June 27, 1967 W. R. SLIVOSKI 3,327,328

MATTRESS EXTENSION

Filed April 2, 1965 2 Sheets-Sheet 1

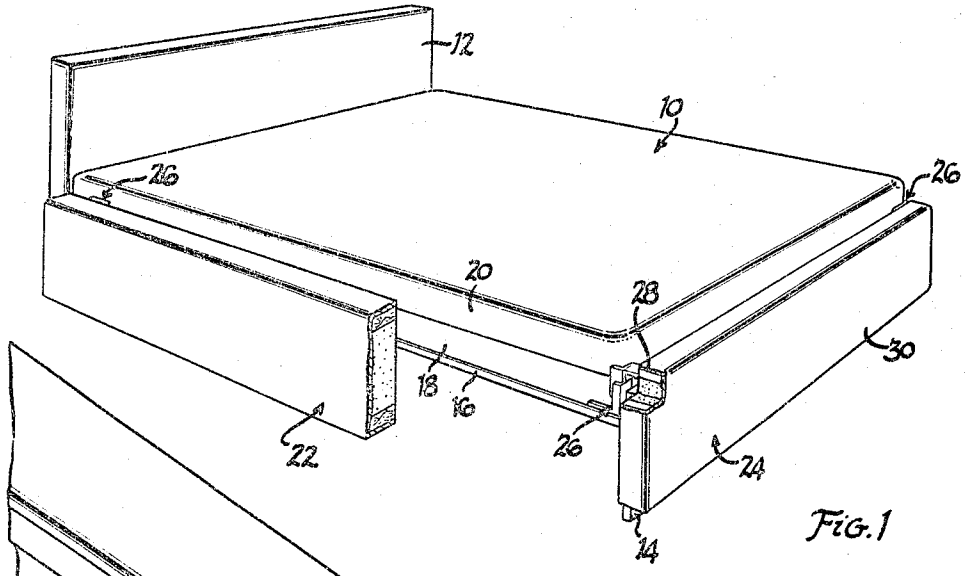


FIG. 1

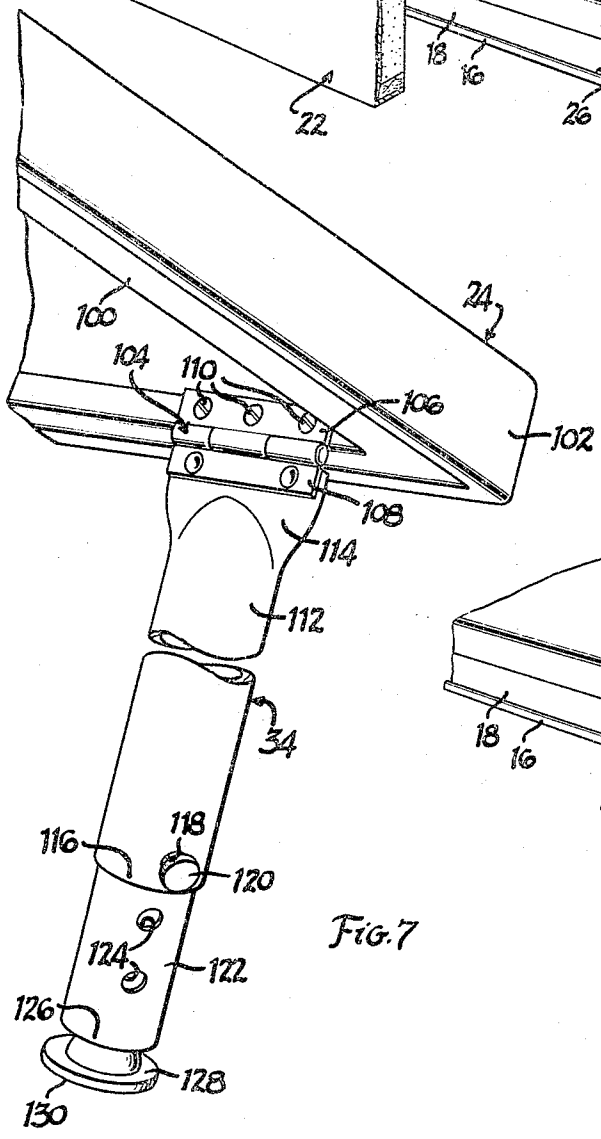


FIG. 7

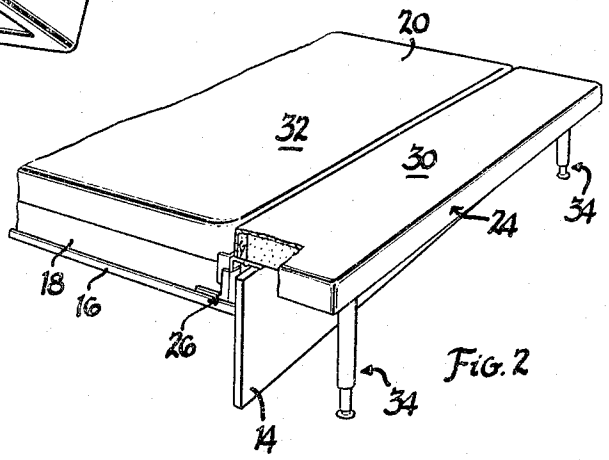


FIG. 2

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MATTRESS EXTENSION

Filed April 2, 1965 2 Sheets-Sheet 2

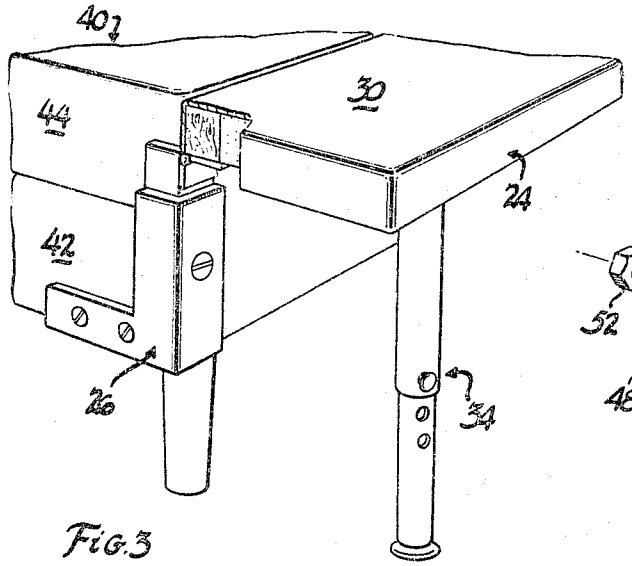


FIG. 3

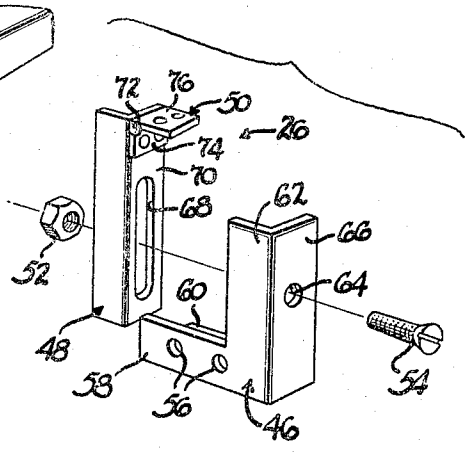


FIG. 4

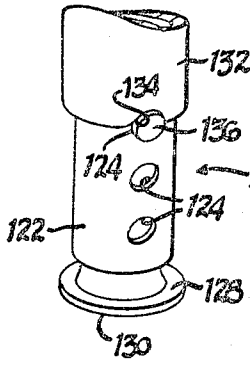


FIG. 8

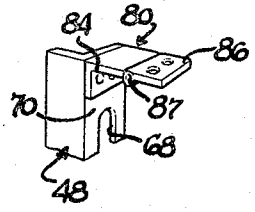


FIG. 5

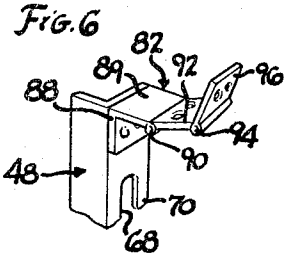


FIG. 6

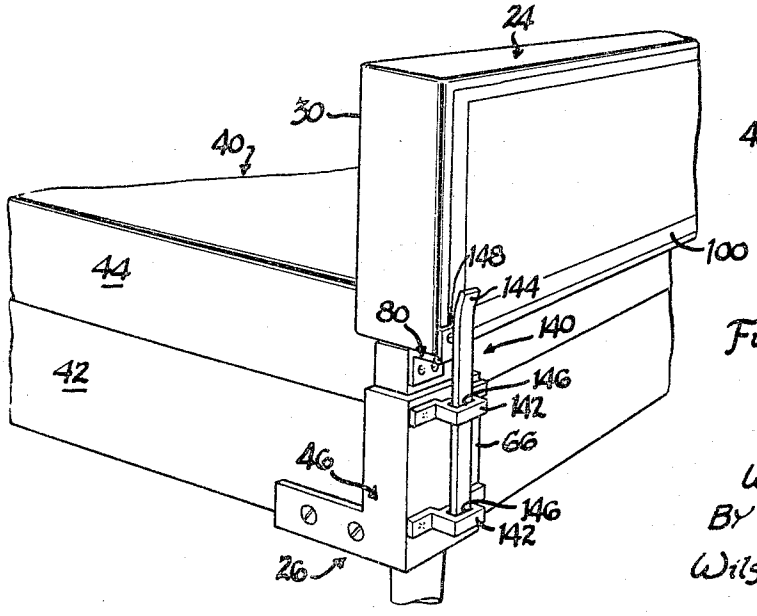


FIG. 9

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3,327,328

MATTRESS EXTENSION

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Filed Apr. 2, 1965, Ser. No. 445,140
6 Claims. (Cl. 5—317)

ABSTRACT OF THE DISCLOSURE

A mattress extension for increasing the surface area of the mattress of a bed. The mattress extension has all the supporting elements including the frame and supporting hinges uniquely concealed to avoid injury or damage to persons and/or their clothing.

Background of the invention

The present invention relates generally to a mattress enlarger and more particularly to a novel method and a unique mattress extension or enlarger for increasing the sleeping surface of any type of existing bed. The present invention affords a convenient, inexpensive, novel way of converting a bed of standard size to a king or queen size bed, of converting a baby crib into a youth bed or the like and may be used in different sizes adjacent any one or all with the foot, the head and the sides of the mattress. The mattress extension or enlarger of the present invention may not only be pivotable between horizontal, vertical and inclined positions and adjustable to different elevations in the horizontal position, but may be constructed to be readily detachable from the bed for use as a separate piece of furniture.

Previous bed extenders and the like have been objectionable since they have one or more of the following disadvantages:

(1) These bed extenders are usually equipped with a frame and hinges which project beyond the exposed periphery of the mattress portion of the extension and, therefore, frequently will cause painful injury to persons, especially to small children, and damage to clothing, and to the bed covers draped over the bed extension;

(2) These bed extenders are not readily adaptable for use with any and all types of existing beds;

(3) They are inordinately expensive to manufacture and costly to ship to the consumer being of relatively complex heavy construction;

(4) They are difficult to install and are not readily vertically adjustable in the horizontal position to exactly match the sleeping surface of the extension with that of the mattress per se; and

(5) They are not easily detachable from the bed once installed and are not independently useable as a separate piece of furniture apart from the bed.

Summary of the invention

Accordingly, it is a primary object of this invention to overcome the foregoing deficiencies of the prior art by providing a novel mattress extension and a unique method of manufacturing and using the mattress extension to thereby increase the sleeping area of an existing bed.

Another object is the provision of a novel pivotable mattress extension wherein the frame and hinges are uniquely concealed to avoid bodily injury to persons, especially to children, and damage to clothing and to bed covers.

An additional object of the present invention is the provision of a novel mattress extension which may be readily detached from the bed after installation so as to be useable as a separate piece of furniture apart from the bed.

Another object of this invention is the provision of a novel mattress extension useable at any one or all of the head, the foot and the sides of an existing bed, which extension is also readily mountable upon any existing type of bed.

A further and no less important object is the provision of a novel method of increasing the sleeping surface of an existing bed by the manufacture and installation of a unique lightweight pivotable mattress extension.

These and other objects and features of the present invention will become more fully apparent as the following description proceeds taken in conjunction with the accompanying claims and drawings, wherein:

FIGURE 1 is a schematic perspective representation of a conventional bed equipped with a mattress extension at the foot and at one side of the bed, in accordance with the present invention, the foot mattress extension and the side mattress extension being illustrated in their collapsed, essentially vertical orientation;

FIGURE 2 is a fragmentary schematic perspective representation of a portion of the bed and foot mattress extension of FIGURE 1 shown in the elevated, essentially horizontal position;

FIGURE 3 is an enlarged fragmentary perspective representation similar to FIGURE 2 and further illustrating in greater detail the presently preferred mode of attaching the mattress extension by adjustable brackets to a Hollywood type bed and the provision of telescopic folding legs along the distal edge of the mattress extension;

FIGURES 4, 5 and 6 illustrate in exploded perspective three presently preferred embodiments for bracketing the mattress extension of this invention to any standard type of bed construction;

FIGURE 7 is a fragmentary perspective representation and somewhat enlarged over the representation of FIGURE 3 illustrating the preferred manner in which the folding telescopic legs are attached to the distal edge of the mattress extension;

FIGURE 8 is a fragmentary perspective representation of another folding telescopic leg embodiment; and

FIGURE 9 depicts the mattress extension of the present invention positioned in an elevated, essentially vertical relationship adjacent the head of the mattress to provide a headboard or the like.

Reference is now made to the drawings wherein like numerals are used to designate like parts throughout.

The present invention generally provides a mattress extension for use at the foot, the head and/or one or both sides of any existing type of bed. The mattress extension of this invention is hinged to the bed so that the hinges are substantially concealed, for purposes of safety at the underside of the mattress extension in either the horizontal or the vertical position. The mattress extension is made to be vertically adjustable so that the sleeping horizontal surface of the mattress extension may be brought into coincidence with the sleeping surface of the existing mattress. The frame, which rigidifies the mattress extension, is internal of the mattress portion of the extension so that potential danger, particularly to children, is significantly minimized. The manipulation from the sleeping horizontal position to the essentially downward vertical position accommodates a saving of space during the daytime when the bed is not being slept upon. Moreover, the extension may be upholstered and readily removable so as to be useable as a separate piece of furniture apart from the bed per se. Furthermore, this invention may also be utilized in an upward vertical or in an inclined relation as a back rest at the headboard of a bed or may be used in such a vertical upright position at the foot, head and/or one or both sides of a baby crib to protect the baby against injurious contact with a solid bed frame and

to accommodate unfolding of the bed from a crib size to a youth bed size once the infant has grown sufficiently in stature.

More specifically, FIGURE 1 illustrates in perspective a standard bed of usual construction, designated generally by the numeral **10**, which bed comprises a headboard **12**, a footboard **14**, a frame **16**, a box springs **18** and a mattress **20**. In this case, the headboard **12** and the footboard **14** function as supporting legs for the overall mattress construction **10**.

The mattress construction **10** is equipped with a side mattress extension **22**, partially broken away for purposes of clarity and a foot mattress extension **24**, both constituting part of the present invention. As depicted in FIG. 1, the side mattress extension **22** and the foot mattress extension **24** are each depicted as being in their downward vertical collapsed positions providing a significant saving of space in the bedroom during the daytime hours when the bed **10** is not being utilized.

Each mattress extension is supported by a pair of bracket-hinge assemblies generally designated **26** in FIGURES 1 and 2. In the embodiment depicted in FIGURE 1, the base of the bracket-hinge assembly **26** is integrally secured by bolt, clamp or like means to the frame **16** and is similarly integrally secured in hinged relation at its upper end to the internal frame **28** of the mattress extension **24**. A vertical adjustment is provided for bringing the sleeping surface **30** into level coincidence with the sleeping surface **32** of the mattress **20** in the manner depicted in FIGURE 2, when the foot mattress extension **24** is in its horizontal position.

The extension **24** is supported at its distal edge by at least a pair of telescopic folding legs **34**. Just as the bracket-hinge assemblies **26** accommodate vertical adjustment of the proximal edge of the mattress extension **24**, so also do the telescopic folding legs **34** provide for such adjustment at the distal end of the mattress extension **24**. Both the structural details and manipulation of the brackets **26** and the telescopic folding legs **34** will be described in greater detail as this specification proceeds.

FIGURE 3 depicts the foot mattress extension **24** secured at the foot of a Hollwood bed **40** also having a framed box spring **42** and a mattress **44**. The bracket **26** is, in this case, integrally secured to the box springs as for example by utilization of wood screws passing through apertures in the bracket and into the wooden frame of the box springs. The same folding telescopic legs **34** may be used at the distal edge of the mattress extension **24** of the bed construtcion **40**, as depicted in FIGURE 3.

The presently preferred bracket-hinge assembly **26** is depicted in FIGURE 4, with modifications to the hinge portion thereof shown in FIGURES 5 and 6. As clearly seen in exploded perspective in FIGURE 4, the bracket-hinge assembly **26** comprises four separate structural components, i.e. the L-shaped base **46**, preferably constructed of angle iron or the like, an upright adjustable member **48** also of angle iron or the like, a hinge **50** integrally fastened to the upper end of the support **48** as by screws or like means and a nut and bolt assembly, the nut being designated **52** and the bolt **54**.

The lower L-shaped angle member is preferably equipped with a pair of apertures **56** penetrating the sidewall **58** and with a pair of apertures (not shown) penetrating the basewall **60**. Usually, the apertures **56** are used to secure the bracket-hinge assembly **26** to a Hollywood type bed, in the manner depicted in FIGURE 3 and explained previously in conjunction therewith. The apertures in the basewall **60** are preferably used to bolt or otherwise secure the bracket-hinge assembly **26** to the bed frame **16**, in the manner depicted in FIGURES 1 and 2 and described previously in conjunction therewith. The upstanding leg **62** of the L-shaped member **46** is provided with an aperture **64** in the sidewall **66** to receive the bolt **54**.

The vertical support **48** is provided with a slot **68** in the sidewall **70** so that when, in the assembled relation, the nut **52** is loosened from its threaded engagement with the bolt **54** the vertical support **48** may be vertically repositioned either up or down to bring the proximal edge of the mattress extension **24** into coincidence at the sleeping surface **30**. Thus, the mattress extension **24** accommodates proper mounting relation with any type of existing bed construction.

The hinge **50** is provided with apertures for screws or like attachment to the concealed interior frame of the mattress extension **24**. The hinge **50** is provided with a pivot pin **72** which may be either integral with one of the two hinge legs **74** or **76** or may be independently removable so that the mattress extension **24** may be used as an independent piece of furniture apart from the bed. This is accomplished by removal of the pin **72** at each bracket-hinge assembly **26** and by providing both the distal edge and the proximal edge of the mattress extension **24** with vertically stable supporting legs, for example, such as the telescopic folding legs **34** provided with adequately lateral support in the vertical position. Thus, the mattress extension **24**, properly upholstered with a suitable material such as leather or vinyl, may be independently used as a piece of furniture, for example, a lounging chair, such as when the number of visitors in a home exceeds the normal seating capacity of that home.

As seen in FIGURES 5 and 6, the hinge **50** may be replaced by either the hinge **80** of FIGURE 5 or the hinge **82** of FIGURE 6. The hinge **80**, at the L-shaped leg **84** thereof, is similarly attached to the sidewall **70** of the support **48** by screws or the like. The hinge **80** also includes a planar leg **86**. The leg **86** is apertured to accommodate attachment to the concealed internal frame of the mattress extension **24**. The hinge **80** of FIGURE 5 is particularly useful when the mattress extension is to be utilized at the head of a bed as a headboard in the manner depicted in FIGURE 9. Thus, the hinge **80** accommodates movement of the mattress extension **24** from an upright vertical position to the horizontal position, and, if desired, to the downward vertical position without the requirement of significant manipulation of the mattress of the bed. The bed extension **24** may also be fixed at an inclined position with respect to both the horizontal and the vertical. This is advantageous when the extension **24** is used as a headboard and the occupant of the bed is, for example, an invalid or suffers from chronic asthma. The inclined extension thus may substantially elevate the occupant's head without the need of several cumbersome pillows.

The hinge **82**, at the L-shaped leg **88** thereof, is likewise attached by threaded screws or the like to the support **48** at the wall **70**. At the end of the horizontal leg **89** of the angular member **88** is disposed a first hinge pin **90** connected to an intermediate planar member **92**. The planar member **92** in turn is hinged by a pivot pin **94** to a distal planar member **96** equipped with apertures or the like to accommodate being secured to the concealed internal frame of the mattress extension **24**. The hinge **82** is extremely useful in positioning the mattress extension **24** in the downward vertical position over top of a comparatively high footboard or a comparatively low headboard.

One of the folding telescopic legs **34**, previously briefly described in conjunction with FIGURES 2 and 3, is shown in enlarged perspective in FIGURE 7. The telescopic leg **34** is secured to the internal concealed frame **100** of the mattress extension **24** away from the normally upholstered surface **102** of the mattress extension. This is accomplished by use of a hinge **104**, comprising arms **106** and **108** which allows pivotal movement of the leg **34** to and from the concealed frame of the extension **24**. Any suitable means may be used to retain both legs **34** essentially contiguous with the concealed mattress extension frame when the mattress extension **24** is in the vertical position, if desired. Furthermore, any suitable support may be used to retain the legs **34** in their ground engaging position when the mattress extension is horizontal.

The arm **106** of the hinge **104** is secured by screws **110** to the mattress extension frame **100** and the arm **108** is riveted or similarly secured to the upper tubular member **112** at the flattened end **114**. The other end of the tube **112** at **116** is equipped with an aperture **118** into which a pin **120** is inserted. The lower tubular member **122**, which telescopes into the upper tubular member **112**, is equipped with a series of apertures **124** so that (1) the pin **120** may be removed from the aperture **118**, (2) the lower tubular member **122** may be telescopically slidably displaced with respect to the upper tubular member **112** until the appropriate aperture **124** is aligned with the aperture **118**, and (3) the pin **120** is thereafter replaced. By such manipulation, the elevation of the distal edge of the mattress extension **24** may be varied to correspond with the sleeping surface of the bed mattress, when the mattress extension is in the horizontal position. Secured at the downward end **126** of the inner tubular member **122** is a pivotable support **128** having a floor engaging base **130** of conventional construction.

As an alternative to the construction shown in FIGURE 7, the folding telescopic leg **34** may be modified so that an upper tubular member **132** is provided with a recess **134** rather than with an aperture. The recess **134** is engageable with the upper surface of a pin **136** which has been appropriately positioned in the desired aperture **124** of the inner tubular member **122** to properly elevate the distal edge of the mattress extension **24**. Otherwise, the folding telescopic leg construction of FIGURE 8 is identical with that of FIGURE 7.

Reference is now made to FIGURE 9 which depicts the Hollywood bed **40**, previously described in conjunction with FIGURE 3, with the mattress extension **24** positioned in the upright vertical position by use of at least two brackets **26** equipped with the hinge **80** of FIGURE 5. This type of construction, as depicted in FIGURE 9, is useful at the headboard of the bed **40** to provide a convenient upright or inclined support against which a person, while reading in bed or the like, may rest their back. Furthermore, the construction of FIGURE 9 is useful with a baby crib. Thus, one or more vertically upright mattress extensions **24** are situated to surround the head, the foot, and/or one or both sides of the crib mattress. In this way, danger due to an infant banging his head against a solid upright support or the like at the crib or due to the infant becoming entangled within the spaced bars, which are normally placed at the side of the crib, are substantially alleviated. Furthermore, once the infant has out-grown the crib, it is not necessary to discard the crib and thereafter purchase a youth bed. The one or more mattress extensions **24** used in the vertical upright position to surround all or part of the crib above the baby mattress may be released from their vertical upright positions and each oriented in a horizontal position so that the upper surface of each mattress extension matches the elevation of the sleeping surface of the crib mattress. Thus, the crib is converted into a youth bed without additional cost.

In order to secure the mattress extension **24** in the position depicted in FIGURE 9, whether used in conjunction with an adult size bed or with a baby crib, a latch assembly **140** may be provided at one or more locations. The latch assembly **140** comprises a pair of apertured supports **142** secured by threaded screws or the like to the elongated leg **66** of the L-shaped member **46**. The latch assembly **140** also includes a locking bar **144** designed to be manually inserted through the hoop or aperture **146** of each bracket **142** so that the locking bar **144** abuts the mattress extension at **148** to rigidly hold it in the upright vertical position.

It is to be appreciated that by utilization of the present invention a novel mattress extension is provided which is inexpensive for homeowners to purchase in order to modify their standard-size beds, regardless of the type, into king or queen size beds. The mattress extension may also be used to form an attractive headboard or to surround the mattress of the baby crib and to accommodate conversion of the baby crib into a youth bed. The mattress extension may be folded down into a downward vertical position so as to save space during the day hours when the bed is not being utilized. This is a particular advantage when the bedroom in which the mattress extension is used is relatively small. The telescopic folding legs and the vertically adjustable brackets provide for bringing the sleeping surface of the mattress extension into coincidence with the sleeping surface of the standard bed without the requirement of complex procedures or the provision of special tools.

The mattress extension is relatively light so that shipping costs are minimized. The mattress extension frame, the hinged bracket assembly and the telescopic folding legs are all concealed so as to avoid protrusion of dangerous projecting edges and sides thereby substantially eliminating the possibility of injury to persons, especially to children as they walk past or fall against the mattress extension, regardless of whether it is oriented in the vertical or horizontal position.

The invention may be embodied in other specific forms without departing from the spirit or essential characteristics thereof. The present embodiments are therefore to be considered in all respects as illustrative and not restrictive, the scope of the invention being indicated by the appended claims rather than by the foregoing description, and all changes which come within the meaning and range of equivalency of the claims are therefore intended to be embraced therein.

What is claimed and desired to be secured by United States Letters Patent is:

1. In a bed of any construction having a mattress, a mattress enlarger for placement adjacent any one of the head, the foot and the sides of the mattress, said mattress enlarger comprising: a mattress pad, foldable-extensible means for rigidly supporting the mattress enlarger in a generally horizontal position adjacent said mattress, hinge means disposed inwardly of the outer periphery of said pad to avoid injury and snags and accommodating pivotable movement of the mattress enlarger from said generally horizontal position to a generally vertical position to save space when the mattress enlarger is not being utilized, and bracket means fastened to the bed construction and supporting at least in part the mattress enlarger so as to accommodate vertical adjustment of the mattress enlarger whereby the upper surfaces of the mattress and the mattress enlarger in the horizontal position may be adjusted to coincide.

2. In a bed of any construction having a mattress, a mattress enlarger for placement adjacent any one of the head, the foot and the sides of the mattress, said mattress enlarger comprising: a mattress pad, foldable means for rigidly supporting the mattress enlarger in a generally horizontal position adjacent said mattress, hinge means disposed inwardly of the outer periphery of said pad to avoid injury and snags and accommodating pivotable movement of the mattress enlarger from said generally horizontal position to a generally vertical position to save space when the bed is not being utilized, releasable means for detaching the mattress enlarger from a juncture position adjacent the mattress so that the mattress extension may be used as an independent piece of furniture, and bracket means fastened to the bed construction and supporting at least in part the mattress enlarger.

3. In a bed of any construction having a mattress, a mattress enlarger for placement adjacent at least one of the head, the foot and the sides of the mattress, said mattress enlarger comprising: a mattress pad having an internal rigid reinforcing frame to retain the mattress pad as a unitary shape, folding legs fastened to the mattress enlarger frame by concealed leg hinges and positionable to rigidly support the mattress enlarger in a generally horizontal position when said mattress enlarger is adjacent said mattress, mattress enlarger hinges disposed inwardly

of the outer periphery of said pad to avoid injury to children, bypassers, clothing, bed covers and the like and accommodating pivotable movement of the mattress enlarger with respect to the mattress from said generally horizontal position to a generally vertical position to save space, and at least two vertically adjustable brackets fastened to the bed construction and supporting at least in part the mattress enlarger at the mattress enlarger hinges and accommodating vertical adjustment of the mattress enlarger so that the upper surfaces of the mattress and mattress enlarger in the horizontal position may be made to coincide.

4. A device as defined in claim 3 wherein said folding legs have telescopically extensible-contractable means for adjusting the height at which the upper surface of the mattress enlarger is situated.

5. A mattress enlarger for placement adjacent any outer edge of the mattress of a conventional bed, said mattress enlarger comprising: a mattress pad having a frame carried within the outer periphery of said pad, bracket means secured to said bed, and hinge means secured to said bracket means and to said frame at a point spaced inwardly from the outer edge of said frame to accommodate pivotal movement of the mattress enlarger from a generally horizontal position to a generally vertical position with respect to the upper surface of said mattress.

6. A mattress enlarger as defined in claim 5, in which said hinge means includes means for allowing movement of said mattress enlarger from a substantially horizontal position to an upwardly or downwardly directed vertical position with respect to said mattress.

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