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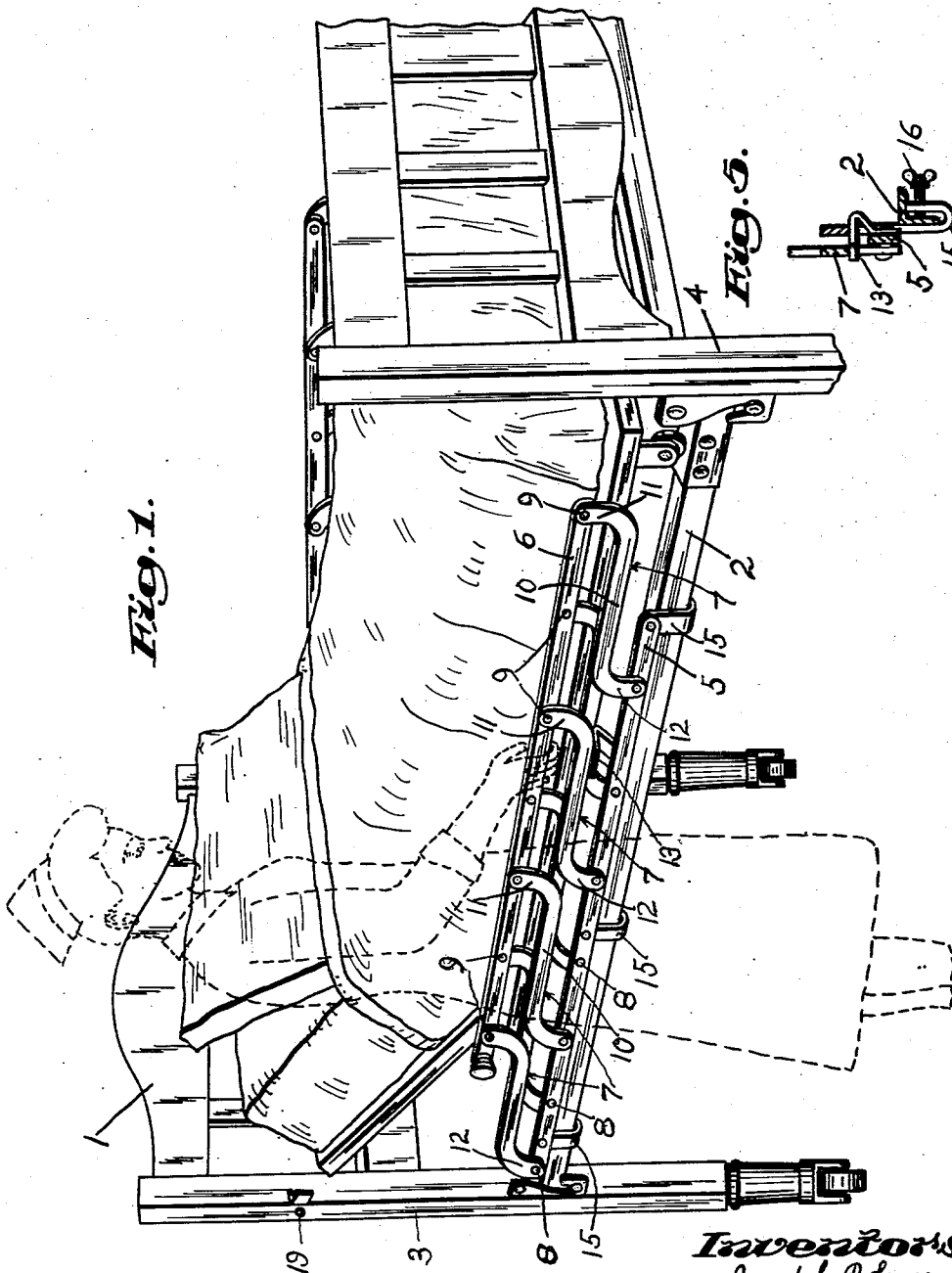
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FOLDING SIDE GUARD FOR BEDS

Filed Sept. 28, 1955

2 Sheets-Sheet 1



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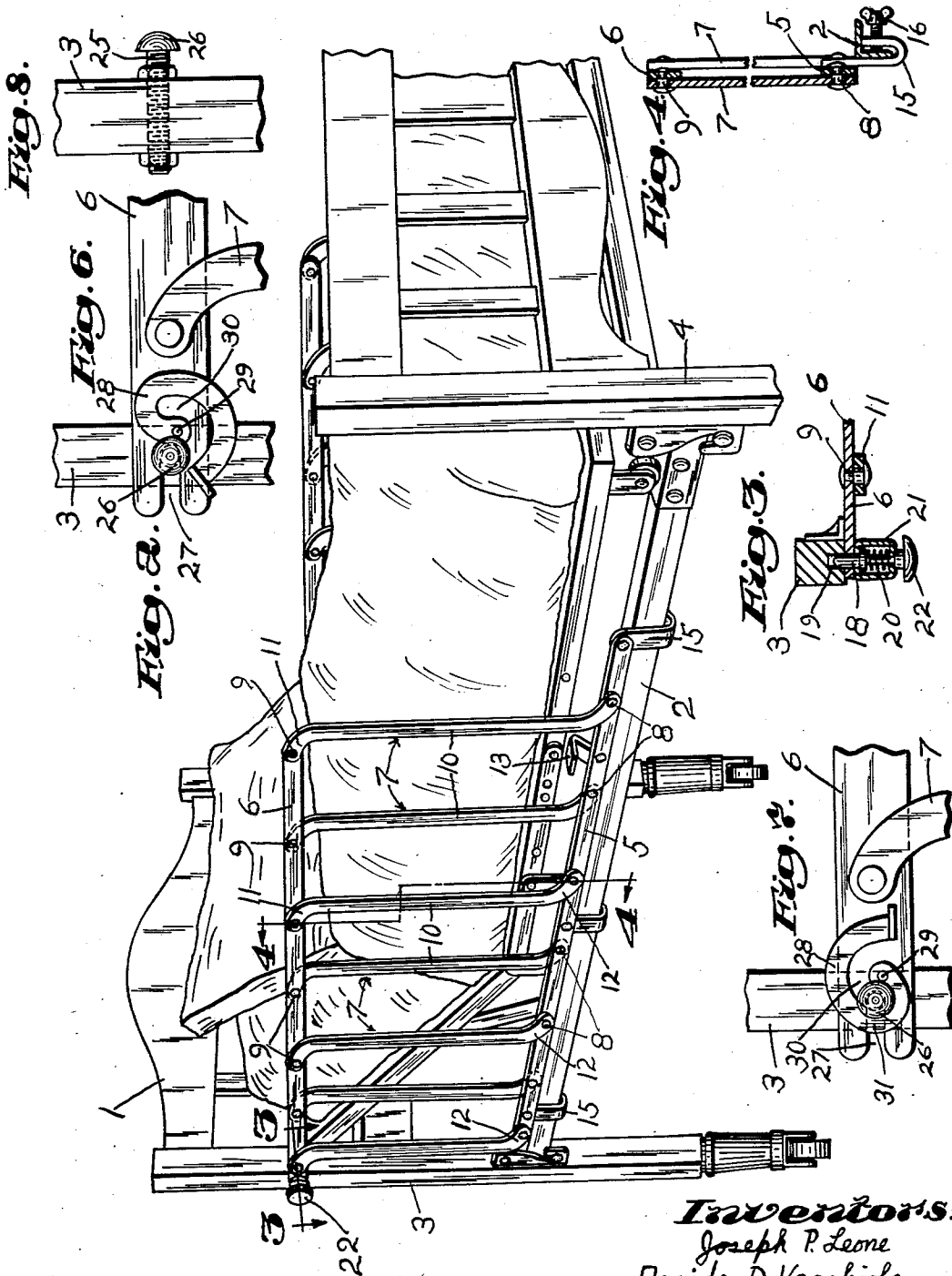
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1

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FOLDING SIDE GUARD FOR BEDS

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3 Claims. (Cl. 5—331)

This invention relates to folding side guard for beds of the type shown in U. S. Patent #2,676,341 and which includes a bottom rail adapted to be attached to the side rail of the bed, a top rail and connecting members pivotally connected at their lower ends to the bottom rail and also pivotally connected at their upper ends to the top rail so that the top rail can be folded downwardly from a raised operative position into a lowered inoperative position.

The construction shown in said patent is of such a nature that the nurse or other person manipulating the guard rail to lower it from its raised operative position into its lowered folded condition has to exercise care to avoid pinching her fingers between the top rail and the folding connecting members during the folding operation.

It is an object of the present invention to provide an improvement on the folding guard rail shown in said patent which eliminates the danger of the person manipulating the guard rail having her fingers pinched during the folding operation.

In the drawings, wherein a selected embodiment of the invention is shown:

Fig. 1 is a perspective view of a bed equipped with the improved guard rail showing it in its folded condition;

Fig. 2 is a similar view showing the guard rail in its raised operative position;

Fig. 3 is a section on the line 3—3, Fig. 2;

Fig. 4 is a section on the line 4—4, Fig. 2;

Fig. 5 is a sectional view showing the means for securing the bottom rail of the folding guard to the side rail 2 of the bed;

Figs. 6 and 7 show a quick release locking means for locking the top rail of the side guard to the bed post, Fig. 6 showing the locking device in open or unlocked position, and Fig. 7 showing the device in closed or locking position;

Fig. 8 is a sectional view illustrating the locking pin carried by the bed post.

In the drawings, 1 indicates a bed which may have any suitable or usual construction and which is provided with a side rail 2 extending from one of the head posts 3 to the corresponding foot post 4.

The folding guard embodying the invention comprises a bottom rail 5 which is mounted on the side rail 2 of the bed, a folding top rail 6, and connecting members 7 which are pivotally connected to both the bottom rail and the top rail and which provide for the folding movement of the guard from its raised operative position to its lowered folded condition.

In the present invention each connecting member 7 is pivoted to the lower rail 5 at 8 and to the upper rail 6 at 9. Each connecting member also is formed with the relatively straight body portion 10 and with laterally directed end portions 11 and 12. Each end portion extends at substantially right angles to the body portion, and the top end portion 11 of each connecting member 7 extends laterally in one direction from the body portion, while

2

the lower end portion 12 extends laterally from the body portion in the opposite direction.

When the guard rail is in its raised operative position shown in Fig. 2, the upper end portion of each connecting member is directed rearwardly from its pivotal point 9, while the lower end portion 12 of each connecting member extends forwardly from its pivotal connection 8.

When the side guard is folded into its folded condition shown in Fig. 1, the central body portion of each connecting member 7 extends substantially parallel to the top and bottom rails, and the upper end portion 11 of each connecting member extends downwardly from its pivotal connection with the top rail, while the lower end portion 12 extends upwardly from its pivotal connection 8.

Stop means are provided for limiting the swinging or folding movement of the guard rail to the position shown in Fig. 1, and while any suitable stop means may be used for this purpose there is shown a stop member 13 which is secured to the inside of the bottom rail 5, as shown in Fig. 5, and which extends outwardly a sufficient distance to be engaged by one of the connecting members 7 during the folding movement of the guard rail.

With this construction it will be observed from Fig. 1 that when the guard rail is in its folded position the upper rail 6 is spaced from the body portion of each of the connecting members so that the person manipulating the guard rail may place her fingers underneath the upper rail for raising the latter or for lowering it into its folded condition without any possibility that her fingers will be pinched.

The shape of the connecting members with their laterally extending upper end portions and the position of the stop member 13 are essential elements in providing the safety feature above referred to, which is inherent in this device.

The lower rail of the folding side guard may be secured to the inside rail 2 of the bed in any suitable way. As shown in the drawings, the lower rail has U-shaped brackets 15 secured thereto which are adapted to embrace the lower edge of the side rail 2, each bracket carrying a clamping screw 16 by which it can be clamped securely to the side rail.

It will be noted that some of the connecting members are located on the outside of the top and bottom rails 6 and 5 and the other connecting members are on the inside of said rails. This construction has the advantage that it adds strength to the folding guard rail.

Any suitable means may be provided for locking the end of the top rail to the bed post when said top rail is in its raised operative position. A preferred construction for this purpose is shown in Figs. 6, 7, and 8 in which the bed post 3 has a locking stud 25 secured thereto which projects outwardly therefrom and is provided with a head 26. The end of the top rail 6 is formed with an open ended slot 27 of a size to receive the stud 25 when said top rail is in its raised position. The top rail 6 has pivotally mounted thereon a locking member 28, said member being pivoted to the top rail at 29 at a point adjacent to the inner end of the slot 27. The locking member 28 is formed with an open ended curved slot 30 of a size to receive the stud 25, the inner portion of which slot is substantially concentric with the pivot 29.

This locking member 28 is adapted to be swung from an open position shown in Fig. 6, in which position the open end of the slot 27 registers with the locking stud 25 when the latter is at the inner end of the slot 27, and said open end of the slot 30 is on the same side of the pivotal axis 29 for the locking member 28 as said stud, through an arc of approximately 180° into a closed position shown in Fig. 7, in which closed position the portion 31 of the locking member encircles the stud and thus retains it in the slot 27 and the open end of the slot 30 is on the

3

opposite side of the pivotal axis from the locking stud. The location of the pivot 29 is such that when the locking member is in its closed or locking position said locking member will resist any strain thereon in the direction of the length of the top rail and will thus hold the said top rail securely locked to the bed post.

When the side guard is to be folded, the top rail may be unlocked or released from the bed post by swinging the locking member from its closed position shown in Fig. 7 into its open position shown in Fig. 6.

Another means which may be employed for securing the top rail 6 to the bed post 3 is illustrated in Figs. 1, 2, and 3. In the construction shown in these figures the bed post is provided with a socket 19 and the end of the top rail 6 carries a spring-pressed locking pin 18 adapted to enter the socket 19 and thus lock the top rail in its operative position. The locking pin 18 is acted on by a spring 20 which is enclosed in a housing 21 and which urges the pin forwardly into its operative locking position shown in Fig. 3. The pin is provided with the head 22 which can be grasped to pull the pin outwardly, thereby unlocking the top rail from the bed post.

We claim:

1. A folding side guard for beds having a bed post, said side guard comprising a bottom rail, means securing said bottom rail to the side of the bed, a top rail, a plurality of connecting members having their lower ends pivotally connected to the bottom rail and their upper ends pivotally connected to the top rail, said top rail having an open slot in its end, a locking stud projecting from the bed post and adapted to enter said open slot when the top rail is in its raised operative position, and a locking member pivotally connected to the top rail adjacent the closed end of the slot therein, said locking member having an open ended curved stud-receiving slot which encircles the pivotal axis thereof through an arc of approximately 180°, said locking member also being swingable about its axis through an arc of approximately 180° from an open position in which the open end of the curved slot therein registers with the locking stud when it is at the inner end of the slot in the top rail and also is on the same side of said pivotal axis as said locking stud, into a closed position in which the locking stud is located at the inner end of said curved slot as well as at the inner

4

end of the slot in the top rail, and the open end of said curved slot is on the opposite side of said pivotal axis of the locking member from the locking stud.

2. A folding side guard for beds comprising a bottom rail, means securing said bottom rail to the side of a bed, a top rail, a plurality of connecting members of equal length connecting the top and bottom rails, each connecting member having a substantially straight central body portion which terminates at each end in a laterally extending end portion, the two end portions of each connecting member extending in opposite directions and the end portions of all the connecting members having the same length, means pivotally connecting the end portion at one end of each connecting member to the top rail and the end portion at the other end of each connecting member to the bottom rail, whereby the top rail may be swung from a raised operative position parallel with the bottom rail into a lowered inoperative position in which the straight body portions of all the connecting members are parallel with each other and also with both the top rail and the bottom rail, and the end portions of the connecting members that are pivoted to the bottom rail maintain the parallel body portions of the connecting members above and in spaced relation to said bottom rail while the end portions of the connecting members that are pivoted to the top rail maintain said top rail above and in spaced relation to the parallel body portions of said connecting members, and stop means secured to the bottom rail to limit the folding movement of the top rail and connecting members when they reach said inoperative position.

3. A folding side guard for beds as defined in claim 2 in which said stop means is situated to engage the straight body portion of one of the connecting members when the side guard is in its folded inoperative position.

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