My invention relates to bodily supports, and more particularly to a collapsible back and arm rest for use in conjunction with a bed or the like.

Prior supports have included merely a back support or and adjustably inclined back support with fixed arm rests and with no provisions for vertical adjustment of the support structure.

Accordingly, it is an object of my invention to provide a back and arm rest adapted to be used on a bed wherein the back support is vertically adjustable and removable secured relative to the bed and the back and arm rest are collapsible. Another object of my invention is to provide a back and arm rest wherein the back support is movable from a position substantially normal to the bed surface to a position inclined at an oblique angle with respect thereto and wherein the arm support is movable from a position substantially normal to the bed surface to a position substantially parallel thereto.

A further object of my invention is to provide a back and arm rest adapted to be used on a bed wherein the back and arm rest is releasably mounted on the bed at the headboard thereof and between the mattress and headboard thereof.

Another object of my invention is to provide a back and arm rest for a bed adapted to be removably mounted on headboards of varying heights and varying thicknesses. A still further object of my invention is to provide a back and arm rest for use on a bed wherein the back and arm rest is completely collapsible for folding against the headboard of such bed.

Still another object of my invention is to provide a back and arm rest for use on a bed wherein an open space is provided between the arm supports and the bed surface within which bedding such as blankets and the like can be pulled up around the body of the user.

A further object of my invention is to provide a back and arm rest for use on a bed wherein the back rest or support may be moved into an inclined position relative to the bed surface independently of any movement of the arm supports or such back support may be moved conjunctively with and in response to the movement of the arm supports.

Another object of my invention is to provide a back and arm rest for use on a bed including a rigid supporting frame adapted to be releasably mounted on a bed, a back support pivotally secured to the frame, an arm support means pivotally secured to the frame, means for pivotally moving the back support and the arm support means into inclined positions relative to the frame, and means for positioning the arm support means above the bed surface.

A still further object of my invention is to provide a back and arm rest for use on a bed including a rigid supporting frame adapted to be removably secured to a bed, a back support pivotally secured to the frame and providing an arm support receiving means, an arm support means pivotally secured to the frame between the back frame and the back support and adapted to be pivotally moved to a position within the receiving means of the back support, and means for pivotally moving the arm support means in a direction to engage the back support and move the back support about the pivot point thereof into an inclined position relative to the frame, the movement of the arm support means being restricted by its engagement with the receiving means of the back support after limited pivotal movement of such arm support means.

The foregoing objects, advantages, features and results of the present invention, together with various other objects, advantages, features and results thereof which will be evident to those skilled in the art to which the invention pertains, may be achieved with the exemplary embodiments described in detail hereinafter and illustrated in the accompanying drawings, in which:

FIG. 1 is a perspective view of a preferred embodiment of the invention;

FIG. 2 is a front elevational view of a preferred embodiment of the invention shown in a collapsed or folded position;

FIG. 3 is a side elevational view of a preferred embodiment of the invention shown in a collapsed or folded position;

FIG. 4 is a back elevational view of a preferred embodiment of the invention shown in a collapsed or folded position;

FIG. 5 is an enlarged fragmentary cross-sectional view taken along line 5—5 of FIG. 4;

FIG. 6 is an enlarged fragmentary cross-sectional view taken along line 6—6 of FIG. 4;

FIG. 7 is a perspective view of an alternative embodiment of a means for mounting the instant device on a bed or the like.

In the drawings, FIGS. 1 and 4 exhibit a back and arm rest 10 removably mounted on a headboard 12 of a bed 14. The back and arm rest 10 includes a rigid block A-shaped frame 16 comprising a pair of parallel vertical supports 18, a top horizontal support 20, and an intermediate horizontal support 22. Located in each of the vertical supports 18 and along the vertical axis thereof is a series of holes 24, each hole 24 being horizontally commensurate with the corresponding hole in the adjacent vertical support 18. Adapted to be received in the holes 24 is a mounting bracket 26.

The mounting bracket 26 may be comprised of slightly flexible metal and includes a bottom horizontal rod 28 having a pair of flexible cylindrical cushioning ends 30 axially mounted thereon and made of rubber or the like, a pair of upwardly extending rods 32 having forwardly extending upper ends 34 directed at angles slightly acute or slightly less than 90° from the rods 32, a pair of irregularly shaped fastening rods 36 (FIGS. 3 and 5 of the drawing) detachably secured to the upper ends 34 each having a first horizontal section 38, a first vertical section 40 extending parallel to the frame 16, a second horizontal section 42, and a second vertical section 44, such sections 42 and 44 having diameters less than the diameter of the holes 24 and being receivable within the holes 24 in the supports 10, and a connecting sleeve 46 for detachably connecting the first horizontal section 38 of the fastening rods 36 and the upper ends 34, said sleeve comprising an inner rigid cylinder 48 having an inner diameter of a dimension suitable for axially receiving the upper ends 34 and the first horizontal sections 38 of the fastening rods 36 in frictional engagement and an outer flexible cylinder 50 made of rubber or the like which serves as a nonabrasive cushion.

Secured to the rear side and on the exterior of the vertical supports 18 is a fibrous cushion material 52 provided as a means of preventing such supports from scratching the headboard of a bed when so mounted thereon. On the frontside of the supports 18 a suitable finished cover material 53 is provided. The lower ends of the vertical supports 18 extending below the intermediate horizontal support 22 are designated by the numeral 54 and constitute an additional securing or stabilizing means. The lower ends 54 fit between the headboard 12 of a bed 14 and the mattress 55 thereof (see FIG. 3 of the
Such lower ends 54 provide securing holes 3,178,733 adapted to receive screws or the like in the event the back support 56 is permanently secured to a headboard 12 or to an alternative type of mounting means (see infra).

Pivoted attached to the rigid frame 16 is a flat back support 56 having an inverted T-shape. The inverted T-shape configuration is provided by a pair of laterally extending shoulders 58 located at the bottom portion of the back support 56. The pivotal attachment between the rigid frame 16 and the back support 56 comprises an upper hinge member 60 secured to the top horizontal support 20 of the frame 16 and the upper portion of the flat rear side 62 of the back support 56. Thus, the back support 56, being pivotal near the top thereof, can be moved into an inclined position relative to the vertical frame 16 with its free lower end extending away from the headboard 12 and forwardly of the upper fixed end thereof. Being so inclined, the back support 56 is also inclined at an oblique angle relative to the surface of the mattress 55.

Similarly, an arm support means 64 is pivotally attached to the rigid frame 16. The arm support means 64 includes a pair of arms 66 extending on each side of the back support 56 and having approximately the same width as the laterally extending shoulders 58. A longitudinal connecting member 68 is secured between the arms 66 and extends between the support 56 and the frame 16. The pivotal connection is provided by a lower hinge member 70 which is secured to the intermediate horizontal support 22 of the frame 16 and to the longitudinal connecting member 68. Thus, the arm support means 64 may be pivotally moved about the hinge member 70 from a position parallel to the frame 16 to an inclined position with respect thereto and substantially parallel to the surface of a mattress 55.

Both the back support 56 and the arm support means 64 may be provided with a suitable finished upholstery 71 (see FIG. 3, of the drawing).

As an alternative embodiment of a means for mounting the back and arm rest 10 on a bed 14, FIG. 7 exhibits a pair of corner brackets 72 each having an inwardly directed flange 74 insertable beneath the mattress 55 of a bed 14 and an outer side wall 76 extending upwardly from the flange 74 and along the exterior of the mattress 55. Each bracket 72 is a pair of horizontal mounting members 78 having intermediate the ends thereof spaced vertical mounting members 80 extending upwardly therefrom. Attached to the vertical mounting members 80 by screws 82 or the like secured within the holes 57 are the lower ends 54 of the rigid frame 16. A sliding method for mounting a back and arm rest to a bed is provided when no headboard such as illustrated in FIG. 1 of the drawing is provided.

In actual operation, the back and arm rest 10 may be mounted on a bed at a desired height by adjusting the mounting bracket 26 with respect to the holes 24 in the rigid frame 16. For example, the fastening rods 36 may be vertically moved in parallel relation and inserted in any one of the pairs of holes 24. The particular insertion of the rod 36 within the holes 24 may be accomplished by inclining each rod 36 and placing the second vertical section 44 in each hole 24. Each rod 36 may then be pivoted toward the vertical plane and urged in a direction toward the frame body 16. As a result of such pivotal motion and the inward pressure the second vertical section 44 passes through the hole 24 and extends downwardly on the opposing side of the frame 16. Thus, the second horizontal section 42 of each rod 36 is positioned within one of the holes 24 in a detouchably mounted position. By adjusting the fastening rods 36 with the holes 24 the back and arm rest 10 may be vertically repositioned relative to the headboard of a bed since the fastening rods 36 are also removably secured to the mounting bracket 26 which is adapted to fit over the headboard of a bed.

Additionally, the back and arm rest 10 is adapted to be adjustably mounted on headboards of varying thicknesses. Since the fastening rods 36 and the upper ends 34 of the mounting bracket 26 are releasably connected by the cylindrical sleeve 46 such members may be slidably adjusted within the rod 36's 40 to alter the horizontal distance between them within the apparent limits of the sleeve length and thereby fit over headboards of varying thicknesses.

After the mounting bracket 26 has been secured to the frame 16 at the holes 24 for pre-establishing the height of the back and arm rest and the horizontal distance between the rods 32 and the fastening members 36 has been adjusted to fit over the headboard 12 of a bed 14, the mounting bracket 26 may be slidably positioned over the headboard 12 (see FIG. 3 of the drawing) by slightly flexing the bracket 26 and positioning it along the back side of the headboard positioned between the mounting bracket 26 and the rigid frame 16.

The rigid frame 16 is thus positioned adjacent and parallel to the headboard 12 with the lower ends 54 of the vertical supports fitting between the mattress 55 and the headboard 12. When the back and arm rest 10 is not in use, for example, when the bed 14 is unoccupied or when the user thereof is sleeping, the back support 56 and the arm support means 64 may be pivotally moved to a position parallel to one another and to the rigid frame 16.

When desiring to make the back and arm rest 10 operational the arm support means 64 may be pivoted from its vertical alignment, about the lower hinge 70, in a downwardly direction. When pivoting the arm support means 64 in a downwardly direction and into an arm supporting position the longitudinal connecting member 68 engages the rear side 62 of the vertically hanging back support 56 and pivots same about the upper hinge 70. Thus, in response to the pivoting action of the arm support means 64 the back support 56 is pivoted forwardly and somewhat upwardly. The pivoting action of the arm support means 64 continues until the arms 66 engage the shoulders 58 of the back support 56. At this point the longitudinal connecting member 68 is extending substantially normal to the rigid frame 16 and therefore acts as a means for spacing the back support 56 from the rigid frame 16. Meanwhile, the arms 66, being engageable with the shoulders 58, are spaced upwardly from the bed surface. Since the shoulders 58 are in the same plane as the back support 56, the arms 66 extend forwardly therefrom, and thus, bedding such as blankets and the like may be pulled up close to the body of the user thereof beneath the extending arms 66.

The back and arm rest 10 may again be folded into a nonoperational position by pivoting the arm support means 64 upwardly and rearwardly from its down position. Thus, the longitudinal connecting member 68 will have been removed as a brace for spacing the back support 56 forwardly of the rigid frame 16 and the back support 56, under the force of gravity, will merely fall back into its normal vertical alignment adjacent and parallel to the frame 16.

Although exemplary embodiments of the invention have been disclosed herein for purposes of illustration, it will be understood that various minor changes, modifications and substitutions may be incorporated in such embodiments without departing from the spirit of the invention as defined in the claims which follow.

I claim:
1. In a body supporting means, the combination of: a rigid supporting frame adapted to be removably secured to a sitting surface; a back support means pivotally secured at one end thereof to said frame, having a lateral extension on each side and in the plane thereof, and movable between positions parallel to said frame and inclined relative to said frame, the
other end of said back support means being positioned adjacent said sitting surface when in said inclined position; and an arm support means pivotally secured at one end thereof to said frame, said arm support means being movable between positions parallel to said frame and inclined relative to said frame and including one positioned on each side of said back support means, a transverse longitudinal member extending between the unsecured portion of said back support and said frame and connecting said arms, said longitudinal member being pivotally engageable with said back support means to urge said back support means into an inclined position relative to said frame when said arm support means is pivoted to said inclined position relative to said frame, such pivot-otal movement of said arm support means being limited by the engagement of said arms with the lateral extensions of said back support at a point spaced upwardly from said sitting surface and from said other end of said back support means.

2. In a body supporting means, the combination of: a vertical, rigid supporting frame having a top and a bottom and adapted to be removably secured to a bed; a back support means pivotally secured at one end thereof to the top portion of said frame, having a lateral extension on each side thereof in the plane of said back support, and pivotally movable between a position parallel to said frame and inclined relative to said frame, the other end of said back support means being positioned adjacent said sitting surface when in said inclined position; and an arm support means pivotally secured at one end thereof to said frame near the bottom of said frame and movable between a position parallel to said frame and inclined relative to said frame and said back support means being pivotally movable from said inclined position of said frame, having said lateral extension of said supporting frame, said lateral extension of said arms being adjustable so as to permit such distance to be varied; a back support means pivotally secured to said frame and providing an arm support receiving means therein; and arm support means pivotally secured to said frame and positioned between said frame and said back support means and adapted to be pivotally moved to a position within said receiving means; and said arm support means being pivotally movable from a position adjacent to said back support means in a direction to engage said back support means and pivot said back support means into an inclined position relative to said frame, the movement of said arm support means being restricted by its engagement with the receiving means of said back support after limited pivotal movement of said arm support means.

6. In a back and arm rest for use on a bed having a headboard and a mattress, the combination of: a rigid, vertical supporting frame mountable on said headboard, having two parallel vertical rows of horizontally commensurate holes near the upper end thereof and a downwardly extending securing means at the lower end thereof insertable between said headboard and said mattress located on said bed; a downwardly extending mounting bracket adjustably secured to said frame including a horizontal rod positioned in the plane of said frame and spaced from said frame, a pair of vertical rods extending upwardly from each end of said horizontal rod and having a pair of vertical rods extending upwardly from each end of said horizontal rod and having an upper portion extending toward said frame and at substantially a right angle to the vertical portion, a pair of cylindrical connecting sleeves having opposing open ends and being slidably engageable with the horizontal upper portions of said vertical rods at one end, and a pair of fastening rods having one end insertable within said holes on said rigid, vertical frame and the other end slidably receivable within the opposing end of said connecting sleeve so as to result in a slidably adjustable attachment between the upper portions of said vertical rods and said fastening rods; a back support means pivotally secured to said frame and providing an arm support receiving means; an arm support means pivotally secured to said frame and positioned between said frame and said back support means and adapted to be pivotally moved to a position within said receiving means; and means for pivoting said arm support means in a direction to engage said back support means and pivot said back support into an inclined position relative to said frame, the movement of said arm support means being restricted by its engagement with the receiving means of said back support after limited pivotal movement of said arm support means.

7. In a body supporting apparatus for a bed having a headboard and mattress, the combination of: a vertically extending frame mountable on said headboard including a pair of parallel vertical supports, a top horizontal support connected between said vertical supports, and an intermediate horizontal support similarly connected between said vertical supports, each of said vertical supports having a vertical row of holes located adjacent said top horizontal support, each hole being horizontally commensurate with the corresponding hole in said intermediate horizontal support; a downwardly extending mounting bracket adjustably secured to said frame including a horizontal rod positioned in the plane of said frame and spaced from said frame, a pair of vertical rods extending upwardly from each end of said horizontal rod and having an upper portion extending downwardly from said frame at an angle slightly less than 90° relative to said vertical portion, a pair of cylindrical connecting sleeves having opposing open ends and being slidably engageable with the horizontal upper portions of said vertical rods at one end, and a pair of fastening rods including a first horizontal section receivable within the opposing end of said connecting sleeve, a first vertical section extending downwardly therefrom and
parallel to said frame, a second horizontal section having a diameter less than the diameter of one of said holes in the frame and passing through one of said holes, and a second vertical section having a diameter less than the diameter of one of said holes in the frame and extending downwardly from said second horizontal section and on the opposite side of said frame from said first vertical section; an arm rest pivotally connected to said frame and adapted to be moved between a substantially vertically retracted position and a substantially horizontal extended position; a back rest pivotally connected to said frame and adapted to be moved between a substantially vertical retracted position and an inclined extended position; actuating means carried by one of said rests and cooperating with the other of said rests to move the latter to its said extended position when the former is moved from its said retracted position to its said extended position; and limit means carried by one of said rests for limiting movement of the other of said rests when the latter reaches its said extended position.

8. In a back and arm rest for use on a bed having a headboard and a mattress, the combination of:

a rigid, vertical supporting frame mountable on said headboard, having two parallel vertical rows of horizontal commensurate holes near the upper end thereof and a downwardly extending securing means at the lower end thereof insertable between said headboard and said mattress located on said bed; a downwardly extending mounting bracket adjustably secured to said frame including a horizontal rod positioned in the plane of said frame and spaced from said frame, a pair of vertical rods extending upwardly from each end of said horizontal rod and having an upper portion extending toward said frame and at substantially a right angle to the vertical portion, a pair of cylindrical connecting sleeves having opposing open ends and being slidably engageable with the horizontal upper portions of said vertical rods at one end, a pair of fastening rods having one end insertable within said holes on said rigid, vertical frame and the other end slidably receivable within the opposing end of said connecting sleeve so as to result in a slidably adjustable attachment between the upper portions of said vertical rods and said fastening rods, and each of said fastening rods including a first horizontal section receivable within one end of said connecting sleeve, a first vertical section extending downwardly therefrom and parallel to said frame, a second horizontal section having a diameter less than the diameter of one of said holes in the frame and passing through one of said holes, and a second vertical section having a diameter less than the diameter of one of said holes in the frame and extending downwardly from said second horizontal section and on the opposite side of said frame from said first vertical section; a back support means pivotally secured to said frame and providing an arm support receiving means; an arm support means pivotally secured to said frame and positioned between said frame and said back support means and adapted to be pivotally moved to a position within said receiving means; and means for pivoting said arm support means in a direction to engage said back support means and pivot said back support into an inclined position relative to said frame, the movement of said arm support means being restricted by its engagement with the receiving means of said back support after limited pivotal movement of said arm support means.

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