system of claim 1, wherein the spring system is compressed and rolled prior to placing it within the surrounding sponge frame.

3. The self-assembly and customizable mattress system of claim 2, wherein the hard composite material layer of the mattress is made from a packaging box in which the customizable mattress is shipped, the packaging box having compartments wherein all of the elements recited in claim 1 are stored.

4. The self-assembly and customizable mattress system of claim 3, wherein the packaging box opens into a platform that is placed above the bottom sponge layer.

5. The self-assembly and customizable mattress system of claim 4, wherein the packaging box comprises of at least 4 casters and a handle.

6. The self-assembly and customizable mattress system of claim 5, wherein the sponge layers are comprised of at least one 2 cm sponge.

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