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2,817,854

GUARD ATTACHMENT FOR BEDS

Filed Oct. 4, 1954

3 Sheets-Sheet 1

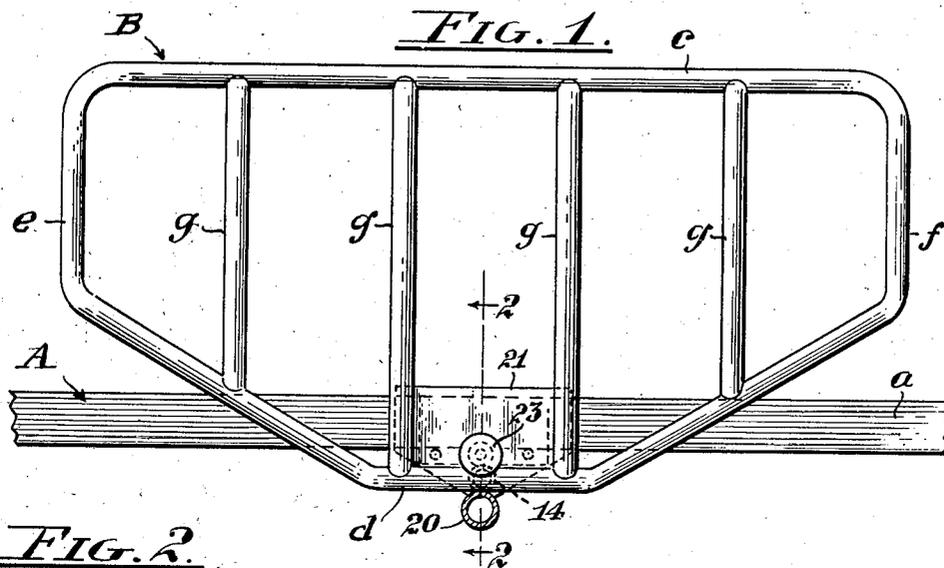


FIG. 2.

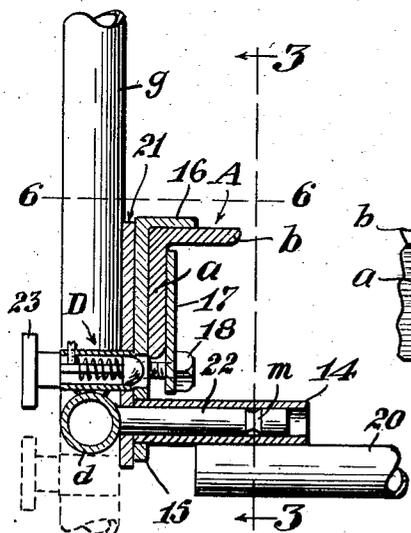


FIG. 3.

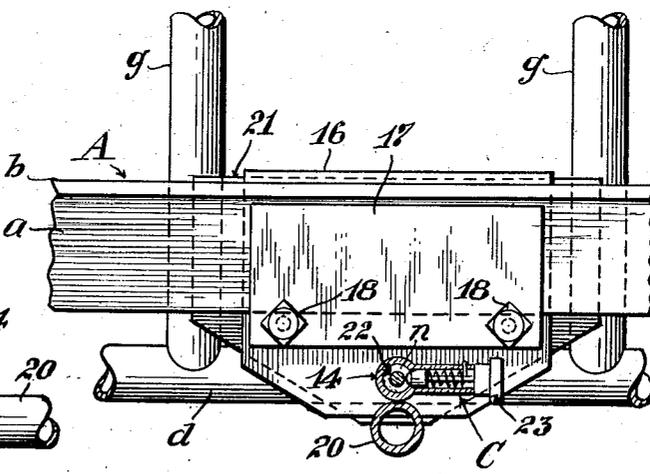
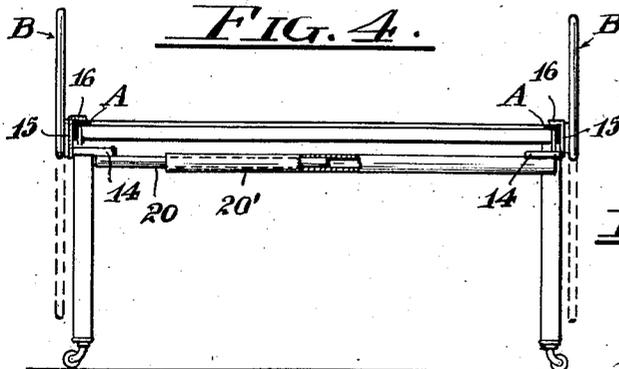


FIG. 4.



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3 Sheets-Sheet 2

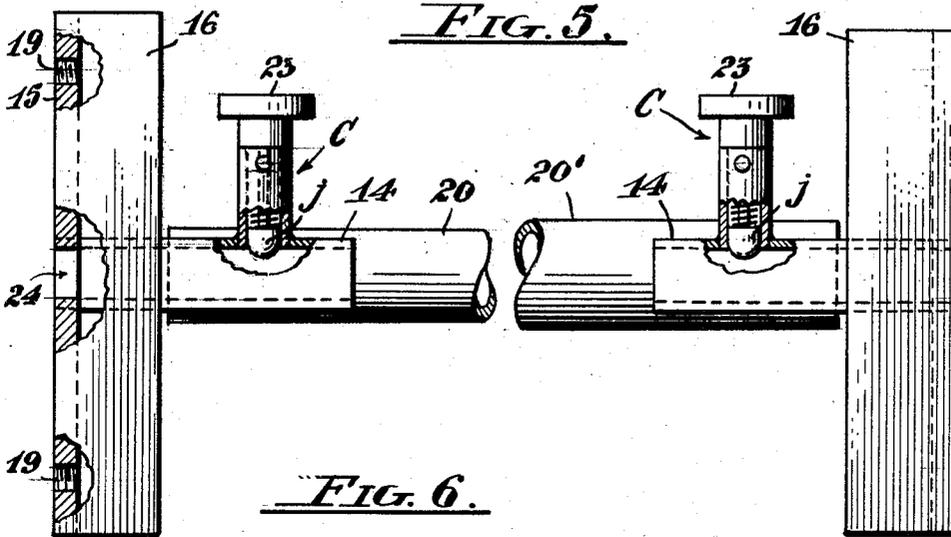
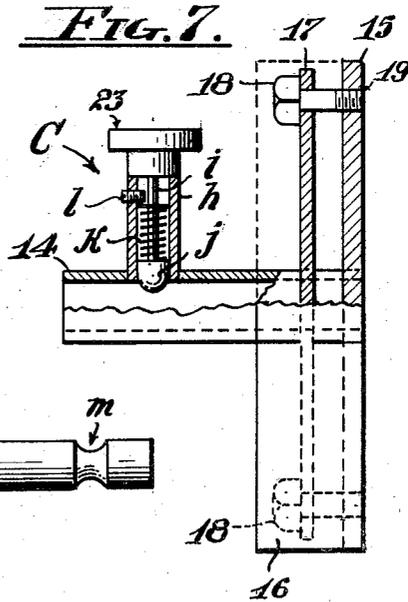
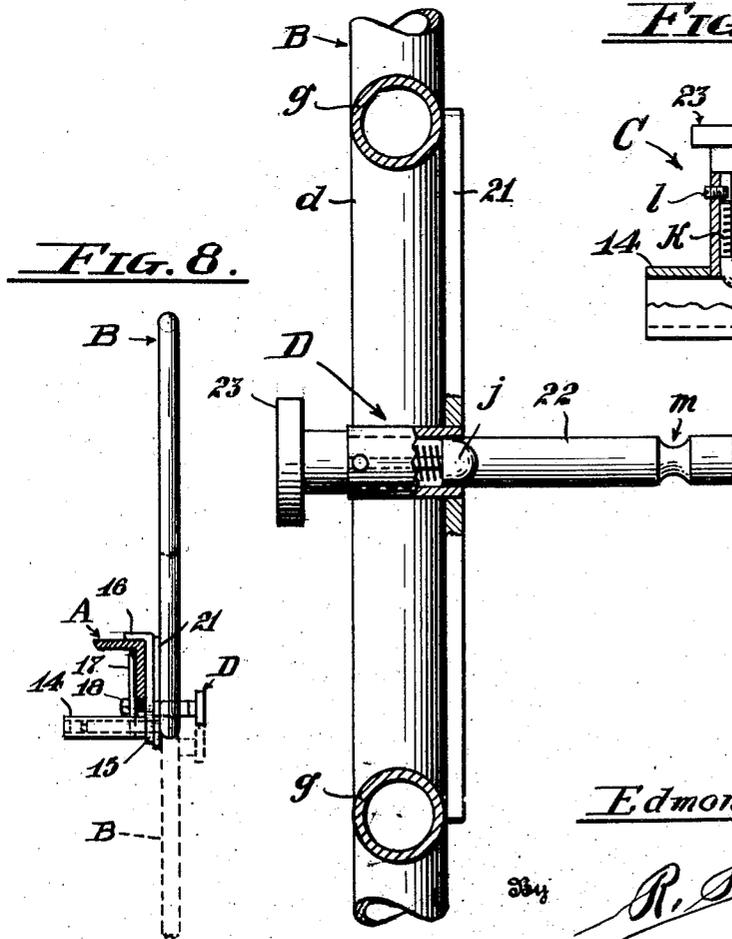


FIG. 6.



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3 Sheets-Sheet 3

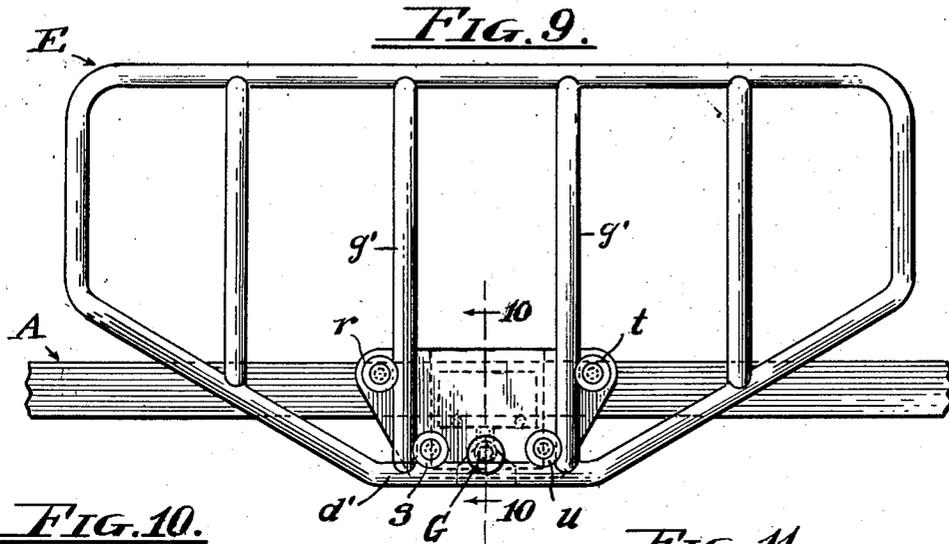


FIG. 10.

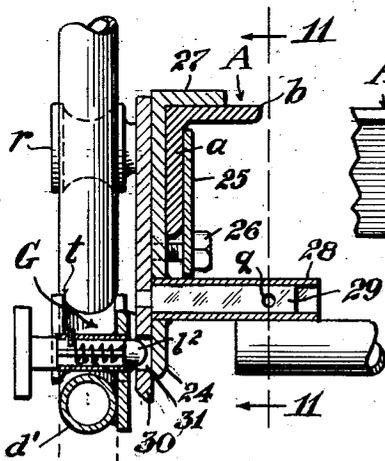


FIG. 11.

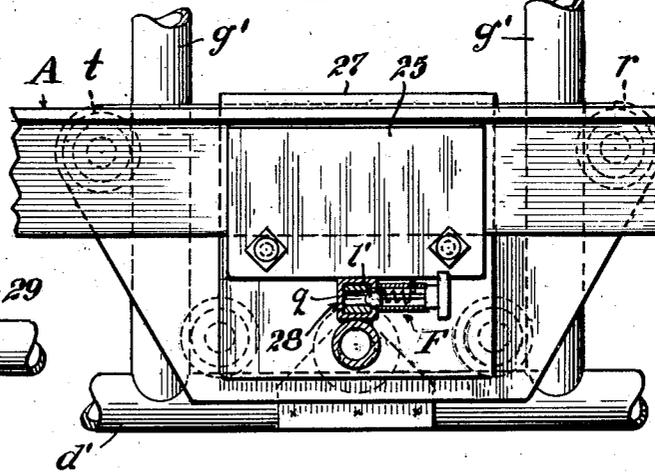
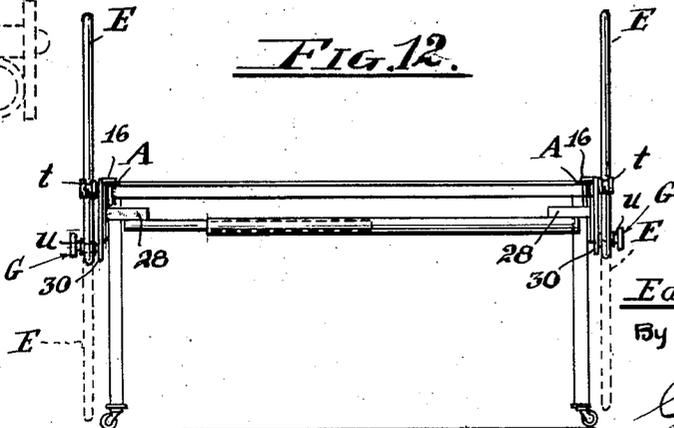


FIG. 12.



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GUARD ATTACHMENT FOR BEDS

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7 Claims. (Cl. 5—331)

This invention relates to a guard gate for beds and has as its primary object the provision of a gate which may be detachably applied to the side rail of a bed frame and when applied be readily disposed in either an upwardly extending operative position or in a downwardly extending out of use position.

Another object is to provide an adjustable bed gate together with a mounting therefor in which the mounting is adapted to be detachably secured to either or both of the side rails of a bed frame, and which will not damage the frame to which it is attached.

A further object is to provide a construction whereby the guard gate may be easily and rapidly attached to and removed from its mounting.

With the foregoing objects in view together with such other objects and advantages as may subsequently appear, the invention resides in the parts and in the combination, construction and arrangement of parts hereinafter described and claimed, and illustrated by way of example in the accompanying drawings, in which:

Fig. 1 is a view in side elevation illustrating one embodiment of the invention showing the bed gate as applied and as disposed in its operative position;

Fig. 2 is an enlarged detail vertical section taken on the line 2—2 of Fig. 1;

Fig. 3 is a view in section and elevation taken on the line 3—3 of Fig. 2;

Fig. 4 is a view in cross section of a bed showing the application of the invention to the side rails thereof with the guard gates shown in full lines in their operative position and indicating their out of operation position in dotted lines;

Fig. 5 is a detail plan view with portions broken away of a preferred form of the combined bed rail engaging and gate supporting member showing it as detached;

Fig. 6 is an enlarged detail in section taken on the line 6—6 of Fig. 2 showing the gate as detached;

Fig. 7 is a plan view partly in horizontal section of the combined bed rail and gate supporting member as formed for application to one side rail of a bed frame;

Fig. 8 is a view in elevation showing the manner of equipping one side rail of a bed frame with the gate where a single gate is needed;

Fig. 9 is a view in elevation showing another form of the invention with the guard gate in its operative position;

Fig. 10 is a detail in vertical section taken on the line 10—10 of Fig. 9;

Fig. 11 is a view in section and elevation taken on the line 11—11 of Fig. 10; and

Fig. 12 is a view in cross section of a bed showing a pair of the guard gates depicted in Fig. 9 as disposed in operative position in full lines and in their out of operative position in dotted lines.

Referring to the drawings more specifically A—A indicate the parallel side rails of a bed-frame here shown as formed of angle iron comprising a vertical web portion *a* and a horizontal web portion *b* extending inwardly

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from the upper margin of the web *a*. The side rails A—A afford a mounting for a bed-spring assemblage and are supported in the manner common in bed construction.

In carrying out the invention either one or both of the rails A—A is fitted with an outwardly opening horizontally extending socket member 14 which in the construction shown in Figs. 1 to 8 inclusive comprises a cylindrical tube the outer open end of which extends through and is affixed to a supporting plate 15 having an intumed flange 16 on its upper margin. The plate 15 when mounted is positioned against the outer face of the web *a* of a rail A with the flange 16 seating on the web *b* as shown in Fig. 2.

The socket supporting plate 15 is designed to be removably clamped on the rail A at any suitable point along the length thereof, which is accomplished by a clamping plate 17 positioned against the inner face of the web *a* with the lower marginal portion thereof projecting below the lower margin of the web *a* and connected to the plate 15 by a pair of bolts 18—18 which are passed through the plate 17 from the inner side thereof and screwed into engagement with internally threaded holes 19—19 in the plate 15 so as to tightly clamp the plates 15—17 against the opposite sides of the web *a*. When the plates 15—17 are thus positioned the socket member 14 on the plate 15 will extend beneath the side rail A transversely thereof.

As a means for facilitating the mounting of a pair of the socket members 14 on a pair of the rails A—A so as to be positioned in axial alignment on opposite sides of a bed, the socket members are affixed at their inner end portions to tubes 20—20' in overlying relation thereto which tubes are telescoped with a sliding fit, as shown in Fig. 4 and are slidable relative to each other, the tubes 20—20' being thus interconnected to permit of their longitudinal adjustment to enable mounting of the socket member and tube assemblage on bed frames of various widths.

As shown in Figs. 1 to 4 the tubular socket member 14 serves as a mounting for a gate B here shown as comprising a rigid frame structure formed of metallic tubing embodying a top rail *c*, a bottom rail *d*, end rails *e* and *f*, and a series of spaced intermediate vertically extending rails *g* connected at their upper and lower end to the top and bottom rail *c—d*.

Mounted on the frame member B and attached to the bottom rail *d* and to a pair of rails *g* is a flat abutment plate 21 extending parallel with the inner side of the gate. From the lower portion of the plate 21 fixedly projects a cylindrical trunnion 22 which is adapted to be inserted in the open outer end of the socket member 14 in slidable contact therewith to afford a pivotal mounting for the gate B on which the latter may be turned to an upwardly extending position relative to the bed frame A, as shown in Figs. 1 and 4, or be disposed in a dependent position as indicated in dotted lines in Fig. 4.

When the gate B is thus mounted the plate 21 thereon slidably abuts the outer face of the plate 15. As a means for releasably retaining the trunnion 22 in the socket 14 the latter is equipped with a spring pressed detent C which embodies a tubular housing *h* mounted on the socket member 14 perpendicular thereto, in which housing is mounted a reciprocal stem *i* the inner end of which is fitted with a domed latch *j* which normally projects interiorly of the socket 14 under the urge of a spring *k* which bears between the latch *j* and an abutment *l* in the form of a screw mounted in the wall of the housing *h*. The latch *j* is engageable with a circumferential channel *m* formed on the trunnion 22 at a point on the latter where it will align with the latch *j* when the trunnion

is in its innermost position in the socket 14. The outer end of the stem *i* is fitted with a head 23 constituting a finger hold adapted to be grasped and pulled to effect retraction of the latch *j* out of engagement with the channel *m* when it is desired to withdraw the trunnion 22 out of engagement with the socket 14.

As a means for retaining the gate B in its upwardly projecting operative position the gate is equipped with a spring pressed detent D corresponding to the detent C and which requires no further description since the parts of the detents C and D are identical. The housing of the detent D is mounted on the bottom rail *d* of the gate with the inner end of the housing opening through the guide plate 21 so that the latch *j* will normally be positioned for engagement with an opening or recess 24 formed in the plate 15 at such point that when engaged with the latch of the detent D the gate B will be held against movement in an upwardly extending position. When it is desired to dispose the gate B in its dependent inoperative position, the latch of the detent D is retracted out of engagement with the recess or opening 24 whereupon the gate may be swung on its trunnion to a dependent position thereon.

Manifestly a gate B may be mounted on either or both side rails of a bed frame and when a gate is provided on each side rail, that is on each of the opposite sides of a bed, either of the gates may be operated and removed and replaced independently of the other.

In the form of the invention shown in Figs. 9 to 12 inclusive, a gate E fashioned in a manner similar to the previously described gate B is mounted for vertical reciprocal movement on the bed rail so that it may be disposed in an upwardly projecting position relative to the rail or in a downwardly extending or dependent position relative thereto. In this instance a pair of clamping plates 24 and 25 are clamped on opposite sides of dependent web *a* of the bed rail A by means of bolts 26 which connect the plates 24 and 25 beneath the web *a*, as particularly shown in Fig. 10. A flange 27 on the upper end of the plate 24 seats on the web *b* of the bed rail to support the clamping plates against downward displacement. In this instance the plate 24 is fitted with a socket member 28 of rectangular cross section which opens at one end through the plate 24 and projects from the inner side thereof. The rectangular socket 28 is designed slidably to receive in telescopic engagement therewith a stud 29 of rectangular cross section fixedly mounted on a guide plate 30 adapted to be seated against the outer face of the plate 24. The stud 29 when positioned in the socket member 28 is detachably engaged by the latch *l'* of a spring pressed detent F which latch is arranged to engage a hole or recess *q* in the stud 29, the detent F corresponding to the detents C and D.

Mounted on the outer face of the plate 30 are laterally spaced pairs of vertically spaced grooved rollers *r—s* and *t—u* of which the rollers of each pair are laterally offset relative to each other. The upper rollers *r—t* of the pairs of rollers abut the opposite sides of a pair of parallel vertically extending rails *g'—g'* of the gate E while the lower and innermost rollers *s—u* abut the adjacent sides of said rails thus forming a rolling guideway in which the rails *g'—g'* are supported for vertical movement.

A spring pressed detent G is mounted on the lower rail of *d'* of the gate E, the latch *l²* of which is detachably engageable with an opening or recess 31 in the plate 30 arranged to receive the latch when the gate E is in its elevated position whereby the gate will be held in such position. On retracting the latch *l²* out of engagement with the plate 30 the gate may be lowered on its roller guideway to its dependent position indicated in dotted lines in Fig. 12.

The invention is particularly designed for use on hospital beds where it is desired to equip the bed with a guard gate extending along only a portion of the length of the

bed such as its upper half, and where it is necessary to mount the gate so that it may be readily disposed in either its upwardly extended operative position or its dependent out of the way position, as well as being subject to removal from the bed by detaching the gate from its mounting without removing the latter which removal of the gate is sometimes necessary in order to permit passing the bed through a doorway.

I claim:

1. A guard attachment for beds comprising a gate having a lower portion, an upper portion and end members, a lateral projection on the inner side of the lower portion of said gate intermediate said end members, a horizontal socket member for the reception and support of said projection in which said projection is turnable, said projection being insertable in and withdrawable from said socket member, means for fastening said socket member on a side rail of a bed, a detent carried by said socket member detachably engageable with said projection to hold it against longitudinal movement in said socket, said gate being movable on a vertical plane relative to said socket to and from an elevated position in which said upper portion projects above the bed rail, and latch means for releasably locking said gate in its elevated position.

2. A guard attachment for beds comprising a gate having a lower portion, an upper portion and end members, a trunnion projecting inwardly from the inner side of the lower portion of said gate intermediate said end members, a socket member for the reception and support of said trunnion, said trunnion being withdrawable from said socket member, a detent carried by said socket member detachably engageable with said trunnion to hold it within said socket member, means for supporting said socket member on a side rail of a bed, and releasable detent means on said gate for releasably locking it in an upwardly extending position against turning on said trunnion.

3. In a side guard for beds, a socket member, means for clamping said member on a bed rail, a gate having a bottom rail and an abutment plate fastened to said rail, means on said abutment plate for detachably supporting said gate on said socket member on which the gate is movable on a vertical plane to an elevated or to a lowered position, and releasable detent means for holding said gate in a fixed elevated position relative to said socket member.

4. In a side guard for beds embodying a pair of telescopically engaged tubes, a socket member affixed to the outer end of each of said tubes, and means connected to said socket member for clamping same on a pair of bed rails; a pair of gates, means for detachably supporting said gates on said socket members on which said gates are movable on a vertical plane to either an upwardly or downwardly extended position relative to the bed rails on which said socket members are mounted, and latch means interconnecting said gates and their supporting means when said gates are in their upwardly extended position.

5. In a bed side guard embodying a pair of telescopically engaged tubes for mounting on the underside of the side rails of a bed frame to extend transversely of the latter, at least one of said tubes having an outer end provided with a socket, and means for dependently attaching the outer ends of said tubes to a pair of parallel bed rails with the ends of said tubes presented outwardly; a bed guard mounting telescopically and removably mounted in said socket, a bed guard mounted on said mounting for movement on a vertical plane, and means carried by the socketed end portion of said tubes releasably engaging said mounting to hold it against longitudinal movement in said socketed end portion.

6. In a bed side guard embodying a pair of telescopically engaged tubes for mounting on the underside of the side rails of a bed frame to extend transversely of the latter, at least one of said tubes having an outer end provided with a socket, and means for dependently attaching the outer ends of said tubes to a pair of parallel bed

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rails with the ends of said tubes presented outwardly; a bed guard mounting telescopically and removably mounted in said socket, a bed guard mounted on said mounting for movement on a vertical plane, said mounting comprising a vertically extending guard supporting plate, and a horizontal projection on said plate extending into said socket, said plate being arranged to abut said socket and means carried by the socketed end portion of said tubes releasably engaging said projection to hold it against longitudinal movement in said socketed end portion.

7. In a guard attachment for beds, the combination with a mounting plate attached to a side rail of a bed having an outwardly opening socket member thereon of a demountable and portable gate structure adapted to be positioned to extend vertically above said rail and in parallel relation thereto and having a lower end portion adapted to be positioned opposite said socket member, an abutment plate fixed on the inner side of the lower end portion of said gate structure and extending in parallel relation thereto for slidably seating against said mounting plate in superficial contact therewith, a trunnion projecting inwardly from said abutment plate perpendicular

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thereto, said trunnion being conformable to said socket member and adapted to be freely inserted therein and withdrawn therefrom and when mounted in said socket affording a pivotal support for said gate on which the latter may be swung in parallel relation to said bed rail, a detent carried by said socket member detachably engageable with said trunnion when the latter is positioned within said socket member, and detent means on said gate engageable with said mounting plate to releasably hold said gate in an upwardly extending position when mounted on said socket member.

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