Dec. 6, 1966 C. W. OJA ETAL 3,289,223

SAFETY ATTACHMENT FOR BEDS

Filed Oct. 26, 1964

FIG. 1

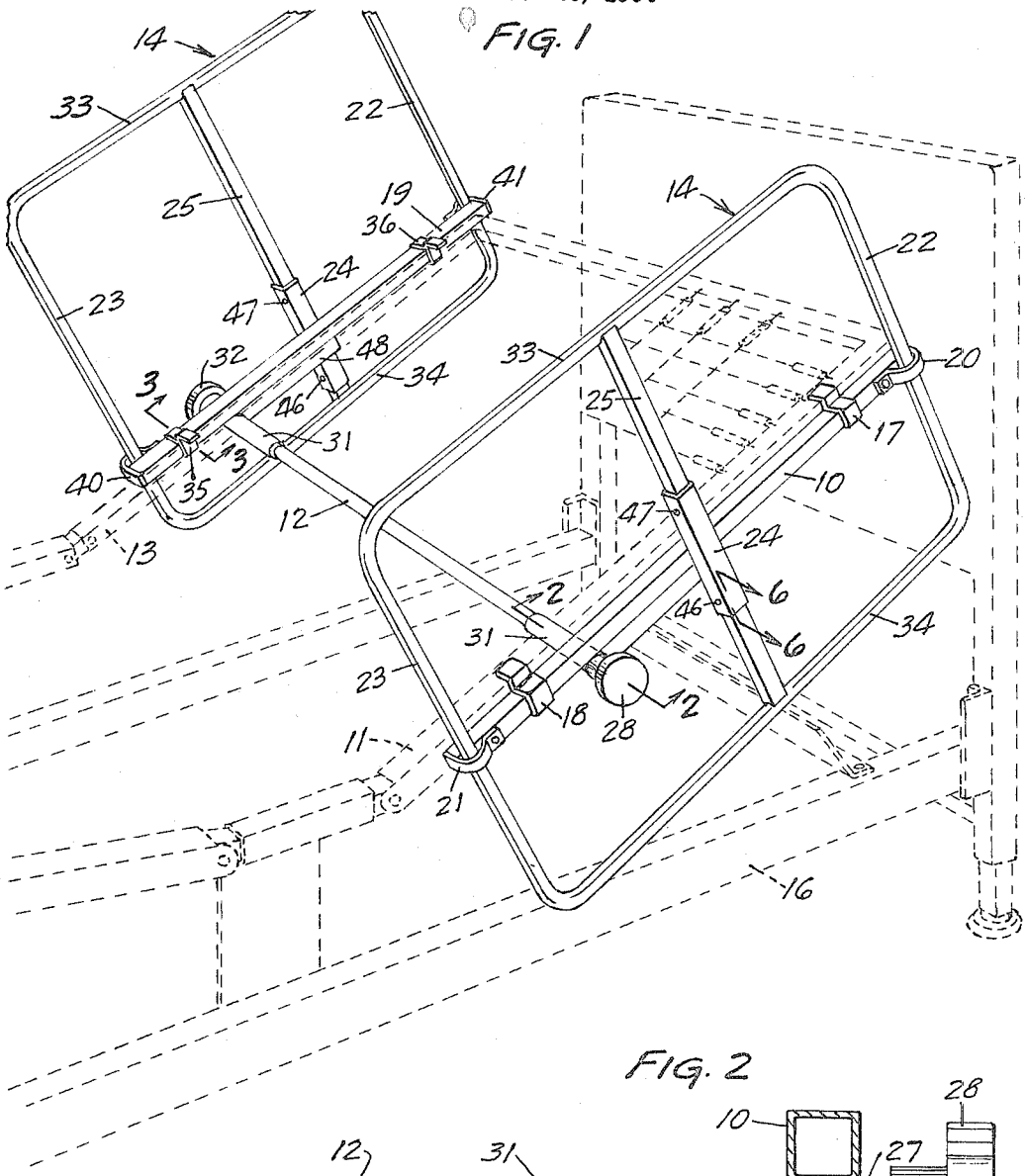


FIG. 2

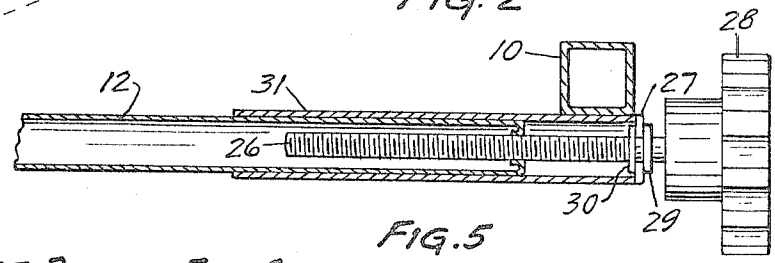


FIG. 6

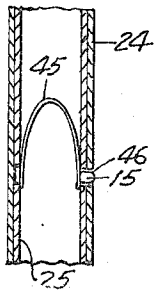


FIG. 3

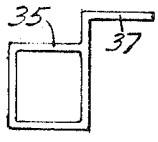


FIG. 4

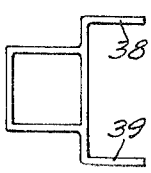
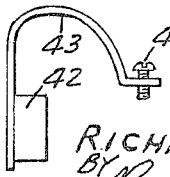


FIG. 5



INVENTORS
CARL W. OJA
RICHARD L. SCHEUERMAN
BY
Robert C Baker
ATTORNEY

United States Patent Office 3,289,223 Patented Dec. 6, 1966

3,289,223

SAFETY ATTACHMENT FOR BEDS

Carl W. Oja, St. Paul, and Richard L. Scheuerman, Inver Grove, Minn., assignors, by mesne assignments, to Carl W. Oja, St. Paul, Minn.

Filed Oct. 26, 1964, Ser. No. 406,264
15 Claims. (Cl. 5—331)

This invention relates to a removable adjustable safety attachment for beds, particularly hospital beds. It also relates to beds having the removable attachment as a part thereof.

The invention is especially directed to a removable safety attachment comprising a base portion adapted to be rigidly affixed to the side frame rails of a bed, an adjustable side guard or gate carried on a part of the rigidly fixed base portion, and means for releasably locking the adjustable side guard or gate in an operative upper position.

A characteristic of this safety attachment is that it has a conveniently mounted crosspiece extending transversely across the bed connecting the support member for one side guard under tension with a support member on the other side of the bed. This crosspiece is in essence a connecting rod.

Heretofore, side guards for beds have been affixed on each side independently of the other. While a cross member underneath the springs of a bed has sometimes been used, it has not heretofore been used as a conveniently tensioned connection between removable support members for slidable side guards on each side of a bed so as to cause the support members to assume a firm non-sliding and essentially rigid mounted position. In short, the practice has normally heretofore been to rely upon the rigidity of strength one can obtain by simply affixing a support member for a side guard to an angle iron on the very side of the bed where the guarding function is to be performed. Such mounting for a support member is quite distinct from that involved in the practice of the present invention where a crosspiece underneath the frame of a bed extends between the support members for side guards on opposite sides of the bed and serves as a member through which the support members are biased under tension together by means conveniently operated at the sides of the bed.

Another characteristic of the safety attachment hereof is that it has a single slide guide for each side guard or gate. This is especially advantageous in that it permits slidable adjustment of a side guard into operative upper and inoperative lower positions with respect to a rigidly fixed support member of the safety attachment, without binding. Binding is an especially vexing problem where two or more separate slide means per guard are employed. Nevertheless, conventional practice in the prior art has generally involved the use of apparatus prone to binding, such as apparatus having two slide guides acting upon two different slide members of a single side guard or gate.

In the preferred embodiment of this safety attachment, the support rail for the side guard is equipped with end brackets which extend in an arched band which is located laterally to the support rail and which serves as a stop to limit lateral play movement of depending rails from the top rail of the side guard. Additionally, the preferred embodiment of the apparatus includes hook means for the support rails; and the hook means act in combination and through the transverse connecting rod to mount the support rails of the base portion of the apparatus in a rigid manner to the side frame rails of a bed.

Other advantages and benefits of apparatus having the characteristics of the present teaching are explained

hereinafter or will be evident from the following disclosure.

The invention will be described by referring to a drawing, made a part hereof, wherein:

FIGURE 1 is a schematic perspective view of a hospital bed (shown in broken lines), partially broken away, with the safety attachment of this invention (shown for the most part in solid lines) affixed to the side frame rails of the partially elevated head end of the bed and with the mattress of the bed omitted for clarity;

FIGURE 2 is a cross-section taken on line 2—2 of FIGURE 1, showing a means for tensioning the connection between the transverse connecting rod and a support rail member of the invention;

FIGURE 3 is a cross-section taken on line 3—3 of FIGURE 1 showing the configuration of an adjustable hook or claw for a support rail member;

FIGURE 4 is a cross-section of a modified hook member;

FIGURE 5 is a plane view of a removable end bracket for a support rail of the removable attachment hereof; and

FIGURE 6 is a cross-section through 5—5 of FIGURE 1, illustrating the manner in which a spring biased detent is positioned for releasably locking a gate in a selected position, usually an operative upper position.

As will be observed by referring to the drawing, the safety attachment hereof broadly comprises a base portion **10** rigidly fixed to a side frame rail **11** as well as, through connecting rod **12**, to the other side frame rail **13** of a bed, plus a side guard **14**, and plus also a means, such as a leaf-spring biased detent or latch **15** (see FIGURE 6), for releasably locking the side guard **14** in one or more operative upper positions.

Hospital beds, as illustrated in the drawing, customarily may be of the type permitting elevation of the head end of the mattress supporting member thereof (and consequently, elevation of the side frame rails thereof at the head end); and the safety attachment of this invention is useful not only on such beds but also on beds having rigid immovable side frame rails extending along the side of the bed. For example, the safety attachment hereof may be affixed to an immovable side frame rail such as that at number **16** in the drawing, if desired. In such cases, of course, gate member **14** may be larger in the vertical (and also horizontal) direction so as to extend upwardly appropriately for the safety gate function.

Detailed structural features of the base portion of the apparatus will now be described. The base includes a first support rail **10**, for mounting laterally adjacent to a first side frame rail **11** of the bed. This support rail is mounted in essentially linear aligned relationship to the side frame rail **11** of the bed. Hook means **17** and **18**, preferably carried directly on rail member **10**, aid in mounting that support rail in essentially linear aligned relationship to the side frame rail **11**. Additionally, the hooks **17** and **18** serve as gripping members upon the side frame rail **11** when the support rail **10** is biased in tension toward the support rail **19** affixed to the other side frame rail **13** of a bed. Preferably at least one of the hook members **17** and **18** is carried in "floating" fashion by the support rail; that is, at least one hook member is slidably adjustable along the length of the support rail on which it is mounted. In most cases, both such hooks on each support rail are slidably adjustable.

Each end of support rail **10** is suitably provided with an end bracket **20** and **21** as particularly illustrated in FIGURE 5; and the end brackets, aside from serving a decorative function, also extend laterally along the support rail in an arched band which serves to limit the extent of lateral movement permitted for the respective end rails **22** and **23** of the side guard **14**. It is important to ob-

serve, however, that the banded opening at each end bracket, through which opening a depending rail member 22 or 23 extends, is sufficiently large so that the depending rail member may be moved freely in longitudinal direction within the opening without being slidably guided in its movement by the band of the end bracket. The longitudinal movement therefore occurs without any binding action as commonly encountered where two or more relatively snug guides are used for depending rails of a side guard or gate.

Intermediate the ends of the support rail 10 is located a straight tubular brace 24 with at least one hook member 17 and 18 on each side thereof. The straight tubular brace 24 is rigidly fixed, as by welding, to the support rail 10 in a position laterally opposite the side of the rail adjacent the side frame rail of the bed. The tubular brace is in essentially perpendicular relationship to the support rail as it is positioned on the side frame rail of a bed. Stated another way, tubular brace 24 is essentially perpendicular to a plane passing through both of the support rails 10 and 19 as they are mounted on side frame rails of a bed. The length of the straight tubular brace is usually between approximately ⅙ and ⅓ the slide limits of the length of a slide rail 25 of side guard 14, the latter being carried within the tubular member 24 in a relatively snug but longitudinally slidable bearing fit.

Suitably mounted in fixed relationship to support rail 10 is a tensioning means as particularly illustrated in cross section in FIGURE 2. This tensioning device preferably comprises a screw or threaded member 26 extending through a bearing wall 27 to a rotatable handle or knob 28 rigidly affixed to the threaded member 26. Bearing wall 27 is, in this embodiment, rigidly fixed to support rail 10 and constitutes a means for carrying the tensioning screw 26. Lock means 29 and 30 hold the screw against longitudinal shifting through bearing wall 27. Sleeve 31, fixed to bearing wall 27, preferably extends the length of the screw 26 and protects it against damage when the support member 10 and its associated elements (straight tubular brace 24, hooks 17 and 18, and tensioning means 26 through 31) are removed from a bed and shipped or stored. Further, as illustrated in FIGURE 2, screw member 26 engages cooperatively with the threaded end of connecting rod 12; and rotation of knob 28 causes screw member 26 to incrementally advance within rod 12 to incrementally effect tensioning. In effect, connecting rod 12 telescopes within sleeve 31; and the overlap of sleeve 31 over the connecting rod imparts significant resistance to bending or yielding of the apparatus as a result of lateral force applied to the side guard.

A like support member 19, having associated elements (preferably in mirror reciprocal) such as just described for the support rail 10 on the right side of the bed in FIGURE 1, is mounted on the other side frame rail 13 of the bed and biased toward the first support member 10 through transverse connecting rod 12 by means of tension applied through tensioning means as aforedescribed. Each support rail may be equipped with tensioning means, and the handle means 26 and 32 of each tensioning means turned until the screw member of each engages sufficient of each threaded end of the connecting rod 12 to bias the support rails 10 and 19 under tension toward each other. Alternatively, tensioning means may be limited in application to the connection at only one end of the connecting rod, and the other end of that rod fixed against rotation at its connection to its respective support rail.

The side guards or gates of the apparatus are preferably of simple design including a top rail 33, slide rail 25 depending from the top rail intermediate the ends thereof, and rails 22 and 23 depending from the top rail normally near the ends thereof. A bottom stop rail 34, preferably essentially parallel with top rail 33, serves as a means to which the rails depending from top rail 33 are preferably

fixedly connected. At the very least, a stop member at the lower end of slide rail 25 is used. In the embodiment of the invention as illustrated, slide rail 25 is essentially square, or at least non-circular, in cross section, as is tubular brace 24. By employing non-circular but similarly shaped cross-sections (preferably of square type such as a square or rectangular shape) for members 24 and 25, as is preferred, relative rotation between the two members is prevented and a relative greater rigidity is imparted to the adjustable side guard as compared to a structure having a slide rail and tubular brace of circular cross section. Thus, while square-type cross-sections are preferred, equivalent cross sections may be useful for the purposes of the invention. Additional rails may depend from a top rail to form designs as may artistically be desired; but simplicity of construction with improved functional performance is attained by following the preferred embodiment as illustrated. Indeed a major advantage of this embodiment of the invention is its simplicity of design and freedom from bars or rails which add weight without serving any necessary guard function for normal adult usage of the removable safety attachment of the invention.

Each hooking means 17, 18, 35 and 36 of the invention may be equipped with one claw member as illustrated at 37 in FIGURE 3; or with two claws as at 38 and 39 of FIGURE 4. Where two claws on a single hooking means are used, one is generally adapted to extend over the upper surface or edge, and the other over the lower surface or edge of a single side frame rail. Adjustability of the hooks along the support rail is sometimes necessary where the apparatus is to be affixed to different styles of beds, some of which may have obstructions at different locations.

End brackets 20, 21, 40 and 41 are suitably of the design illustrated in FIGURE 5. The plug 42 of such brackets is pressed into the open end of a hollow tubular support rail; and then the arched band 43 is suitably secured in place by a screw 44.

The spring biased detent illustrated in FIGURE 6 consists essentially of a leaf spring 45 arched within hollow slide rail 25 (which slide rail as well as all other rails of the device are preferably tubular so as to reduce weight). Domed detent 15 at one end of the spring extends through an opening in the slide rail 25 and also through an opening 46 in tubular brace 24. Tubular brace 24 suitably is equipped with more than one opening for the detent to enter and hold the side guard in position at different elevations. For example, each tubular brace may be equipped with holes 46 and 47 for the detent of the locking means. Preferably, the end edge of brace 24 is slightly expanded outwardly so as to pass over and cause the domed detent 15 to be depressed as the side guard is elevated from the inoperative position into an operative position where the domed detent enters a hole of the brace. As illustrated, the detent preferably is carried by the slide rail 25 of each side guard.

A support member 48, suitably a square tube firmly fixed to support rail 10, may be used to reinforce the strength of attachment of plate 27 and sleeve 31 of the tensioning means to the support rail.

The transverse connecting rod will be noted to extend beneath the mattress-supporting member of a bed; thus it is out the way and does not in any way impair the comfort of a bed equipped with the safety attachment. Only one such connecting rod is needed. Because of the nature of the base portion of this apparatus, it is most practical to mount side guards on each side of a bed even though the major need may be solely for a side guard on only one side of the bed. Where only one side of the bed is to be equipped with a side guard, it is, of course, possible to employ a greatly simplified support rail, somewhat in the nature of a claw, for the side of the bed opposite that having the side guard.

This specification is to be construed in its broadest

aspect and as an illustration of essential features of the invention, which is further defined and set forth in the claims appended hereto.

What is claimed is as follows:

1. A bed equipped with an adjustable safety attachment, said bed comprising a frame for supporting a mattress and parallel side frame rails, sail safety attachment comprising a base portion rigidly affixed to said side frame rails of said bed, an adjustable side guard carried on said rigidly fixed base portion and adjustable into operative upper and inoperative lower positions with respect thereto, and means for releasably locking said side guard in an operative upper position, said rigidly fixed base portion of said safety attachment including the following, (a) a first support rail mounted laterally adjacent to a first side frame rail of said bed and in essentially linearly aligned relationship thereto, (b) hook means aiding to hold said first support rail in said essentially linearly aligned relationship to said first side frame rail, (c) a second support rail mounted to the second side frame rail of said bed, (d) a connecting rod extending transversely across said bed with a connection at one end to said first support rail and a connection at the other end to said second support rail, said support rails being biased under tension toward each other with the tension of said bias carried through said connecting rod, (e) biasing means movably mounted to a support rail and operable through a handle movably mounted to a support rail, and (f) guide means rigidly fixed to said first support rail for guiding said adjustable side guard during adjustment of the same between operative and inoperative positions, said adjustable side guard of said safety attachment having only one member cooperating with said guide means during said adjustment, said guide means and said member of said side guide cooperating with said guide means during said adjustment being characterized by being non-circular in cross-section and snugly fitted together but slidable with respect to each other.

2. A bed equipped with an adjustable safety attachment, said bed comprising a frame for supporting a mattress and parallel side frame rails, said safety attachment comprising a connecting rod positioned transversely across said bed in a location beneath said frame rails, two support rails, one of said support rails being mounted laterally adjacent each side frame rail of said bed and in essentially linearly aligned relationship to each said side frame rail, hook means aiding to hold each said support rail in said essentially linearly aligned relationship, at least one of said hook means being slidably adjustable along the length of a support rail, means connecting each said support rail to said connecting rod, means for incrementally tensioning said support rails in bias toward each other with the tension of said bias carried through said connecting rod, said last named means being operated by handle means associated with a support rail and movably affixed thereto, and said last named means further being such as to cooperate with said hook means in holding said support rails in rigid immovable relationship to said side frame rails, a single straight tubular slide-guide brace of non-circular cross-section rigidly fixed to each said support rail in essentially perpendicular relationship to a plane passing through said support rails on said side frame rails, and a pair of adjustable side guards, each comprising a top rail and a slide rail depending therefrom at a location intermediate the ends of said top rail, said slide rail of each said side guard being mounted snugly but slidably within a respective slide-guide brace of each support rail so as to permit slidable adjustment of each said slide rail longitudinally within its respective slide-guide brace and having a cross-section similar to cross-section of the respective slide-guide brace within which each is mounted, there being only a single slide-guide brace for each said side guard, whereby each said side guard may be slidably adjusted into operative upper and inoperative lower positions with respect to said fixed support rails without binding, and means for releasably locking each said side guard in an operative upper position.

3. A removable adjustable safety attachment for a bed of the type having parallel side frame rails, said attachment comprising a single connecting rod adapted to be positioned transversely across said bed, two support rails, one of said support rails being adapted for mounting laterally adjacent each side frame rail of said bed and in essentially linearly aligned relationship to each said side frame rail, hook means on each said support rail for aiding the mounting thereof in said essentially linearly aligned relationship, means connecting each said support rail to said connecting rod, threaded means for effecting a tensioned bias of said support rails toward each other with the tension of said bias carried through said connecting rod, said threaded means being operated by handle means associated with a support rail and movably mounted thereto, and said threaded means further being such as to cooperate with said hook means in drawing said support rails into rigid immovable relationship to said side frame rails, a straight tubular brace rigidly fixed to each said support rail in essentially perpendicular relationship to a plane passing through said support rails as mounted on said side frame rails, and a pair of adjustable side guards, each comprising a top rail and at least three rails depending at spaced intervals therefrom, only one of said depending rails on each said side guard being a slide rail, said slide rail on each said side guard being dependent from the top rail thereof at a location intermediate the ends of said top rail, one of said slide rails being mounted within the respective tubular brace of each support rail so as to permit slidable adjustment of each said slide rail longitudinally within its respective tubular brace, each said slide rail being snugly but slidably fitted within its respective tubular brace, there being only a single tubular brace for each said side guard, whereby each said side guard may be slidably adjusted into operative upper and inoperative lower positions with respect to said fixed support rails without binding, and means for releasably locking each said side guard in an operative upper position.

4. A removable adjustable safety attachment for a bed of the type having parallel side frame rails, said attachment comprising a single connecting rod adapted to be positioned transversely across said bed, a pair of support rails, one of said support rails being adapted for mounting laterally adjacent each side frame rail of said bed and in essentially linearly aligned relationship to each said side frame rail, adjustable hook means on each said support rail for aiding the mounting thereof in said essentially linearly aligned relationship, said hook means having a claw which extends over the upper portion of said side frame rails, means connecting each said support rail to said connecting rod, means for incrementally effecting a tensioned bias of said support rails toward each other with the tension of said bias carried through said connecting rod, said last named means being operated by handle means associated with a support rail and movably mounted thereto, and said last named means further being such as to cooperate with said hook means in drawing said support rails into rigid immovable gripping relationship to said side frame rails, a straight tubular brace of non-circular cross-section rigidly fixed to each said support rail in essentially perpendicular relationship to a plane passing through said support rails as mounted on said side frame rails, and a pair of adjustable side guards, each comprising a top rail, a bottom rail, and at least three rails depending at spaced intervals from said top rail and connected to said bottom rail, only one of said depending rails on each said side guard being a slide rail, said slide rail on each said side guard being dependent from the top rail thereof at a location intermediate the ends of said top rail, one of said slide rails being mounted snugly but slidably in a longitudinal direction within the respective tubular brace

of each support rail and having a cross-section similar to the tubular brace within which each is mounted, there being only a single straight tubular brace for each said side guard, whereby each said side guard may be slidably adjusted into operative upper and inoperative lower positions with respect to said fixed support rails without binding, and means for releasably locking said side guards in an operative upper position.

5. A removable base support attachment for adjustable side guards for a bed of the type having parallel side frame rails, said base support attachment consisting essentially of a single connecting rod adapted to be positioned transversely across said bed in a location beneath said side frame rails, two support rails, one of said support rails being adapted for mounting laterally adjacent each side frame rail of said bed and in essentially linearly aligned relationship to each said side frame rail, hook means on each said support rail for aiding the mounting thereof in said essentially linearly aligned relationship, at least one of said hooks means being adjustable along the length of a support rail, means connecting each said support rail to said connecting rod, threaded means for effecting a tensioned bias of said support rails toward each other with the tension of said bias carried through said connecting rod, said threaded means being operated by handle means associated with a support rail and movably mounted thereto, and said threaded means further being such as to cooperate with said hook means in drawing said support rails into rigid immovable relationship to said side frame rails, and a single guide means of non-circular cross-section rigidly fixed to each said support rail for guiding side guards during adjustment of the same between operative and inoperative positions.

6. A removable adjustable safety attachment for a bed of the type having parallel side frame rails, said attachment comprising (1) a base portion adapted to be rigidly affixed to said side frame rails of said bed, (2) an adjustable side guard carried on said rigidly fixed base portion and adjustable into operative upper and inoperative lower positions with respect thereto, and (3) means for releasably locking said side guard in an operative upper position, said rigidly fixed base portion comprising, in combination, (a) a first support rail for mounting laterally adjacent to a first side frame rail of said bed and in essentially linearly aligned relationship thereto, (b) hook means for said first support rail, said hook means being adapted to aid in mounting said first support rail in essentially linearly aligned relationship to said first side frame rail, (c) a second support rail for mounting to the second side frame rail of said bed, (d) a connecting rod for orientation transversely across said bed with a connection beneath the side frame rail at one end to said first support rail and a connection beneath the side frame rail at the other end to said second support rail, (e) adjustable means for effecting a tensioned bias of said support rails toward each other with the tension of said bias carried through said connecting rod, said adjustable means comprising a handle member associated with a support rail and rotatably mounted thereto, and (f) a straight tubular slide-guide brace of non-circular cross-section rigidly fixed to said first support rail in essentially perpendicular relationship to a plane passing through both said support rails as mounted on said side frame rails, and said adjustable side guard of said safety attachment comprising a top rail and at least three rails depending at spaced intervals therefrom, one only of said depending rails being a slide rail, said slide rail being dependent from said top rail at a location intermediate the ends thereof and being snugly but slidably disposed within said tubular slide-guide brace of said base portion in such manner as to permit slidable adjustment of said slide rail longitudinally within said brace, there being only a single slide-guide brace for said side guard, whereby said entire side guard may be slidably adjusted into operative upper and inoperative lower positions with respect to said rigidly fixed base of said safety attachment without binding.

7. A removable adjustable safety attachment for a bed of the type having parallel side frame rails, said attachment comprising (1) a base portion adapted to be rigidly affixed to said side frame rails of said bed, (2) an adjustable side guard carried on said rigidly fixed base portion and adjustable into operative upper and inoperative lower positions with respect thereto, and (3) means for releasably locking said side guard in an operative upper position, said rigidly fixed base portion comprising, in combination, (a) a first support rail for mounting laterally adjacent to a first side frame rail of said bed in essentially linearly aligned relationship thereto, (b) at least two hooks carried on said first support rail, at least one of said hooks being adjustable lengthwise of said support rail, said hooks being adapted to aid in mounting said first support rail in essentially linearly aligned relationship to said first side frame rail, (c) a second support rail for mounting to the second side frame rail of said bed, (d) a connecting rod for orientation transversely across said bed with a connection beneath the side frame rail at one end to said first support rail and a connection beneath the side frame rail at the other end to said second support rail, (e) adjustable means for incrementally effecting a tensioned bias of said support rails toward each other with the tension of said bias carried through said connecting rod, said adjustable means being operated by a handle member associated with a support rail and movably mounted thereto, and (f) a straight tubular slide-guide brace of square-type cross-section rigidly fixed to said first support rail in essentially perpendicular relationship to a plane passing through both said support rails as mounted on said side frame rails, and said adjustable side guard of said safety attachment comprising a top rail and at least three rails depending at spaced intervals therefrom, one only of said depending rails being a slide rail and having substantially the same cross-sectional configuration as said straight tubular slide-guide brace of said base portion, said slide rail being dependent from said top rail at a location intermediate the ends thereof and being snugly but slidably disposed within said tubular slide-guide brace of said base portion in such manner as to permit slidable adjustment of said slide rail longitudinally within said brace, there being only a single slide-guide brace for said side guard, whereby said entire side guard may be slidably adjusted into operative upper and inoperative lower positions with respect to said rigidly fixed base of said safety attachment without binding.

8. A removable safety attachment for a bed of the type having parallel side frame rails, said attachment comprising a connecting rod adapted to be positioned transversely across said bed in a location beneath said side frame rails, a first member adapted to be mounted laterally adjacent one side frame rail of said bed, a hook on said first member adjustable in position on said member, a second member adapted to be affixed to a second side frame rail of said bed, means connecting each of said members to said connecting rod, means for incrementally effecting a tensioned bias of said members toward each other with the tension of said bias carried through said connecting rod, said last-named means being operated by handle means associated with one of said members and movably mounted thereto, and said last named means further being adapted to draw said members into rigid immovable relationship to said side frame rails, a single slide-guide brace of non-circular cross-section rigidly fixed to one of said members such that said brace occupies an essentially perpendicular relationship to the side frame rails of a bed to which the safety attachment is affixed, and a side guard having a top rail and a slide rail depending therefrom at a location intermediate the ends of said top rail, said slide rail being mounted to slidably cooperate with said slide-guide brace, there being only a single slide-guide brace for said side guard, whereby said side guard may be slidably adjusted into operative upper and inop-

erative lower positions with respect to said slide-guide brace without binding, and means for releasably locking said side guard in an operative upper position.

9. The attachment of claim 8 wherein the second member is in the nature of a claw.

10. A removable adjustable safety attachment for a bed of the type having parallel side frame rails, said attachment comprising a connecting rod adapted to be positioned transversely across said bed, a member adapted to be affixed to one side frame rail of said bed, a member adapted to be affixed to the other side frame rail of said bed, at least one of said members comprising hook means, means connecting said members to said connecting rod, threaded means for effecting a tensioned bias of said members toward each other with the tension of said bias carried through said connecting rod, said threaded means being operated by handle means associated with one of said members and rotatably mounted with respect thereto so as to effect tensioning action when rotated, and said threaded means further being adapted to draw said members into firm relationship to said side frame rails, at least one of said members being equipped with a guide member, and an adjustable side guard having a slide member guided by said guide member during adjustment of said side guard between operative and inoperative side guard positions, there being only a single side guard slide member guided by said guide member for said adjustment.

11. A bed equipped with an adjustable safety attachment, said bed comprising a frame for supporting a mattress and side frame rails, said safety attachment comprising a base portion rigidly affixed to said side frame rails of said bed, an adjustable side guard carried on said rigidly fixed base portion and adjustable into operative upper and inoperative lower positions with respect thereto, and means for releasably locking said side guard in an operative upper position, said rigidly fixed base portion of said safety attachment including the following, (a) a first support member affixed to a first side frame rail of said bed, (b) a second member affixed to the second side frame rail of said bed, (c) a connecting rod extending transversely across said bed and attached at one end to said first support member and at the other end to said second member, (d) means to bias said members under tension toward each other with the tension of said bias carried through said connecting rod, said means to bias said members being operated by handle means mounted to one of said members so as to be rotatable to effect tensioning action upon rotation, and (e) guide means rigidly fixed to said first support member for guiding said adjustable side guard during adjustment of the same between operative and inoperative positions, said guide means consisting essentially of a single slide-guide brace of non-circular cross-section.

12. A safety attachment of claim 8 in which at least one of the means connecting a member to said connecting rod also includes means for effecting the tensioned bias of said first and second members toward each other, and comprises a bearing wall mounted to one of said first and second members, a threaded member rigidly fixed to a rotatable handle and rotatably mounted in said bearing wall with said threaded member and said handle on opposite sides of said bearing wall, a part on the end of said connecting rod and with which said threaded member affixed to said handle cooperatively threads, and a sleeve extending about said threaded member from said bearing plate, and into which said connecting rod telescopes when said first and second members are biased under tension toward each other.

13. A removable safety attachment for a bed of the type having parallel side frame rails, said attachment comprising a connecting rod adapted to be positioned transversely across said bed, a first member in the form of a support rail adapted to be mounted laterally adjacent one side frame rail of said bed, a hook on said first member slidably adjustable in position along the length of said first member, a second member adapted to be affixed to a second side frame rail of said bed, means connecting each of said members to said connecting rod, threaded means cooperative with an end of said connecting rod for incrementally effecting a tensioned bias of said members toward each other with the tension of said bias carried through said connecting rod, said threaded means being operated by rotatable handle means associated with one of said members and movably mounted thereto, and said threaded means further being adapted to draw said members into rigid immovable relationship to said side frame rails, a single straight tubular slide-guide brace of non-circular cross-section rigidly fixed to said first member such that said brace occupies an essentially perpendicular relationship to the side frame rails of a bed to which the safety attachment is affixed, and a side guard having a top rail and a slide rail depending therefrom, said slide rail being characterized by having a cross-section the same as said slide-guide brace but smaller than the cross-section of said slide-guide brace and by being mounted snugly but slidably and non-rotatably within said slide-guide brace, there being only a single slide-guide brace for said side guard, whereby said side guard may be slidably adjusted into operative upper and inoperative lower positions with respect to said single slide-guide brace without binding, and means for releasably locking said side guard in an operative upper position.

14. The removable safety attachment of claim 13 in which the cross-section of the slide-guide brace and the slide rail of the side guard is essentially square.

15. The removable safety attachment of claim 13 in which a sleeve extends about the threaded means for incrementally effecting a tensioned bias, said sleeve being mounted to the member to which the handle for said threaded means is movably mounted, and said sleeve being adapted to receive an end of the connecting rod in a telescoping fashion as said threaded means is operated to effect said tensioned bias.

References Cited by the Examiner

UNITED STATES PATENTS

706,748	8/1902	Fish	5—329
2,722,017	11/1955	Burst et al.	5—331
2,817,854	12/1957	Pratt	5—331
2,817,855	12/1957	Pratt	5—331
3,021,534	2/1962	Hausted	5—331
3,097,370	7/1963	Murcott	5—331
3,179,957	4/1965	Norton	5—331

References Cited by the Applicant

UNITED STATES PATENTS

2,722,693	11/1955	Wolf.
2,751,608	6/1956	Lucas.
2,811,726	11/1957	Dyett et al.
2,929,078	3/1960	Smith et al.
3,002,200	10/1961	Murcott.
3,080,577	3/1963	Atkinson.
3,125,769	3/1964	Black et al.

FRANK B. SHERRY, *Primary Examiner.*

R. D. KRAUS, *Assistant Examiner.*