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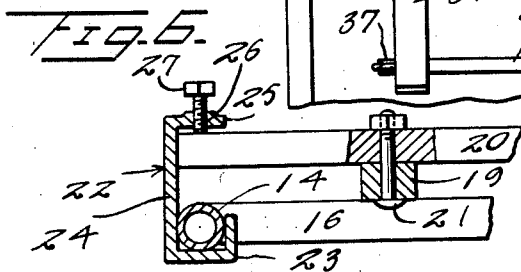
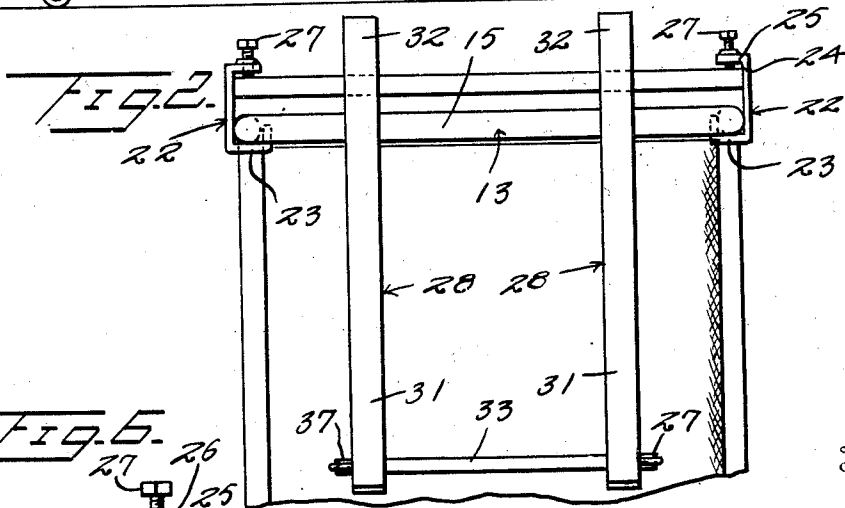
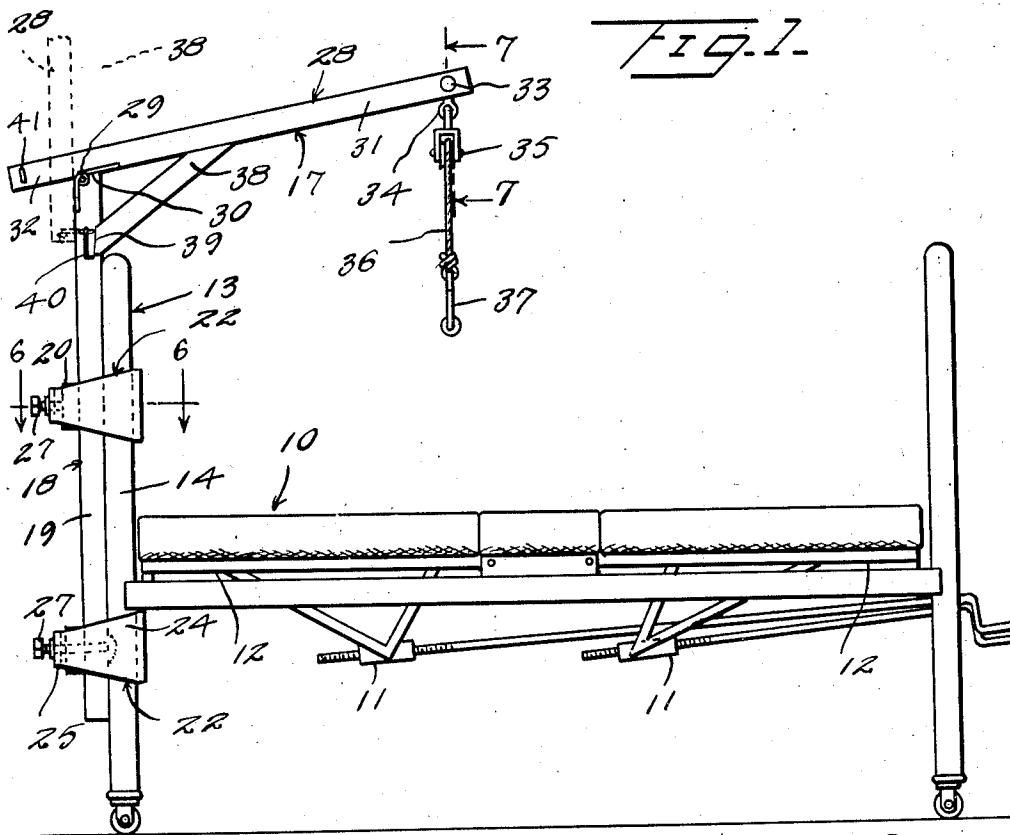
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2,305,548

EXERCISING DEVICE

Filed Feb. 5, 1942

2 Sheets-Sheet 1



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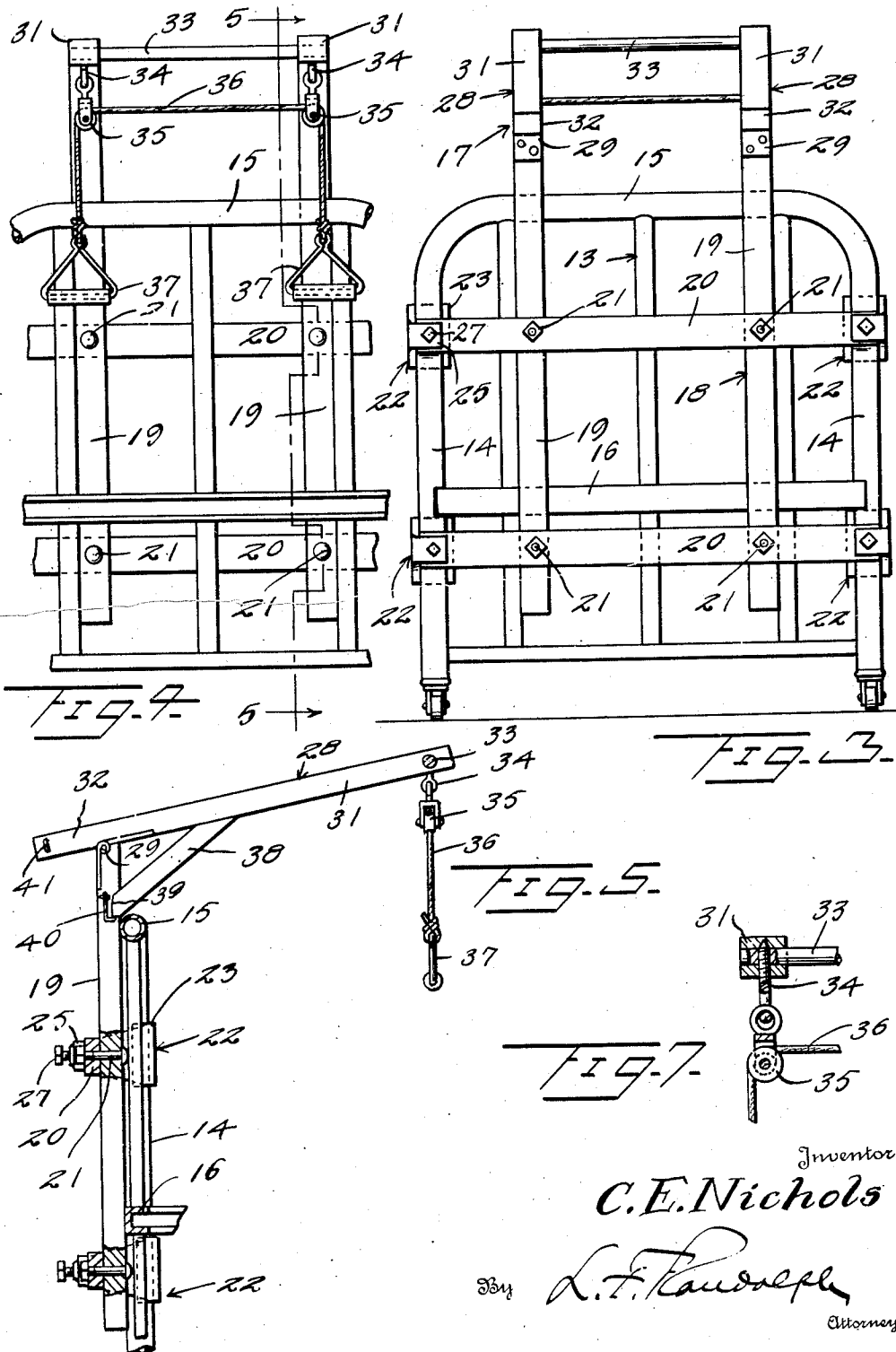
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EXERCISING DEVICE

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2 Sheets-Sheet 2



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EXERCISING DEVICE

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1 Claim. (Cl. 272-57)

This invention relates to an exercising device which is adapted to be detachably fastened to a bed for use by a patient while lying in a reclining position on the bed, and more particularly to a device for use by persons who are recovering from injuries or ailments which have resulted in the loss of use of the arms, for providing a mild but very beneficial means for exercising the arms to restore the strength therein and the use thereof.

More particularly, it is an object of the invention to provide an exercising device including a support having portions that move over the bed and having pulleys depending therefrom over which is trained a flexible member the ends of which are adapted to be grabbed by the patient, while in a reclining or prone position so that a pull on one end of the flexible member will cause said end to move downwardly and the other end upwardly, to enable the patient, by pulling alternately on the opposite ends of the flexible member, to execute an upward and downward movement of the arms.

Still a further aim of the invention is to provide an exercising device which can be readily attached to or removed from the head of a bed, which will not interfere with raising and lowering the ends of the mattress and springs when used on a "hospital" bed, and which can be quickly and easily moved to an inoperative position above and behind the bed when not in use and especially when the patient is receiving treatment by a doctor or nurse.

Other objects and advantages of the invention will hereinafter become more fully apparent from the following description of the drawings, which illustrate a preferred embodiment thereof, and wherein:

Figure 1 is a side elevational view showing the exercising device or attachment applied to a bed,

Figure 2 is a top plan view of the attachment, shown in an applied position,

Figure 3 is a rear elevational view of the same,

Figure 4 is a fragmentary front elevational view thereof,

Figure 5 is a vertical sectional view taken substantially along the plane of the line 5-5 of Figure 4,

Figure 6 is an enlarged fragmentary horizontal sectional view taken substantially along the plane of the line 6-6 of Figure 1, and

Figure 7 is an enlarged fragmentary vertical sectional view taken substantially along the plane of the line 7-7 of Figure 1.

Referring more particularly to the drawings,

wherein like reference characters designate like or corresponding parts throughout the different views, 10 designates generally a conventional bed of the "hospital" type which is provided with conventional means 11 for raising and lowering the end 12 of the springs and spring frame. The bed 10 is provided with a conventional head portion 13 including an inverted U-shaped member the ends of which form the head posts 14 and the intermediate portion of which forms the top rail of the head portion 13. The head portion 13 also includes a cross brace 16 which is disposed substantially below the top rail 15 and the ends of which are anchored in the head posts 14. It is to be understood that the bed 10 forms no part of the present invention but is illustrated and described merely to better illustrate the application of the invention, designated generally 17, and which will hereinafter be described. Furthermore, the bed 10 illustrates only one type of bed with which the exercising device 17 can be used as the device 17 is adapted for use on all types of beds.

The exercising device or attachment 17 includes a frame, designated generally 18, which is composed of upright members 19 and cross members 20 which are arranged in cross relationship to the uprights 19 and which are connected thereto by means of nut and bolt fastenings 21. The upright members 19 extend substantially above the upper cross member 20 and the ends of the cross members 20 project beyond the two uprights 19, as best seen in Figure 3.

As best seen in Figure 5, the uprights 19 are positioned behind the head 13 of the bed and between the cross members 20 and the head portion 13, and said uprights 19 bear against the top rail 15 and the brace 16. The ends of the cross members 20 are disposed behind the head posts 14. The frame 18 is detachably connected to the back side of the head portion 13 by means of clamps 22, as best seen in Figures 2 and 6. Each of the clamps is provided with a hook shaped portion 23 which is adapted to engage around the forward side of one of the posts 14 and which is provided at one end thereof with a shank 24 which extends rearwardly of the outer side of said post 14 and across and beyond an end of one of the cross members 20. The shank 24 is provided with an intumed free end 25 which is disposed behind said end of the cross bar 20 and which is provided with a threaded opening 26 for receiving a set screw or bolt 27 which extends inwardly therethrough. The set screws 27 of the clamps 22 are adapted to be ad-

vanced against the rear sides of the ends of the cross members 20 for forcing the frame 18 toward the head portion 13 to move the uprights 19 into frictional engagement with the top rail 15 and the brace 16 to thereby detachably clamp the frame 18 on the head of the bed.

The frame 18 is clamped to the head portion 13 so that the upper ends of the uprights 19 will extend above the top rail 15. A supporting arm 28 is pivotally connected near an end thereof to the upper end of each of the uprights 19 by means of a hinge 29. As seen in Figure 1, each hinge 29 has a leaf secured to the back side of an upright 19 and a leaf secured to the under side of an arm 28 for pivotally mounting the arms on the uprights. The uprights 19 are provided with upwardly and forwardly inclined upper ends 30 on which the arms 28 rest for supporting them in upwardly and forwardly inclined positions, as seen in Figure 1. The arms 28 are each provided with a longer end 31 which extends forwardly from the frame 18 and which is disposed over the bed 10, and a shorter end 32 which extends rearwardly from the frame. The forward ends 31, adjacent the terminals thereof, are connected together by means of a brace 33. The ends 31 have eye screws 34 depending therefrom, adjacent their free ends, to which are pivotally connected depending pulleys 35. A flexible member 36, such as a cable or rope, is trained over the pulleys 35 and has its ends depending therefrom and provided at their terminals with handles 37 which are positioned, when the arms 28 are disposed as shown in Figure 1, so that the person, not shown, while lying in a prone or reclining position on the bed 10, can grasp the handles 37 when said handles are at substantially the same level.

A brace 38 is fastened to the underside of each arm portion 31, intermediate of the ends thereof, and said braces are disposed obliquely to the arms and extend toward the uprights 19, when the arms are in their positions of Figure 1. The uprights 19 are provided with recesses 39 in their forward sides and above the top rail 15 to receive the opposite, free ends of the braces 38 for bracing the arms 28, when they are thus positioned.

On the outer side of each of the uprights 19 is pivotally mounted a hook 40 and on the outer side of each of the arm ends 32 is disposed an eye 41. By swinging the supporting arms 28 upwardly and rearwardly, said arms will move as a unit to their dotted line positions of Figure 1, in which positions the under sides of the ends 32 will be disposed against the back sides of the uprights 19 and the eyes 41 will be positioned so that they can be engaged by the hooks 40 for retaining the arms 28 in upright positions above and behind the uprights 19. When the arms 28

are thus moved upwardly, the braces 38 move out of engagement with the recesses 39 and when the arms 28 are returned to their solid line positions, the free ends of the braces 38 will be returned into positions seated in the recesses 39.

Assuming that a person, not shown, is lying on his back on the bed 10 and that the handles 37 are in the positions as seen in Figures 1 and 4, said handles can be grasped, one in each hand, by the person occupying the bed and by pulling on one handle 37 said handle will move downwardly and the upper handle will move upwardly. By thus alternately pulling on the handles 37, the user may exercise his arms to any extent that his strength permits. It will thus be seen that the apparatus 17 provides means whereby bed-ridden persons may exercise their arms in a way to enable them to regain use of the arms where, through any cause, the use thereof has been lost or substantially lost.

It will be readily apparent that the clamping members 22 will not interfere with the upper portion of the bed being raised or lowered. Furthermore, the elevation of the exercising device 17 may be readily varied by loosening the clamps 22. The clamps 22 are detached by loosening the screws or bolts 27 after which the clamps can be moved to positions above or below the cross bars 20 and then readily detached from the bed posts 14, and applied by attaching them to the bed post above or below the cross bars 20 and sliding them into positions as seen in Figures 1 and 5.

Various modifications and changes are contemplated and may obviously be resorted to, provided they fall within the spirit and scope of the invention as hereinafter defined by the appended claim, as only a preferred embodiment of the invention has been disclosed.

I claim as my invention:

An exercising attachment for beds comprising a frame, means for detachably clamping the frame to the outer side of the head of a bed, said frame including uprights which extend above the top of the head of the bed, supporting arms connected to tops of the uprights and projecting therefrom over the bed, pulleys depending from the arms, a flexible member trained over the pulleys and having depending ends positioned above the bed and located conveniently to be grasped by a person reclining on the bed, said supporting arms being pivotally connected to the uprights for swinging movement to upright positions, latch means for retaining the arms in upright positions, said uprights having forwardly opening recesses, said supporting arms being provided with braces arranged to engage said recesses when the arms are in their first mentioned positions, over the bed.

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