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(54) **MATTRESS SUPPORT SYSTEM**

(71) Applicant: **Milica Awshee**, New Windsor, NY (US)

(72) Inventor: **Milica Awshee**, New Windsor, NY (US)

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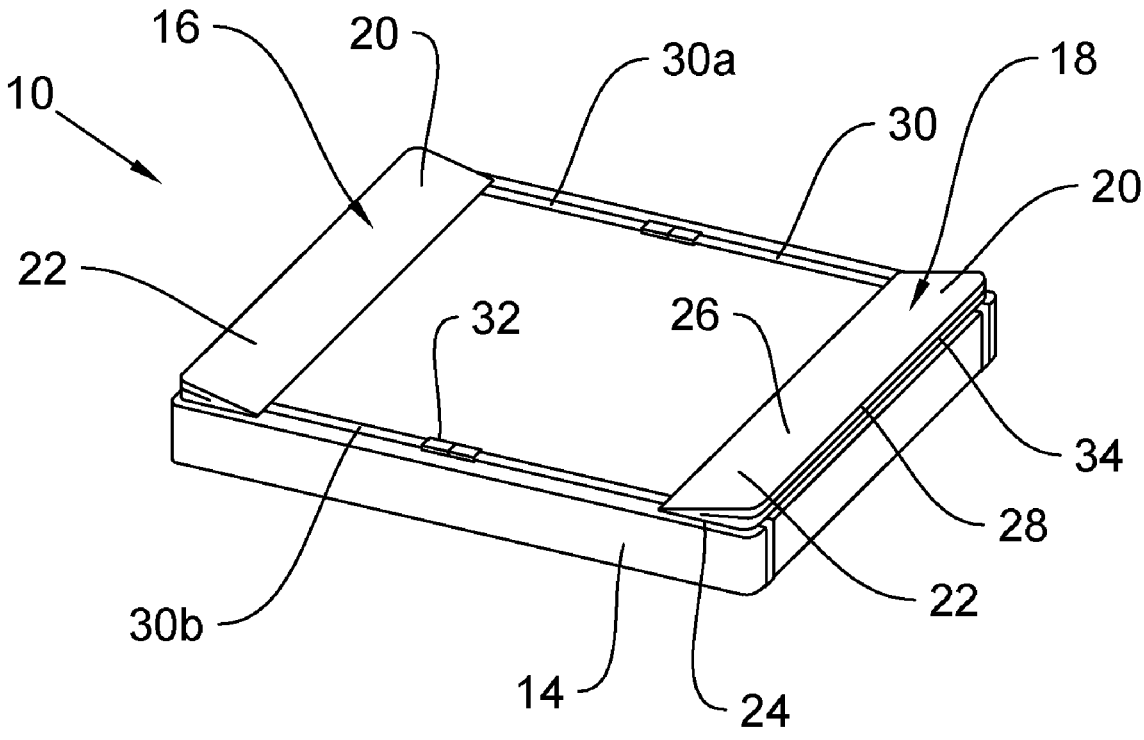
(57) **ABSTRACT**

A mattress support system for raising a portion of a mattress is provided. The mattress support system comprises a triangular-shaped first wedge member and a triangular-shaped second wedge member each having a first end, a second end substantially opposite the first end, a bottom surface, a top surface, and an end surface. At least one strap is mounted between the wedge members. Upon positioning the first wedge member lengthwise along one side edge of the mattress between the mattress foundation and the mattress and upon positioning the second wedge member lengthwise along the other side edge of the mattress, spaced from the first wedge member to an extent of the at least one strap, between the mattress foundation and the mattress the side edges of the mattress are raised relative to remaining portions of the mattress thereby enhancing support comfort of the mattress and inhibiting falling off the mattress.



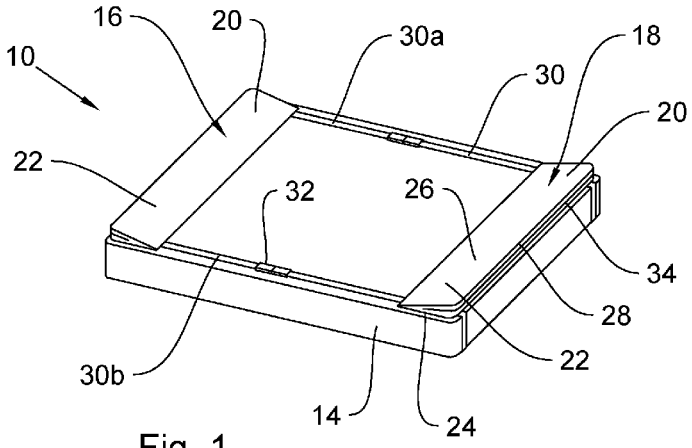


Fig. 1

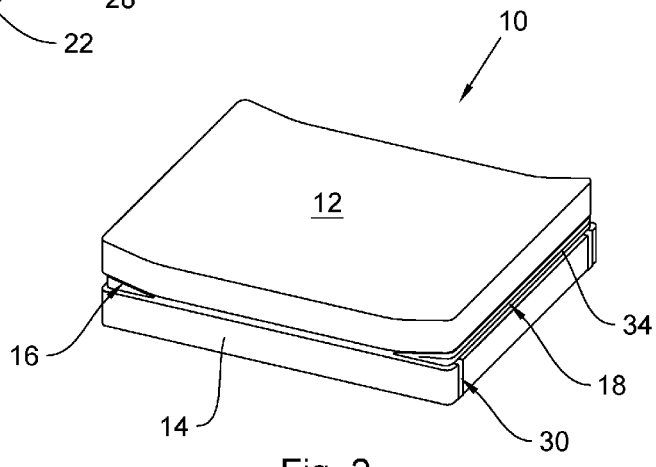


Fig. 2

MATTRESS SUPPORT SYSTEM

CLAIM OF PRIORITY

[0001] This patent application claims priority under 35 USC 119(e) (1) from U.S. Provisional Patent Application Ser. No. 62/300,178 filed Feb. 26, 2016, of common inventorship herewith entitled, "Mattress Raiser" which is incorporated herein by reference as though the same were set forth in its entirety.

FIELD OF THE INVENTION

[0002] The present invention pertains to the field of sleep comfort, and more specifically to the field of a mattress support system enhancing support comfort of the mattress and preventing an individual from falling off the bed during sleep.

BACKGROUND OF THE INVENTION

[0003] Nothing is so good for what ails a person as a good night's sleep, but a good night's sleep is hard to get. Sleep deprivation increases one's stress and reduces productivity. Lack of sleep leads to health problems including fatigue, obesity, high blood pressure, heart disease, a shortened lifespan, suppressed immune systems and depression, and recent studies implicate sleep deprivation in diabetes. Individuals sleep an average of approximately six and one half hours per night almost an hour less than a few decades ago. And if a good night's sleep is hard to get, consider the plight of those individuals, whether elderly, disabled, or young children, for whom the bed itself is a health hazard. Taking a fall from a bed to a floor is a traumatic experience and can cause injury.

[0004] The prior art has put forth several designs for mattress support enhancing forms. Among these are:

[0005] U.S. Pat. No. 6,848,130 to William H. Wilson describes a bed pad wedge system for inhibiting a person from falling out of bed. The system includes a fitted mattress pad fastened to a mattress. Each lateral edge of the fitted pad has pockets located therein that contain foam rubber wedges having the shape of an obtuse triangle. The pockets are installed on an underside of the fitted pad and are facing an outer edge of the mattress. The triangular foam rubber wedges are each encased in a slippery material to aid in installing the wedges in the pockets. A third wedge or triangle is installed in the middle of a mattress between the outer wedges that are located at each edge of the mattress. The wedge system is coverable by standard sheets and bedding.

[0006] U.S. Pat. No. 4,872,228 to Carolyn B. Bishop describes a bed guard for temporary use to reduce the risk of falling out of bed by comprising at least one elongated bolster operatively assembled on top of a conventional mattress and releasably held in operative position along one side of the bed by a conventional bedsheet covering the mattress and the bolster and tucked under the mattress. A plurality of bolsters are used on each side of the bed for additional protection.

[0007] U.S. Pat. No. 4,214,326 to Donald C. Spann describes an apparatus for positioning and protecting a patient in bed. The apparatus includes a protective device for cushioning a side frame of a hospital bed and the like. The protective device includes an elongated strip having a slot accommodating placement over the side frame and a thickened portion serving as a cushion. A body positioner formed from a block of polyurethane foam has resilient characteristics capable of deformation and has a length substantially greater than its width whereby the block is placed on a base surface to provide a continuous support for the major portion of a patient's body while lying in bed. In a preferred embodiment, a core of the positioning block is cut out and is removed and utilized as the protective side frame cushion while the body positioner block is utilized to position the patient as desired.

[0008] None of these prior art references describe the present invention.

SUMMARY OF THE INVENTION

[0009] It is an object of the present invention to provide a mattress support system installed between a mattress and a box spring or other the mattress foundation and simultaneously functions to enhance support comfort of the mattress and prevent an individual from failing off the bed during sleep.

[0010] A mattress support system for raising a portion of a mattress. The mattress has a head end, a foot end, and a pair of side edges. The mattress rests on a mattress foundation. The mattress support system comprises a triangular-shaped first wedge member having a first end, a second end substantially opposite the first end, a bottom surface, a top surface, and an end surface and a triangular-shaped second wedge member having a first end, a second end substantially opposite the first end, a bottom surface, a top surface, and an end surface. At least one strap is mounted between the first wedge member and the second wedge member. Upon positioning the first wedge member lengthwise along one side edge of the mattress between the mattress foundation and the mattress and upon positioning the second wedge member lengthwise along the other side edge of the mattress, spaced from the first wedge member to an extent of the at least one strap, between the mattress foundation and the mattress, the side edges of the mattress are raised relative to remaining portions of the mattress thereby enhancing support comfort of the mattress and inhibiting falling off the mattress.

[0011] In addition, the present invention includes a method for raising a portion of a mattress with the mattress having a head end, a foot end, and a pair of side edges and the mattress resting on a mattress foundation. The method composes providing a triangular-shaped first wedge member, providing a triangular-shaped second wedge member, mounting at least one strap between the first wedge member and the second wedge member, positioning the first wedge member lengthwise along one side edge of the mattress between the mattress foundation and the mattress, positioning the second wedge member lengthwise along the other side edge of the mattress, spaced from the first wedge member to an extent of the at least one strap, between the mattress foundation and the mattress, raising the side edges of the mattress relative to remaining portions of the mattress, enhancing support comfort of the mattress, and inhibiting failing off the mattress.

[0012] The present invention further includes a mattress support system for raising a portion of a mattress with the mattress having a head end, a foot end, and a pair of side edges and the mattress resting on a mattress foundation. The mattress support system comprises a triangular-shaped first wedge member having a first end, a second end substantially opposite the first end, a bottom surface, a top surface, and an

end surface and a triangular-shaped second wedge member having a first end, a second end substantially opposite the first end, a bottom surface, a top surface, and an end surface. A first adjustable strap extends between the first wedge member and the second wedge member with the first adjustable strap mounted to and positioned nearingly adjacent the first end of the first wedge member and mounted to and positioned nearingly adjacent the first end of the second wedge member. A second adjustable strap extends between the first wedge member and the second wedge member with the second adjustable strap mounted to and positioned nearingly adjacent the second end of the first wedge member and mounted to and positioned nearingly adjacent the second end of the second wedge member A groove is formed in the end surface of each wedge member. Upon positioning the first wedge member lengthwise along one side edge of the mattress between the mattress foundation and the mattress and upon positioning the second wedge member lengthwise along the other side edge of the mattress, spaced from the first wedge member to an extent of the at least one strap, between the mattress foundation and the mattress, the side edges of the mattress are raised relative to remaining portions of the mattress thereby enhancing support comfort of the mattress and inhibiting falling off the mattress.

BRIEF DESCRIPTION OF THE DRAWINGS

[0013] FIG. **1** is a perspective view illustrating a mattress support system, constructed in accordance with the present invention, installed above a box spring, showing mattress riser pads or foam wedges, adjustable connecting straps, buckles, and recessive grooves.

[0014] FIG. **2** is a perspective view illustrating the mattress support system, constructed in accordance with the present invention, installed above a box spring and beneath a fop mattress, showing the sides of the mattress slightly raised by the foam wedges to prevent sleepers from falling from the bed during sleep.

DETAILED DESCRIPTION OF THE DRAWINGS

[0015] The present invention, hereinafter referred to as a Mattress Support System, indicated generally at **10**, configured for installation between a mattress **12** and a box spring or other mattress foundation **14**, such as a board or the floor. While functioning particularly to prevent at risk individuals from falling, rolling or sliding off a bed **12**, the Mattress Support System **10** enhances a supportive quality of any mattress **12**, providing a better nights sleep to ail users.

[0016] The Mattress Support System **10** of the present invention includes a first wedge member **16** and a second wedge member **18**. Preferably, the first wedge member **16** and the second wedge member **18** are substantially triangular-shaped with each of the first wedge member **16** and the second wedge member **18** having a first end **20**, a second end **22** substantially opposite the first end **20**, a bottom surface **24**, a top surface **26**, and an end surface **28**. Preferably, the bottom surface **24** is substantially perpendicular to the end surface **28**. In addition, preferably, the angle between the bottom surface **24** and the top surface **26** is between thirty (30°) degrees and sixty (60°) degrees to better angle the edges of the mattress **12**, as will be described below, although having the angle between the bottom surface **24** and the top surface **26** being less than thirty (30°) degrees and greater than sixty (60°) degrees is within the scope of the present invention.

[0017] In addition, in a preferred embodiment, the bottom surface **24** of the first wedge member **16** and the bottom surface **24** of the second wedge member **18** of the Mattress Support System **10** of the present invention are substantially planar allowing the first wedge member **16** and the second wedge member **18** to lie flat against the mattress foundation **14** thereby creating the maximum surface to surface contact area for greater friction and less movement of the first wedge member **16** and the second wedge member **18** relative to the mattress foundation **14**. Additionally, in a preferred embodiment, the top surface **26** of the first wedge member **16** and the top surface **26** of the second wedge member **18** can be either planar or curved, allowing the mattress **12** to substantially conform to the top surface **26**, as will be described in further detail below.

[0018] The first wedge member **16** of the Mattress Support System **10** of the present invention is positioned lengthwise along one side of the mattress **12** between the mattress foundation **14** and the mattress **12** with the first end **20** positioned at the head of the mattress **12**, the second end **22** positioned at the foot of the mattress **12**, the bottom surface **24** contacting the mattress foundation, the top surface **26** contacting the mattress **12**, and the end surface **28** facing in a generally outward direction away from the box spring or mattress foundation **14** and the mattress **12**. The second wedge member **18** is positioned lengthwise along the other side of the mattress **12**, spaced from the first wedge member **16**, between the mattress foundation **14** and the mattress **12** with the first end **20** positioned at the head of the mattress **12**, the second end **22** positioned at the foot of the mattress **12**, the bottom surface **24** contacting the mattress foundation **14**, the top surface **26** contacting the mattress **12**, and the end surface **28** facing in a generally outward direction away from the box spring or mattress foundation **14** and the mattress **12**.

[0019] Preferably, the first wedge member **16** and the second wedge member **18** of the Mattress Support System **10** of the present invention are constructed from a foam material that are positionable lengthwise along and beneath each side of a mattress **12**, between the mattress foundation **14** and the mattress **12** thereby supporting each side of the mattress **12** inhibiting sagging and preventing a user from rolling, sliding or failing off the bed. In particular, preferably the first wedge member **16** and the second wedge member **18** are constructed from a polymer material commonly known as memory foam although constructing the first wedge member **16** and the second wedge member **18** from other material is within the scope of the present invention.

[0020] In addition, the first wedge member **16** and the second wedge member **18** of the Mattress Support System **10** of the present invention are each encased in its own zippered, form fitting cover to protect the first wedge member **16** and the second wedge member **18** from moisture. The form fitting covers are preferably machine washable and machine dryable. In addition, each of the first wedge member **16** and the second wedge member **18** are washable by hand and an dryable.

[0021] Furthermore, the first wedge member **16** and the second wedge member **18** of the Mattress Support System **10** of the present invention are secured together by at least one adjustable strap **30** mounted to the first wedge member

16 and the second wedge member 18. To further secure the Mattress Support System 10 to the mattress 12 when being used with a box spring or other moveable mattress foundation 14, the first wedge member 16 and the second wedge member 18 can be completely wrapped around the mattress foundation 14 to maintain the desired position of the first wedge member 16 and the second wedge member 18 relative to the mattress foundation 14 and mattress 12 and relative to each other. The at least one adjustable strap 30 allows the first wedge member 16 and the second wedge member 18 to be positioned along each side of the mattress foundation 14 and the mattress 12, respectively, without becoming dislodged from between the mattress foundation 14 and the mattress 12. Additionally, with the adjustable strap 30, the Mattress Support System 10 can be adjusted to fit a variety of mattress sizes including, but not limited to, twin, full, queen, king, and California King.

[0022] In a preferred embodiment, the at least one adjustable strap 30 of the Mattress Support System 10 of the present invention is connected to the bottom surface 24 of the first wedge member 16 and the bottom surface 24 of the second wedge member 18 thereby maintaining the at least one adjustable strap 30 free from interference with the mattress 12. It should be noted that it is within the scope of the present invention to connect the at least one adjustable strap 30 to any part of the first wedge member 16 and/or the second wedge member 18 is within the scope of the present invention.

[0023] In a preferred embodiment, the first wedge member 16 and the second wedge member 18 of the Mattress Support System 10 of the present invention are secured together by a pair of spaced adjustable straps 30, i.e., a first adjustable strap 30*a* and a second adjustable strap 30*b* spaced from the first adjustable strap 30*a*. The first adjustable strap 30*a* is mounted to and positioned nearingly adjacent the first end 20 of the first wedge member 16 and the first end 20 of the second wedge member 18 and the second adjustable strap 30*b* is mourned to and positioned nearingly adjacent the second end 22 of the first wedge member 16 and the second end 22 of the second wedge member 18. In a preferred embodiment, the first adjustable strap 30*a* and the second adjustable strap 30*b* are constructed from a nylon material and has corresponding buckles 32 to connect and anchor the first wedge member 16 and the second wedge member 18 to each other, uniting the first wedge member 16 and the second wedge member 18 into a single, stable support system.

[0024] The Mattress Support System 10 of the present invention further includes a groove or channel 34 formed in the end surface 28 of each or the first wedge member 16 and the second wedge member 18. Preferably, each groove 34 is a concave recessive groove 34, approximately one (1") inch in diameter, which runs the entire length of the first wedge member 16 from the first end 20 to the second end 22 and the entire length of the second wedge member 18 from the first end 20 to the second end 22. The groove 34 are sized and shaped to receive at least a portion of a fitted sheet thereby securing the fitted sheet to the first wedge member 16 and the second wedge member 18 and over the mattress 12.

[0025] The Mattress Support System 10 of the present invention effectively prevents at risk individuals from falling, sliding, or rolling out of bed. The raised border elevation of the mattress 12 created by the first wedge member 16 and the second wedge member 18 of the Mattress Support System 10 accomplish this purpose without using cumbersome bed rails or diminishing a sleeper's comfort. The Mattress Support System 10 augments and firms the support provided by any mattress 12. Durably constructed of high quality materials, the Mattress Support System 10 will withstand many years of continued use.

[0026] Although this invention has been described with respect to specific embodiments, it is not intended to be limited thereto and various modifications which will become apparent to the person of ordinary skill in the art are intended to fall within the spirit and scope of the invention as described herein taken in conjunction with the accompanying drawings and the appended claims.

1. A mattress support system for raising a portion of a mattress, the mattress having a head end, a foot end, and a pair of side edges, the mattress resting on a mattress foundation, the mattress support system comprising:

a triangular-shaped first wedge member having a first end, a second end substantially opposite the first end, a bottom surface, a top surface, and an end surface;

a triangular-shaped second wedge member having a first end, a second end substantially opposite the first end, a bottom surface, a top surface, and an end surface; and

at least one strap mounted between the first wedge member and the second wedge member;

wherein upon positioning the first wedge member lengthwise along one side edge of the mattress between the mattress foundation and the mattress;

wherein upon positioning the second wedge member lengthwise along the other side edge of the mattress, spaced from the first wedge member to an extent of the at least one strap, between the mattress foundation and the mattress; and

wherein the side edges of the mattress are raised relative to remaining portions of the mattress thereby enhancing support comfort of the mattress and inhibiting falling off the mattress.

2. The mattress support system of claim 1 wherein the first end of the first wedge member is positioned at the head of the mattress, the second end is positioned at the foot of the mattress, the bottom surface contacts the mattress foundation, the top surface contacts the mattress, and the end surface faces in a generally outward direction away from the box spring and mattress and wherein the second end of the second wedge member is positioned at the head of the mattress, the second end is positioned at the foot of the mattress, the bottom surface contacts the mattress foundation, the top surface contacts the mattress, and the end surface faces in a generally outward direction away from the box spring and mattress.

3. The mattress support system of claim 1 wherein the bottom surface of each wedge member is substantially perpendicular to the end surface of the respective wedge member and an angle between the bottom surface and the top surface of each wedge member is between thirty (30°) degrees and sixty (60°) degrees.

4. The mattress support system of claim 1 wherein the bottom surface of each wedge member is substantially planar.

5. The mattress support system of claim 1 wherein the top surface of each wedge member is selected from the group consisting of substantially planar and curved.

6. The mattress support system of claim **1** wherein the first wedge member and the second wedge member are constructed from a memory foam material.

7. The mattress support system of claim **1** and further comprising:

a first zippered, form fitting cover for receiving the first wedge member; and

a second zippered, form fitting cover for receiving the second wedge member.

8. The mattress support system of claim **1** wherein the at least one strap is adjustable.

9. The mattress support system of claim **8** wherein the at least one strap is completely wrapped around the mattress foundation.

10. The mattress support system of claim **8** and further comprising:

a buckle connected to the at least one strap.

11. The mattress support system of claim **1** wherein the at least one adjustable strap is connected to the bottom surface of the first wedge member and the bottom surface of the second wedge member.

12. The mattress support system of claim **1** and further comprising:

a first adjustable strap mounted to and positioned nearingly adjacent the first end of the first wedge member and the first end of the second wedge member; and

a second adjustable strap mounted to and positioned nearingly adjacent the second end of the first wedge member and the second end of the second wedge member.

13. The mattress support system of claim **1** and further comprising:

a groove formed in the end surface of each wedge member.

14. The mattress support system of claim **1** wherein the groove extends an entire length of each wedge member from the first end to the second end.

15. A method for raising a portion of a mattress, the mattress having a head end, a foot end, and a pair of side edges, the mattress resting on a mattress foundation, the method comprising:

providing a triangular-shaped first wedge member;

providing a triangular-shaped second wedge member;

mounting at least one strap between the first wedge member and the second wedge member;

positioning the first wedge member lengthwise along one side edge of the mattress between the mattress foundation and the mattress;

positioning the second wedge member lengthwise along the other side edge of the mattress, spaced from the first wedge member to an extent of the at least one strap, between the mattress foundation and the mattress;

raising the side edges of the mattress relative to remaining portions of the mattress;

enhancing support comfort of the mattress; and

inhibiting falling off the mattress.

16. A mattress support system for raising a portion of a mattress, the mattress having a head end, a foot end, and a pair of side edges, the mattress resting on a mattress foundation, the mattress support system comprising:

a triangular-shaped first wedge member having a first end, a second end substantially opposite the first end, a bottom surface, a top surface, and an end surface;

a triangular-shaped second wedge member having a first end, a second end substantially opposite the first end, a bottom surface, a top surface, and an end surface;

a first adjustable strap extending between the first wedge member and the second wedge member, the first adjustable strap mounted to and positioned nearingly adjacent the first end of the first wedge member and mounted to and positioned nearingly adjacent the first end of the second wedge member;

a second adjustable strap extending between the first wedge member and the second wedge member, the second adjustable strap mounted to and positioned nearingly adjacent the second end of the first wedge member and mounted to and positioned nearingly adjacent the second end of the second wedge member; and

a groove formed in the end surface of each wedge member;

wherein upon positioning the first wedge member lengthwise along one side edge of the mattress between the mattress foundation and the mattress;

wherein upon positioning the second wedge member lengthwise along the other side edge of the mattress, spaced from the first wedge member to an extent of the at least one strap, between the mattress foundation and the mattress; and

wherein the side edges of the mattress are raised relative to remaining portions of the mattress thereby enhancing support comfort of the mattress and inhibiting falling off the mattress.

17. The mattress support system of claim **16** wherein the first end of the first wedge member is positioned at the head of the mattress, the second end is positioned at the foot of the mattress, the bottom surface contacts the mattress foundation, the top surface contacts the mattress, and the end surface faces in a generally outward direction away from the box spring and mattress and wherein the second end of the second wedge member is positioned at the head of the mattress, the second end is positioned at the foot of the mattress, the bottom surface contacts the mattress foundation, the top surface contacts the mattress, and the end surface faces in a generally outward direction away from the box spring and mattress.

18. The mattress support system of claim **16** and further comprising:

a first zippered, form fitting cover for receiving the first wedge member; and

a second zippered, form fitting cover for receiving the second wedge member.

19. The mattress support system of claim **16** wherein the at least one adjustable strap is connected to the bottom surface of the first wedge member and the bottom surface of the second wedge member.

20. The mattress support system of claim **16** wherein the groove extends an entire length of each wedge member from the first end to the second end.

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