Feb. 21, 1961 A. TURK 2,972,153

SAFETY BARRIER

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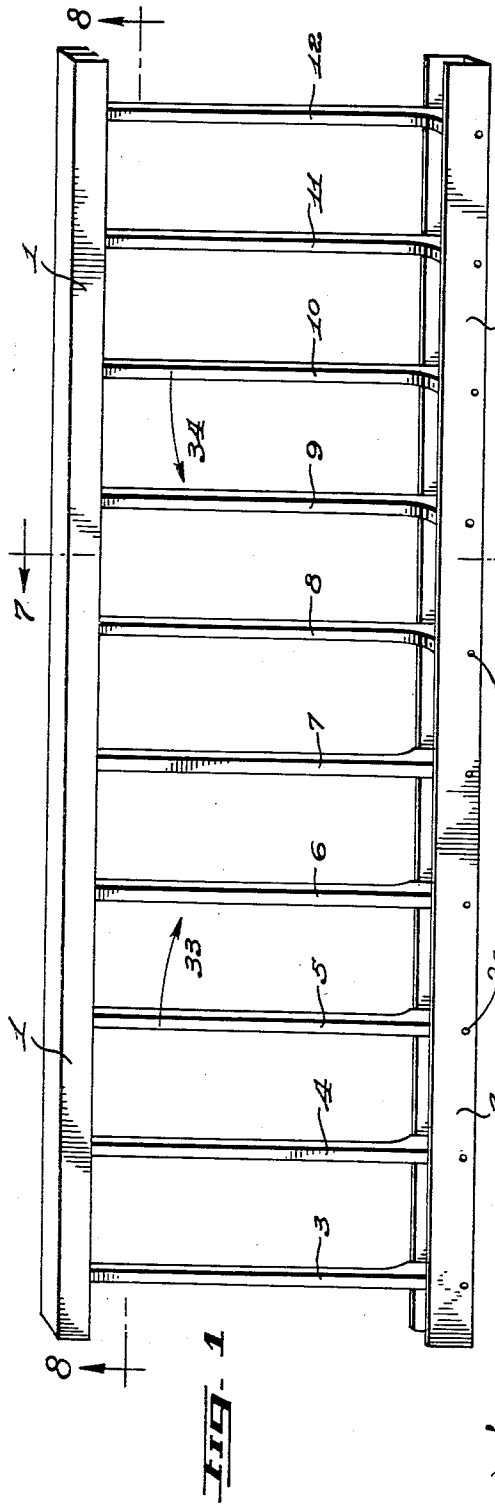


FIG. 1

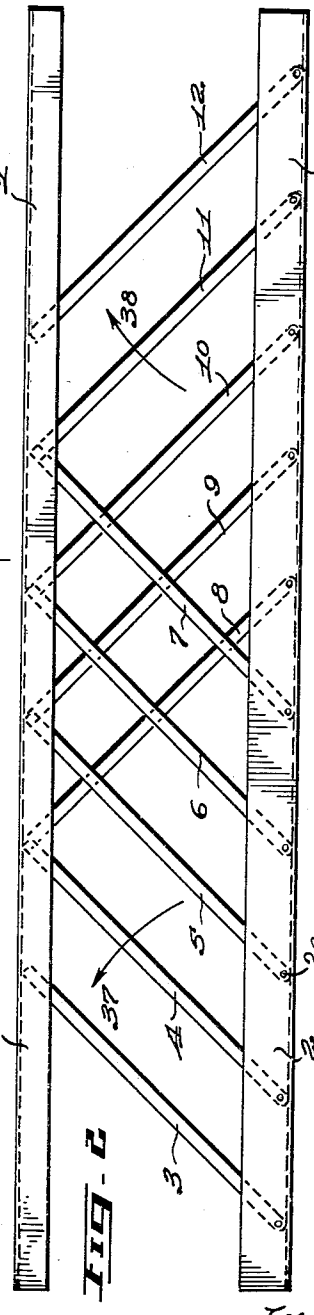


FIG. 2

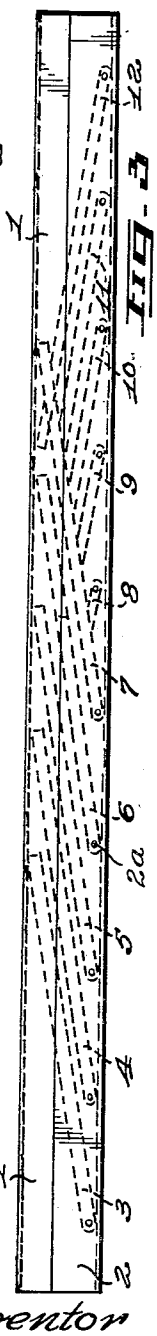


FIG. 3

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Fig. 4

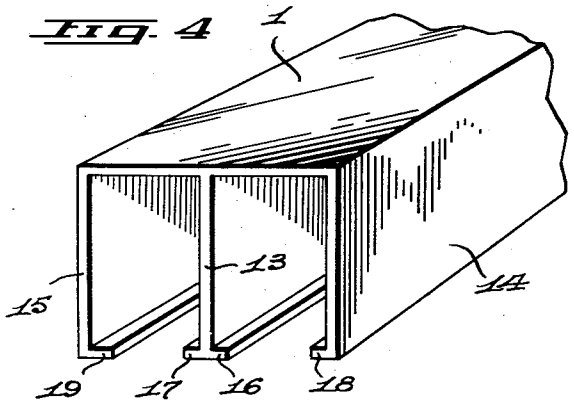


Fig. 5

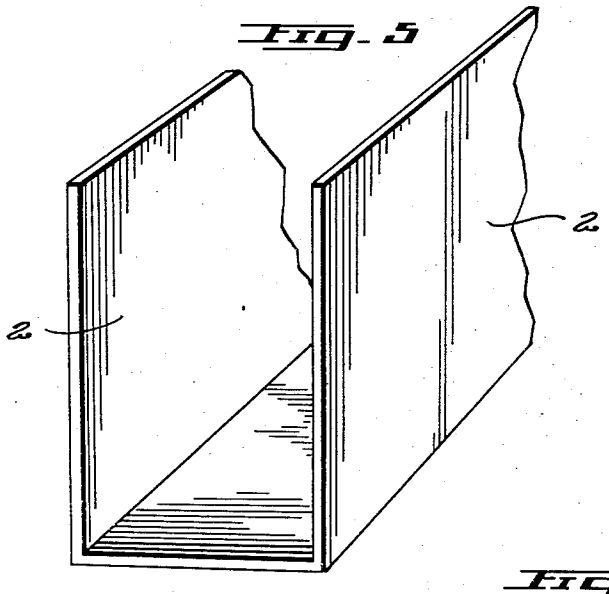
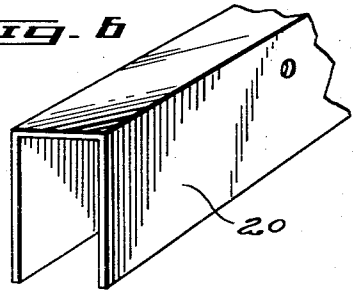


Fig. 6



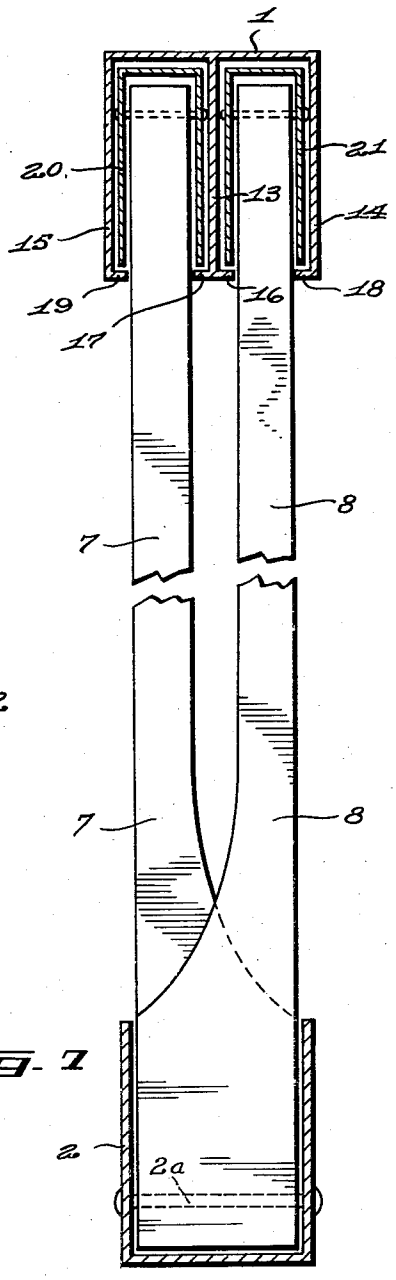


Fig. 7

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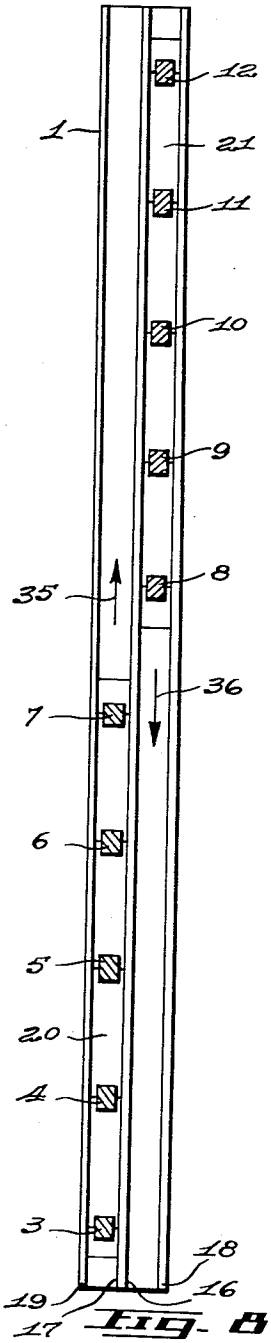


Fig. 8

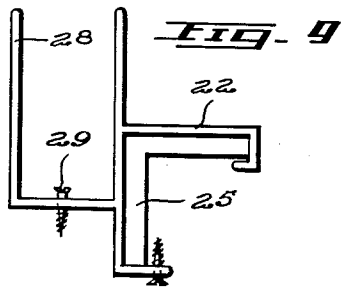


Fig. 9

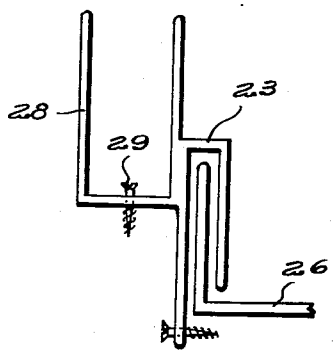


Fig. 10

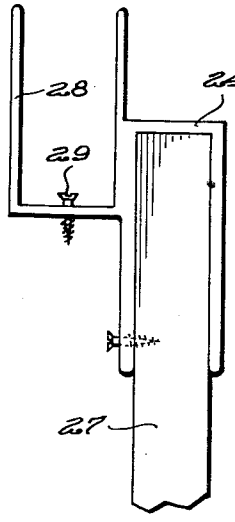


Fig. 11

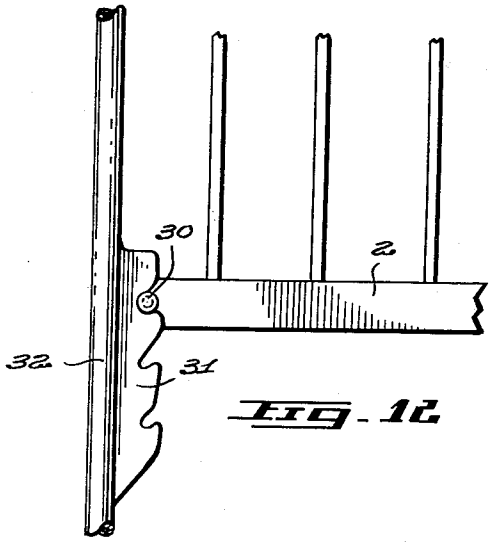


Fig. 12

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2,972,153

SAFETY BARRIER

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Filed Nov. 12, 1958, Ser. No. 773,373

Claims priority, application Canada Sept. 16, 1958

3 Claims. (Cl. 5—331)

The present invention relates to a new and novel self-storing safety barrier.

It is an object of my invention to provide a saftey barrier which is simple in construction and inexpensive to manufacture and which may be attached to any size or type of bed and which comprises in combination, a lower rail or trough being open along the full length of its upper side, a plurality of bars pivotally attached at one end within and to the said lower trough, an upper rail having a central longitudinal partition forming two parallel channels along the full length of the said upper rail on its lower side, sliding insert rails in each of said channels in said upper rail, said bars being pivotally attached at their upper end within and to one or other of said sliding insert rails, and means for attaching said trough to a bed.

The principal object of the invention is to prevent infants or adults from falling out of bed. It is a further object of the present invention to provide a safety barrier which is easily opened and closed and which is self storing. It is still a further object of the invention to provide a safety barrier which cannot be inadvertently lowered by the occupant of the bed. Another object of the invention is to provide a barrier which can be easily and quickly lowered or raised by the patient or by an attendant.

Reference will now be made to the accompanying drawings wherein:

Figure 1 is a perspective side view of the barrier in open or extended position.

Figure 2 is a plan view of the barrier in partly closed position.

Figure 3 is a side view of the barrier in closed or storage position showing the relative position of the stored bars in dotted lines.

Figure 4 is an enlarged perspective end view of one end of the upper rail of the barrier.

Figure 5 is an enlarged perspective end view of one end of the lower rail or trough.

Figure 6 is an enlarged perspective end view of one end of one of the sliding insert rails.

Figure 7 is a cross sectional view along line 7—7 of Figure 1;

Figure 8 is a cross sectional view along line 8—8 of Figure 1.

Figures 9, 10, 11 and 12 illustrate different methods of attaching the guard barrier to a bed.

Referring now to the drawings in detail.

In Figure 1, numeral 1 designates the upper rail of the barrier, numeral 2 the lower rail or trough of the barrier and numerals 3 to 12, ten bars pivotally attached by pivot pins 2*a* to lower rail 2 at equal intervals. It will be appreciated that any number of bars may be used and that the distance therebetween may be greater or lesser as desired.

Figure 4 is an enlarged perspective end view of an end portion of upper rail 1 showing a partition 13 and outer

walls 14 and 15. The lower edge of partition 13 is provided with lips 16 and 17 and similarly the lower edges of walls 14 and 15 are provided with lips 18 and 19 respectively. Two sliding insert rails 20 and 21, one of which is illustrated in Figure 6, are adapted to slide within upper rail 1 on lips 17 and 19, and 16 and 18 respectively. (See also Figure 7.)

As shown in Figure 5, lower rail 2 is a simple trough adapted to receive the lower ends of bars 3 to 12 and

Figure 7 which is a cross section along line 7—7 of Figure 1 illustrates the lower end of bar 8 pivotally attached to lower rail 2 by pivot pin 2*a*. The upper end of bars 7 and 8 are shown in Figure 7 pivotally attached within sliding insert rails 20 and 21 respectively. These sliding insert rails are in turn riding within the two channels of upper rail 1. The bars 3 to 12 at their upper end are no wider than the interior width of the sliding insert rails 20 and 21 but taper outwardly at their lower extremity to become substantially the same width as the interior of trough 2. It will be noted in passing that the width of the sliding insert rails 20 and 21 is approximately one-half that of the width of the upper rail 1.

Figure 8 which is a cross sectional view along line 8—8 of Figure 1 shows the bottom of upper rail 1 and sliding insert rails 20 and 21 relatively proportioned therein as they are when the barrier is in open or extended position.

All of the bars 3 to 12 are identical with bars 7 and 8 as shown in Figure 7. Bars 8 to 12 are positioned as is bar 8 and bars 3 to 7 are positioned as is bar 7.

In Figures 9, 10 and 11 various clamps 22, 23 and 24 respectively are shown for attaching the lower rail of the barrier to varying bed frames 25, 26 and 27 respectively. Integral with these clamps is a bracket 28 adapted to receive the lower trough or rail 2 (not shown) which may be attached thereto by any known means such as by a bolt 29.

Figure 12 shows the lower trough 2 having lug 30 affixed in notched bar 31 on bed frame 32. This last method of attachment is particularly suitable for hospital beds.

To lower the barrier from the position illustrated in Figure 1 it is necessary to pivot one of the bars near each end of the barrier inwardly toward each other, for instance bars 5 and 10 pivoted in the direction of arrows 33 and 34 respectively. As this is done the sliding insert rail 20 and the bars 3 to 7, as shown in Figure 8, will slide in the direction of arrow 35, and similarly, sliding insert rail 21 and the bars 8 to 12 will slide in the direction of arrow 36.

When the barrier reaches the position as shown in Figure 2 it becomes difficult or impossible to further lower the barrier by lateral pressure on the bars. To completely lower the barrier from the position shown in Figure 2 to that shown in Figure 3, downward vertical pressure on upper rail 1 is necessary. When the barrier is completely closed as in Figure 3 it will be noted that the upper rail cooperates with the lower trough to completely and compactly encase the bars.

To raise the barrier from the storage position as shown in Figure 3, the upper rail 1 is grasped and raised to approximately the position in Figure 2. To complete the opening of the barrier it is necessary to pivot one of bars near each end of the barrier outwardly away from each other, for instance bars 5 and 10 pivoted in the direction of arrows 37 and 38 respectively (see Figure 2), until all of the bars are in vertical parallel relationship.

It will be apparent from the above description of the lowering of the barrier that pressure on a single bar will not lower the barrier, as for instance when the infant or patient strikes against the barrier. Similarly the raised barrier cannot be closed by direct vertical pressures.

It will be appreciated that any known locking means such as strapping, snap locks, hooks, wedge locks etc., may be used if desired to hold the barrier in open or closed position.

While the barrier shown does not have a bar at its extreme ends, on some types of beds end bars might be useful.

The above disclosure is by way of example only and the spirit and scope of the present invention should be limited only by the appended claims.

I claim:

1. A safety barrier comprising in combination a lower trough being open along the full length of its upper side, a plurality of bars pivotally attached at one end within and to the said lower trough, an upper rail having a central longitudinal partition forming two parallel channels along the full length of the said upper rail on its lower side, sliding insert rails in each of said channels in said upper rail, half of said bars being pivotally attached at their upper ends to one of said sliding insert rails and the other half of said bars being pivotally attached at their upper ends to the other of said insert rails.

2. A safety barrier according to claim 1, said trough having means for attachment to a support.

3. A safety barrier for beds comprising in combination

a lower trough being open along the full length of its upper side, a plurality of bars, a hollow upper rail having a central longitudinal partition forming two parallel channels along the full length of said upper rail along its lower side, outwardly extending lips along the full length of the lower edge of said partition and inwardly extending lips along the full length of the outer walls of said channels, a sliding insert rail in each of said channels, said insert rails being no more than one-half the length of said channels and being restrained therein by said lips, half of said bars being pivotally attached at their upper ends to one of said sliding insert rails and the other half of said bars being pivotally attached at their upper ends to the other of said insert rails and all of said bars being pivotally attached at their lower ends within and to said lower trough, said trough being approximately twice as wide as said channels, said bars widening at their lower extremity.

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