Dec. 7, 1965 T. L. ATKINSON 3,221,350

BED RAIL

Filed July 15, 1963

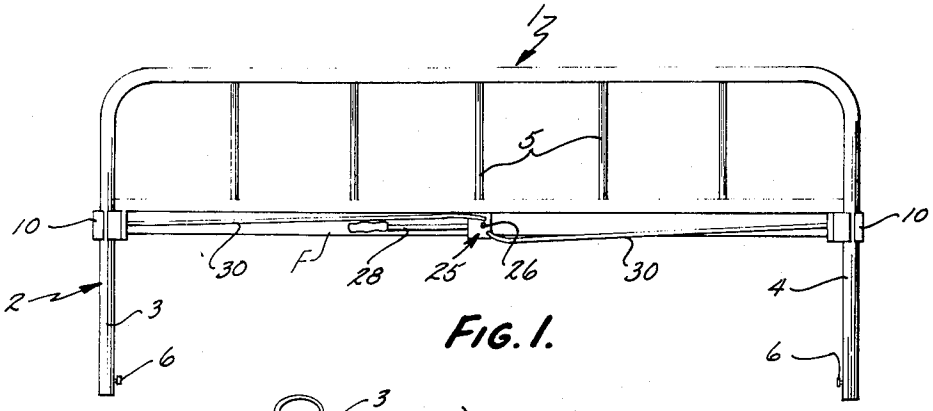


FIG. 1.

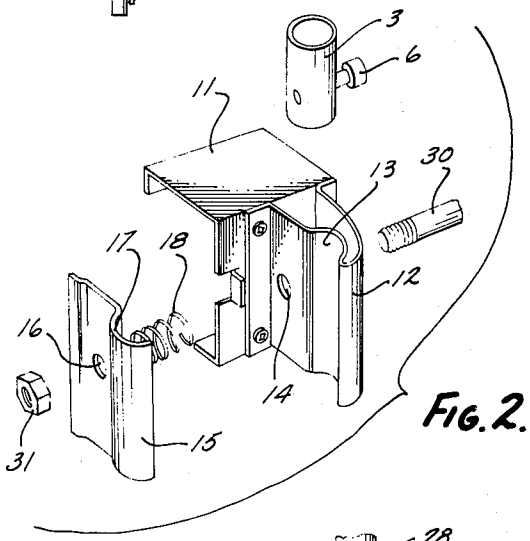


FIG. 2.

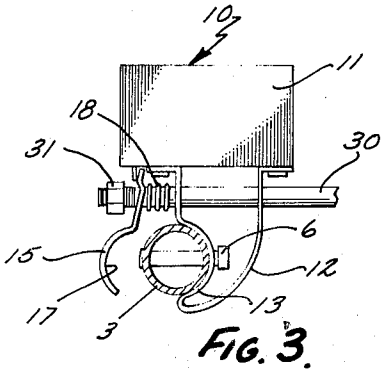


FIG. 3.

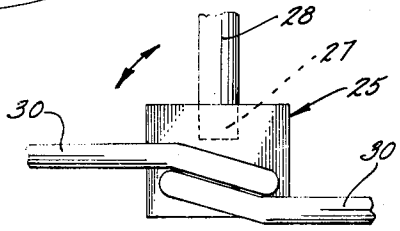


FIG. 6.

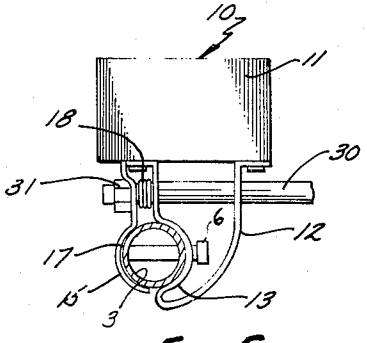


FIG. 5.

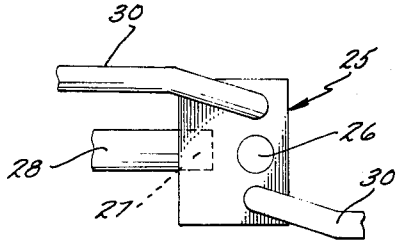


FIG. 4.

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BED RAIL

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11 Claims. (Cl. 5—331)

This invention relates to an adjustable bed rail for preventing a person from falling off the side of a bed. More particularly, this invention relates to an improved bed rail construction particularly designed for institutional use such as hospitals, nursing homes, sanitariums, etc.

Bed rails presently in existence are cumbersome structures, complicated in operation and expensive because of their complexity. Because of the size and the number of parts utilized in such bed rails, they often interfere with care of the patient. An improved type of bed rail is shown in my United States Patent No. 3,080,577 entitled Bed Rail, issued March 12, 1963. The present invention retains the general simplicity in structure achieved with the construction shown in this patent. However, the present invention discloses an improved means for actually adjusting the bed rail. Further, the adjusting means is such that an institution can adjust the bed rail and the patient on the bed is positively prevented from changing the height of the rail.

It is therefore an object of this invention to provide a simplified bed rail which utilizes an improved means for adjusting its height.

Another object of this invention is to provide such a bed rail which, when adjusted, cannot be changed by the patient on the bed.

A further object of this invention is to provide such a bed rail which does not interfere with the care of the patient at any time.

An additional object of this invention is to provide such a bed rail which may be quickly and simply removed from the bed itself.

A still further object of this invention is to provide such a bed rail which is positive in function, yet is so simple in construction that cost is substantially reduced.

These and other objects of this invention will become obvious to those skilled in the relevant arts upon reading the followng specification in conjunction with the accompanying drawings, wherein:

FIG. 1 is a front view of the bed rail comprising this invention;

FIG. 2 is an exploded, perspective view of one of the brackets forming a component of the bed rail shown in FIG. 1;

FIG. 3 is a plan view of the bracket shown in FIG. 2 as assembled, the bracket being in the nonclamping position;

FIG. 4 is an enlarged view of the movable element which cooperates with the bracket as shown in FIG. 3;

FIG. 5 is a plan view of the bracket, similar to the view shown in FIG. 3, the bracket being in clamping position; and

FIG. 6 is a view of the movable element similar to FIG. 4 positioned when cooperating with the bracket as shown in FIG. 5.

Briefly, this invention relates to an adjustable bed rail for preventing a person from falling off the side of a bed including a guard frame having a pair of depending legs. Clamping brackets slidably receive the legs, the brackets adjustable from a first position gripping the legs to a second position allowing the legs to move freely therein. A movable element is positioned between the brackets, rigid rods connecting the element to each of the brackets. Means is provided for moving the element, thereby moving the rods and the bracket between the positions noted.

Referring more specifically to the drawing, the reference numeral **1** designates an embodiment of the bed rail as made in accordance with the teachings of this invention (FIG. 1). The bed rail **1** includes a guard frame **2**, a pair of brackets **10**, a movable element **25** and connecting rods **30**.

The guard frame **2** includes a pair of depending legs **3** and **4** and a plurality of guard members **5**. At the lower end of each of the legs **3** and **4**, a knob **6** is provided, the purpose of which will be explained hereinafter. A pair of brackets **10** are secured to a bed frame F. As best shown in FIG. 2, each of the brackets **10** includes a mounting element **11** having a first clamping arm **12** secured thereto. The clamping arm **12** includes a shaped recess **13** adapted to receive the leg **3** and an opening **14** extending through the clamping arm itself. A second clamping arm **15** is shaped to bear against the edge of the mounting element **11**, the second clamping arm **15** also having an opening **16** extending therethrough and a shaped recess **17** for receiving the leg **3**.

A movable element **25** (FIGS. 1, 4 and 6), comprising a pivot block in the embodiment shown, is pivotally secured to the bed frame F by means of a pivot bolt **26**. The top of the pivot block **25** has a recess **27** to receive the handle **28** (FIG. 4). A pair of rigid rods **30** are pivotally connected to the pivot block **25**. It will be seen that the rods **30** extend to each bracket **10**, the respective rod extending through the openings **14** and **16** in the clamping arms **12** and **15** (FIG. 2). A coil spring **18** is provided to envelop the respective rod **30**, lying between the clamping arms **12** and **15**. A nut **31** secures the respective rod **30** in position. Thus, the clamping arm **15** is movable with respect to the clamping arm **12**, the spring **18** normally biasing the clamping arms apart.

In operation, the legs **3** and **4** of the guard frame **2** extend between the clamping arms of the brackets **10**. This may be accomplished when the clamping arms are positioned as shown in FIG. 3, the knobs **6** on the legs **3** and **4** being movable between the clamping arms by cocking the entire guard frame slightly and inserting the legs one at a time. The position of the clamping arms as shown in FIG. 3 is achieved when the movable element **25** is positioned as shown in FIG. 4. When one has positioned the guard frame **2** at the desired height, the handle **28** is moved upwardly from the position shown in FIGS. 1 and 4 to the position shown in FIG. 6. By so moving the handle **28**, the pivot block **25** moves about the pivot bolt **26**, thereby drawing the two rods **30** toward each other. By drawing the two rods **30** toward each other, the respective clamping arms **15** are drawn tightly against the clamping arms **12**, thereby firmly locking the respective leg of the guard frame between the clamping arms. The handle **28** is then removed from the socket or recess **27** and the guard frame is rigidly locked in position. There is no way in which the height of the guard frame can then be adjusted.

However, when one desires to adjust the height of the guard frame **2**, one merely inserts the handle **28** into the socket **27** and moves the handle to the position shown in FIG. 4. By so doing, the rods are moved apart from one another, and the springs **18** bias the clamping arms of each bracket apart. The legs **3** and **4** of the guard frame are then once again free to move with respect to the brackets **10**. The guard frame **2** may then be removed from the brackets **10** by lifting it upwardly, cocking it slightly and removing one leg at a time through the respective clamping arms of the bracket. It will be seen that the height of the guard frame may be readjusted by positioning it to the desired height and moving the handle **28** as described hereinbefore.

It will now be seen that this invention has provided an improved bed rail which may be quickly and simply adjusted to any desired height. Further, once the bed rail is so adjusted, it is impossible for the patient in the bed to in any way tamper with the height of the bed rail. These results are achieved through an extremely simple structure which operates positively, yet retains the desired simplicity. The guard frame may be removed from the bed quickly and simply as well as varied in height.

While only one embodiment of this invention has been shown and described, it may be possible to practice the invention through the utilization of certain other embodiments without departing from the spirit and scope thereof. Such other embodiments are to be included as part of this invention unless the following claims specifically state otherwise.

I claim:

1. An adjustable bed rail for preventing a person from falling off the side of a bed, comprising: a guard frame including a pair of depending legs; clamping brackets slidably receiving said legs, said brackets adjustable from a first position gripping said legs to a second position allowing said legs to move freely therein; a movable element positioned between said brackets; rigid rods connecting said element to each of said brackets; and means for moving said element, thereby moving said rods and said brackets between said positions.

2. An adjustable bed rail as defined in claim 1, said means for moving said element comprising a handle removable from said element.

3. An adjustable bed rail as defined in claim 1, said brackets including a pair of clamping arms and a spring normally biasing said arms apart.

4. An adjustable bed rail for preventing a person from falling off the side of a bed, comprising: a guard frame including a pair of depending legs; clamping brackets slidably receiving said legs, said brackets adjustable from a first position gripping said legs to a second position allowing said legs to move freely therein; a pivot block positioned between said brackets; rigid rods connecting said block to each of said brackets; and means for pivoting said block, thereby moving said rods and said brackets between said positions.

5. An adjustable bed rail as defined in claim 4, said means for pivoting said block comprising a handle removable from said block.

6. An adjustable bed rail as defined in claim 4, each of said brackets including a pair of clamping arms, the respective of said rods extending through both of said arms, and a coil spring enveloping said rod and positioned between said arms, said spring normally biasing said arms apart.

7. An adjustable bed rail as defined in claim 4, said legs including knobs at their lower ends.

8. An adjustable bed rail for preventing a person from falling off the side of a bed, comprising: a guard frame including a pair of depending legs; clamping brackets slidably receiving said legs, said brackets adjustable from a first position gripping said legs to a second position allowing said legs to move freely therein; a pivot block positioned between said brackets; a socket in said block; rigid rods connecting said block to each of said brackets; and a handle for moving said block, thereby moving said rods and said brackets between said positions, said handle removably positioned in said socket.

9. An adjustable bed rail as defined in claim 8, each of said brackets including a pair of clamping arms, the respective of said rods extending through both of said arms, and a coil spring enveloping said rod and positioned between said arms, said spring normally biasing said arms apart.

10. An adjustable bed rail as defined in claim 8, said legs including knobs at their lower ends.

11. An adjustable bed rail as defined in claim 8, said rods pivotally secured to the face of said pivot block.

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