

Oct. 10, 1950

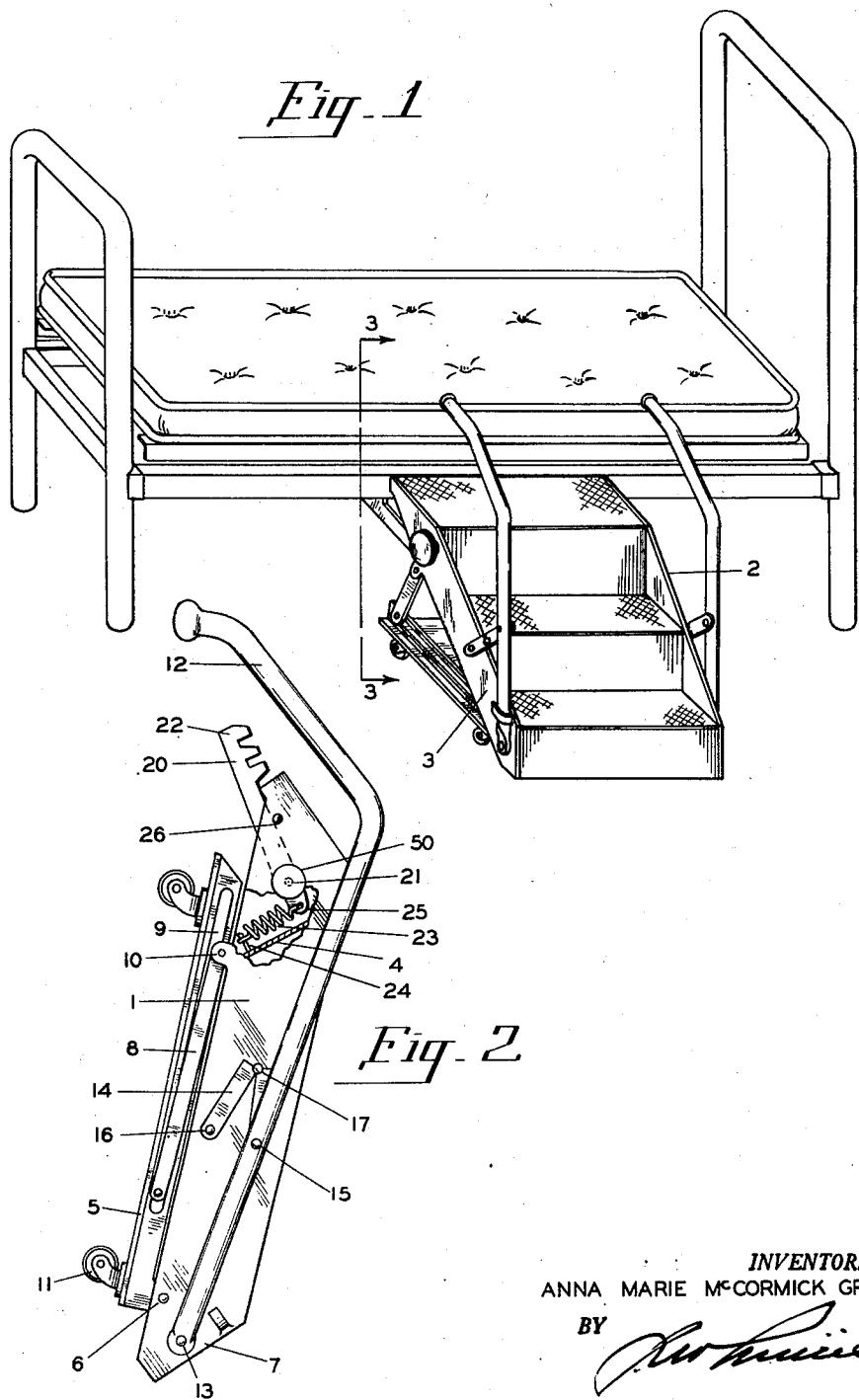
A. M. McC. GRAY

2,524,971

BEDSIDE STEPS

Filed April 14, 1947

2 Sheets-Sheet 1



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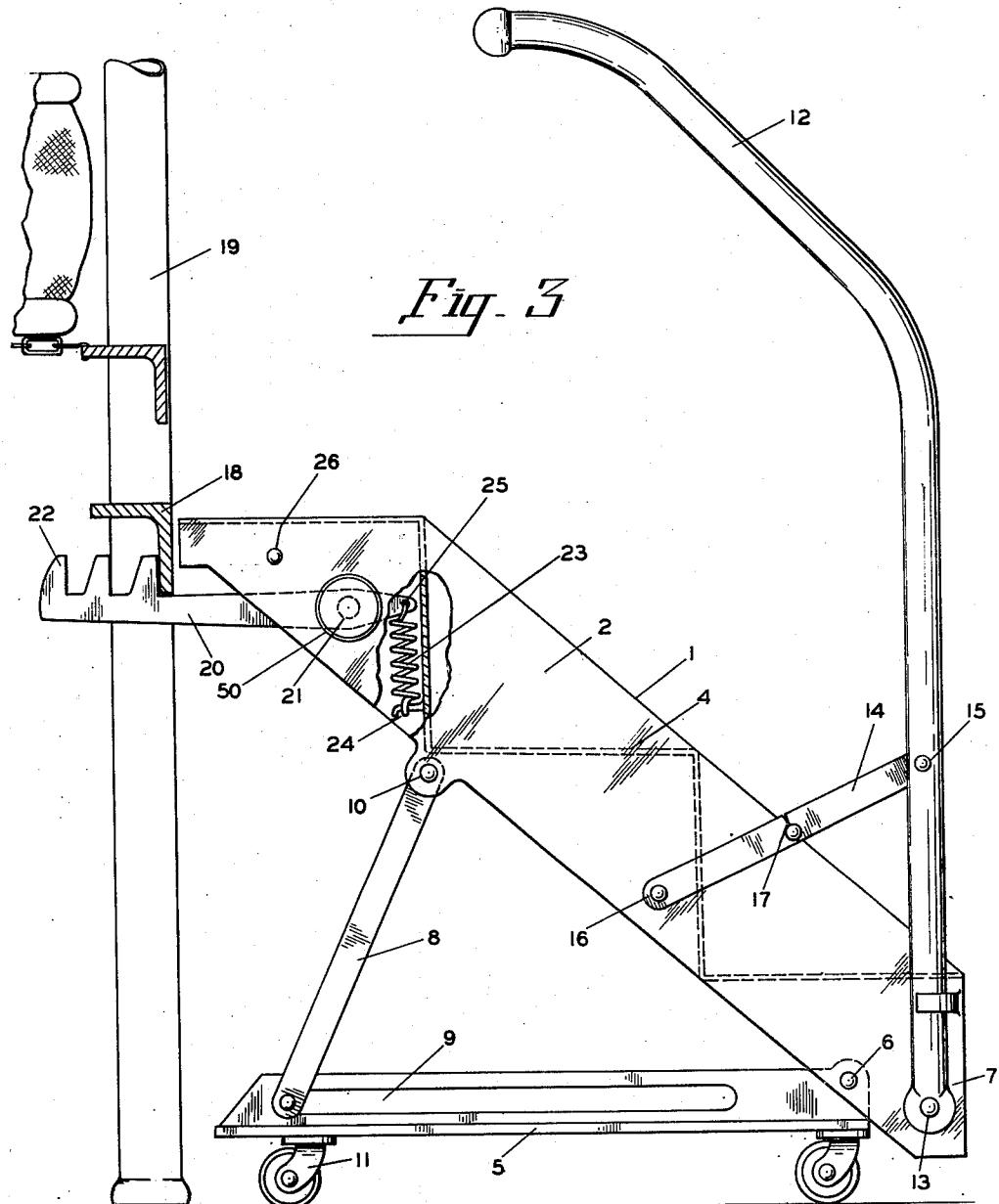
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2 Sheets-Sheet 2



INVENTOR.
ANNA MARIE McCORMICK GRAY

BY

Anna Marie McCormick Gray

ATTORNEY

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BEDSIDE STEPS

Anna Marie McCormick Gray, Portland, Oreg.

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4 Claims. (Cl. 228—15)

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This invention relates to portable ladders and is particularly related to bedside ladders.

The primary object of the invention is to provide a ladder approximately the height of the rail of a hospital bed so that patients may get in and out of bed easily.

Another object of the invention is to provide a bedside ladder that is mounted upon a base having caster wheels thereon so that the ladder can be moved about from place to place with ease.

A further object of the invention is to provide hand rails on the ladder so that the patient may grasp the same assisting him up and down on the ladder with safety.

A still further object of the invention is to provide a means of attaching the ladder to the side rail of the bed so that the same will remain in a fixed position relative to the bed.

And a still further object of the invention is to so construct the ladder that it can be folded into a small space for storage.

These and other incidental objects will be apparent in the drawings, specification and claims.

Referring to the drawings:

Figure 1 illustrates my new and improved bedside ladder in position relative to a hospital bed.

Figure 2 illustrates the ladder folded up so that the same can be stored in a relative small space.

Figure 3 illustrates a side view of the ladder, taken on line 3—3 of Figure 1 adjacent the bed.

In the drawings:

My new and improved ladder consists of a ladder frame 1, having side members 2 and 3 with steps 4 mounted therebetween. The ladder frame is pivotally mounted to a base 5 at 6 adjacent its lower end 7. A brace 8 is slidably mounted on the base 5 at its lower end within the guideway 9, its upper end being pivotally mounted at 10 to the ladder frame 1. This permits the folding up of the base 5 as illustrated in Figure 2 and provides a slightly braced arrangement for supporting the ladder while being used as illustrated in Figures 1 and 3.

The brace preferably is mounted upon caster wheels 11 so that the same may be moved about from place to place with ease. Hand rails 12 are pivotally mounted to the ladder frame 1 at 13 and have suitable folding braces 14 pivotally mounted at 15 to the hand rail and at 16 to the ladder frame. The brace 14 is foldable, which permits the brace to fold as illustrated in Figure 2.

I have provided a suitable locking mechanism for securing the ladder to the side rail 18 of the bed 19. This mechanism consists of levers 20

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fixedly mounted to the cross shaft 21 journaled within the side frames 2 of the ladder. The shaft and levers are rotated by the hand wheel 20. The outer end of the lever 20 has fingers 22 for engaging the side rail 18 of the bed.

I provide a number of fingers so that in the case of certain types of beds, or in beds having fences which drop down in front of the bed I can bring the ladder against the side of the fence and still have sufficient length of locking lever 20 to engage the rail of the bed. This is an important feature of my invention. A spring 23, anchored at 24 at its one end and to the arm 25 of the crank 20 at its opposite end, maintains the locking arm 20 up underneath the rail 18 when adjacent the bed, or against the stop pin 26 when the ladder is in folded position as illustrated in Figure 2.

I will now describe the operation of my new and improved bedside ladder. Referring to Figure 2, the ladder is shown in folded or stored position, the base 5 and its brace 8 are pulled out to the position illustrated in Figures 1 and 3, also the hand rails 12 are unfolded from the position shown in Figure 2 to those of the above mentioned figures and locked in this open position by the brace 14. This brings the ladder to operation position and it can be rolled about on the wheels 11 to any desired location as against the bed 19.

The lever arms 20 are then brought under the rail 18 by the operator of the ladder and is maintained thereunder by the springs 23. The patient then may grasp the hand rails 12 and safely ascend the ladder on to the bed.

I do not wish to be limited to the exact mechanical structure of my new and improved bedside ladder, as other mechanical equivalents may be substituted still coming within the scope of my claims.

What I claim is:

1. A collapsible bedside ladder adapted for attachment to the lower edge of a bed rail and comprising a base, a ladder pivoted at one end to one end of the base, brace means at one end pivotally connected to the ladder and at the other end pivotally connected to the base and slidably thereon within a certain length thereof, a hand rail pivoted to each side member of the ladder, foldable linkage means each pivoted to a hand rail and side member, and latch means downwardly yieldably mounted at the upper end of the ladder and having an outer beveled end engageable with the outer side of the bed rail to

engage beneath and behind the rail and prevent separation of the ladder from the bed.

2. The ladder according to claim 1 and wherein the base comprises a pair of angle irons each having one horizontal flange supported by casters and the other vertical flange pivoted to the ladder and slotted for connection to the other end of the brace means.

3. The ladder according to claim 1 and wherein the latch means are each manually operable by a hand wheel adjacent the outer side of a side member.

4. The ladder according to claim 1 and wherein the latch means comprises a pair of levers each fulcrumed to one side member and carrying upon its outer end at least a pair of spaced fingers beveled on their outer sides.

ANNA MARIE McCORMICK GRAY.

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