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ADJUSTABLE GUARD FRAME FOR BEDS AND THE LIKE

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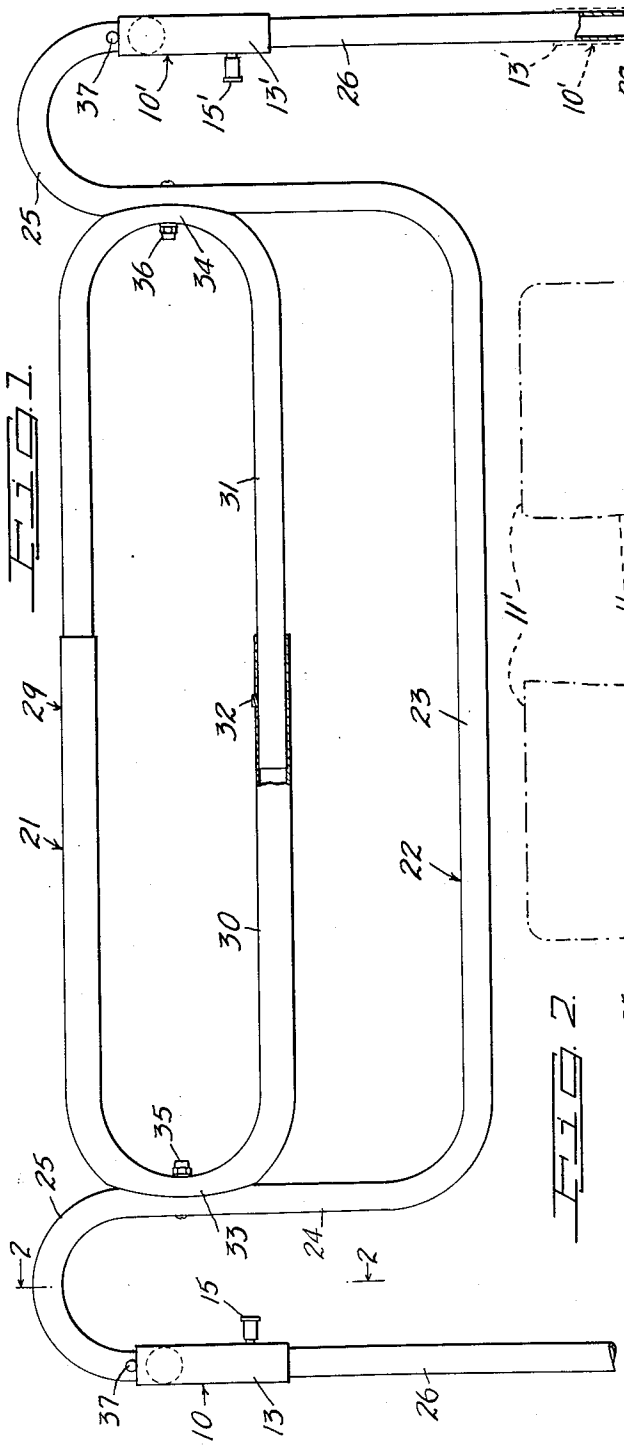


FIG. 1.

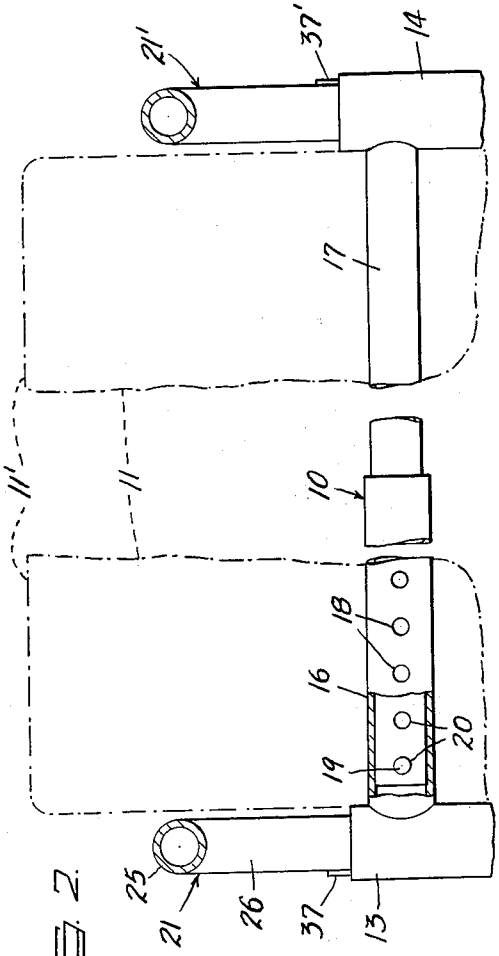


FIG. 2.

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ADJUSTABLE GUARD FRAME FOR BEDS AND THE LIKE

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This invention relates to guard frames for use in connection with hospital or other beds for retaining an occupant of the bed against accidental displacement. More particularly, the invention deals with a frame structure, wherein the side guard frames are of such construction as to facilitate movement thereof into a position below the upper surface of the bed mattress when the frames are in inoperative position to facilitate free access to the bed in moving a patient onto and removing the patient from the bed.

The novel features of the invention will be best understood from the following description, when taken together with the accompanying drawing, in which certain embodiments of the invention are disclosed and, in which, the separate parts are designated by suitable reference characters in each of the views and, in which:

FIG. 1 is a side view of a guard frame made according to my invention, with part of the construction removed and with parts broken away and in section, the frame being shown in its lowered or inoperative position in full lines and also indicating in dotted lines the support of one end of the frame in raised position; and

FIG. 2 is an enlarged broken away sectional view substantially on the line 2—2 of FIG. 1 and diagrammatically illustrating, in dot-dash lines, portions of a mattress and box spring of a bed.

This application constitutes a continuation-in-part of the structure disclosed in my earlier application filed November 12, 1959, Serial Number 852,437, now Patent No. 3,002,200, issued October 3, 1961.

In the present construction, I provide two spreader frames **10**, **10'**, note FIG. 1, which are arranged between the mattress of a bed shown in part, in dot-dash lines, at **11** in FIG. 2 and the box spring **12**, also indicated in dot-dash lines. In FIG. 2 of the drawing, the spreader frame **10** is shown in detail and it will be understood that the companion frame **10'** is of identical construction; thus, the brief description of one frame will apply to the other.

The frame **10** comprises two tubular columns or posts **13** and **14**, one of the columns or posts of the frame **10'** being indicated at **13'** in FIG. 1 of the drawing. Welded or otherwise fixed to the columns or posts **13**, **14** are pull-out pin devices, one of which is shown at **15** on the post **13** in FIG. 1 and the companion device on the post **13'** is indicated at **15'**. It will be understood that similar devices are on the post **14** at the opposed side of the bed.

Now, considering FIG. 2 of the drawing, welded to the posts **13**, **14** are angularly extending tubes **16** and **17** which telescope one with the other. The tube **16** has a plurality of longitudinally spaced apertures **18**, with which a pin **19** is adapted to be coupled in adjustably spacing the posts **13**, **14** for positioning at opposed sides of the bed. The tube **17** may also have one or more apertures **20** for reception of the pin **19**.

At **21** in FIG. 1 of the drawing, I have shown a side view of one of the guard frames and, as and when employed, an identical frame **21'** is arranged at the opposed side of the bed, the latter being indicated in FIG. 2 of the drawing.

Each guard frame is of identical construction; thus, the brief description of the frame **21** will apply to the frame **21'**. The frame **21** comprises what might be termed

a wide U-shaped tubular member **22**, comprising a lower horizontal rail **23** and upstanding side rails **24**, the latter terminating in upwardly and downwardly curved upper portions **25** terminating in long downwardly extended support tubes **26**. The tubes **26** are spaced from the rails **24** and extend below the bottom rail **23**, the lower ends of the tubes being closed by rubber or other plugs, one of which is shown in section at **27** at the right of FIG. 1 of the drawing.

Adjacent the lower end of the tubes **26**, the wall of the tube is provided with an aperture **28**, it being understood that a similar aperture is on the tube **26** shown at the left of FIG. 1. In the construction shown, the apertures **28** are preferably arranged on inner surfaces of the tubes **26**. However, they can be positioned on other surfaces, if desired. It will appear that, by arranging the apertures **28** on the inner surfaces of the tubes **26**, the pin devices **15**, **15'** will be disposed within the environment of the frame **21** and the pins of these devices are adapted to enter the apertures **28** in support of the frame **21** in the raised operative position. At the right of FIG. 1, the column or post **13'** of the spreader **10'** is indicated in dotted lines in the position assumed by the spreader in support of the frame **21** in raised position. It will be understood that the structures above described are applicable to the frame **21'** in support thereof in raised position.

The rails **24** of the frame **21** are joined and braced by what might be termed an elongated O-frame **29** which, in the construction shown, is composed of two U-shaped tubular frame parts **30** and **31**, the part **30** being of larger diameter than the part **31**, so that **31** fits snugly within the ends of the frame **30**, as indicated in the sectional portion at the lower part of the frame **29**. The two parts are preferably secured together by a suitable fastening, as at **32**.

The rounded ends of the parts **30**, **31** are shaped, as seen at **33** and **34**, to partially encircle the rails **24** in definitely keying the frame **29** to the rails **24** and suitable fastening devices **35** and **36** are employed to secure the frame **29** in definite position on the rails **24** so that each frame **21**, **21'** will have three spaced horizontal guard rails disposed at sides of the bed when the guard frames are in raised position. It will be noted, from a consideration of FIG. 1, that the curved upper portions **25** extend slightly above the upper rail of the frame **29**.

Now, in considering FIG. 2 of the drawing, it will appear that, when the frames **21**, **21'** are in their lowered positions, these highest curved portions of the frames **21**, **21'** are positioned well below the upper surface **11'** of the mattress **11** so that the bed is clear for movement of a patient onto or off from the bed.

The upper portions of the support tubes **26** have stop members **37** which check downward movement of the tubes **26** in the columns or posts **13**, **13'**, it being understood that similar stops are employed on the frame **21'**, one of which is indicated at **37'** in FIG. 2 of the drawing. From the foregoing, it will be apparent that the frames **21**, **21'** have two definite positions, namely the raised position, where **15**, **15'** engage the apertures **28**, and the lowered position, with **37**, **37'** striking the upper ends of the columns or posts **13**, **13'** and **14**. It will further be apparent that, whenever desired, the frames **21**, **21'** can be removed from the spreader frames **10**, **10'** by simply supporting the devices **15**, **15'** in inoperative position and drawing the support tubes **26** upwardly through the columns or posts **13**, **13'**, this latter operation being desirable, particularly in the making-up of the bed.

Having fully described my invention, what I claim as new and desire to secure by Letters Patent is:

1. A device of the character described comprising a pair of spreader frames having tubular posts at end por-

tions thereof, a guard frame joining the posts at one common end of the spreader frames, said guard frame having at its ends elongated vertical support tubes slidably mounted in the posts of said spreader frames, means on said support tubes engaging said posts in checking downward movement of the support tubes in said posts, interengaging means between the posts and support tubes for support of the guard frame in raised position in said posts, means spaced with respect to said support tubes forming a guard rail portion when the guard frame is in raised position in said posts, said guard rail including a wide U-shaped member having a horizontal rail and upwardly extending side rails, and said rails being spaced from and joining the support tubes in upper rounded portions.

2. A device as defined in claim 1, wherein the guard rail portion further includes an elongated O-frame secured to and bracing the side rails of said U-shaped member.

3. A device as defined in claim 2, wherein said O-frame includes rounded ends partially enveloping said side rails, and means fixing the O-frame to said side rails.

4. A device as defined in claim 2, wherein said O-frame comprises two U-shaped tubular parts having ends fitting one within the other.

5. A device as defined in claim 4, wherein means is employed for securing the parts of the O-frame against relative movement.

6. A device as defined in claim 1, wherein the U-shaped member in each frame includes bracing means extending between and fixed to upper portions of the side rails of said guard rail portion.

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