Oct. 18, 1927. 1,645,908

E. H. HUTCHINS

INVALID BED ELEVATOR

Filed May 6, 1926

Fig. 1.

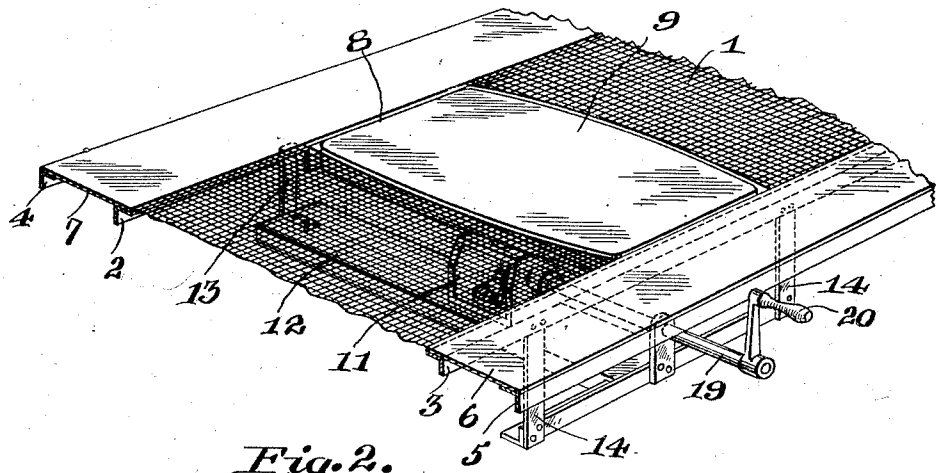
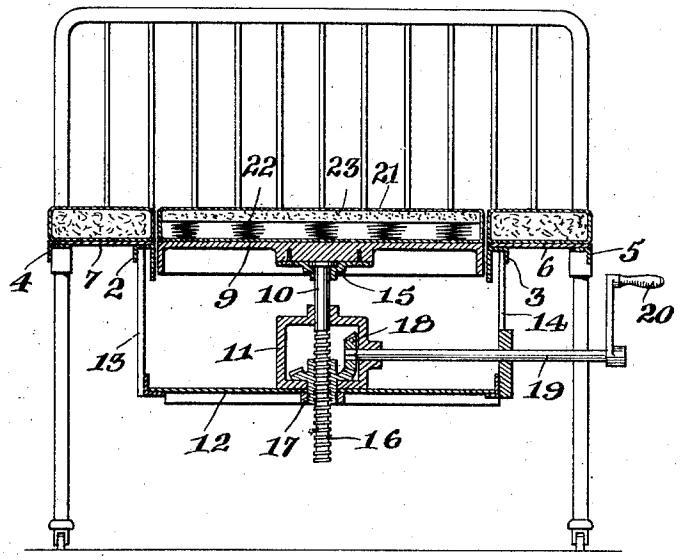


Fig. 2.



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ELLIOTT H. HUTCHINS, OF BALTIMORE, MARYLAND.

INVALID-BED ELEVATOR.

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This invention relates to improvements in invalid beds, but more particularly to an improved device for lifting, as desired, an invalid or crippled person such as paralytics, cripples and the like, who are bed ridden.

An object of this invention is to provide an invalid elevator which can be easily adjusted to support in a comfortable position the patient.

A further object of this invention is to provide a suitably constructed fracture bed, especially designed to supply the needs in the proper care of fracture of the pelvis, or any other condition in which an invalid or injured person may be compelled to remain in bed. The need for a device of the type provided by this invention, is due to the necessity of enabling a surgeon or other party to properly care for a patient suffering from injuries of the part of the body as indicated, which in many cases, require the patient to lie in one position for a long time. Unless the patient can be elevated above the ordinary level of the patient, that is above the mattress, and be massaged while so raised, the patient is likely to have bed sores before the knitting of the bone occurs.

Further objects of this invention will appear from the following detailed description of this device in the disclosure of the single sheet of drawing herewith made a part of this application.

In the drawing,

Fig. 1 represents a perspective view of the invalid elevator in assembled relationship to the bed.

Fig. 2 illustrates a vertical sectional view of the invalid bed elevator in operative position.

Numeral 1 designates a spring having sufficient stability and resiliency for the purpose, and adapted to be suitably supported by supporting bars 2 and 3, one on either side of the spring parallel to the long axis of the bed, the spring 1 being sufficiently wide to accommodate the body of the patient, and strong enough to avoid objectionable sagging. The ends of the two supporting bars 2 and 3 are connected in a suitable manner to the bed supporting bars at the head and foot of the bed, the bed being the ordinary hospital bed.

The supporting members 2 and 3 for the spring 1, are also connected to the side bars 4 and 5 of the bed by means of longitudinal plates of sheet steel 6 and 7 or of other suitable material.

It is to be understood that the special spring 1, is adapted for use upon the ordinary hospital bed after removal of the ordinary springs commonly used on the bed. Approximately at the center of the springs, or in the region to be occupied by the center portion of the patient there is provided a fenestra or a window 8, the object being to provide a convertible and efficient means by which a single nurse may easily elevate the patient above the level of the bed so that the bed clothing may be changed and the back of the patient properly cared for. This window 8 also provides means for adjusting the pelvis of the patient so that his position may be changed by elevating or lowering the pedestal as occasion demands, and to provide for the proper adjusting of the bed pan without disturbing the patient by lifting him with the hands. Furthermore, this window 8, provides a means for applying pressure in the center of the back so that the pelvis may, by its own weight tend to automatically reduce a displaced fracture, also it provides for the comfortable use of the bed pan in cases other than fracture, thus preventing the moving of the patient which might be accompanied not only by pain, but serious damage to the patients themselves.

A pedestal 9 is adapted to be suitably mounted on the bed by means of spindle 10 extending through a housing 11, the housing 11 being supported on a frame 12, which in turn is preferably supported by means of rods 13 and 14 extending from the frame work of the bed, as for instance, supporting rods 2 and 3. The spindle 10 is adapted to be rotatively mounted in the pedestal 9 as at 15, a portion of the spindle 10 is threaded as at 16, and is adapted to mesh with gearing 17 and 18, the gear 18 being keyed to a crank shaft 19, adapted to be turned by means of a crank handle 20 whenever it is desired to elevate or lower the pedestal 9 through the window 8. Suitably mounted upon the pedestal 9 is a mattress portion 21, the mattress portion 21 comprising any suitable construction such as a device having spring element 22 with suitable covering 23.

This invention provides a device for handling patients in a practically painless manner without injuring the vital structures by the roughened ends of broken bones which

is of frequent occurrence, particularly when patients were awkwardly lifted by one or more individuals squeezing the broken ends of the pelvic bones in such a manner that the bladder and other important structures have been perforated resulting in excruciating pain, to the patient and often death. Proper evacuation of the bowels and emptying of the urinary bladder with proper after care has been impossible for these patients by previous devices. This invention solves the problem. The backs of the patients of the type of cases for which this invention is brought forth, often break down forming bed sores which may extend all the way to the backbone, not infrequently terminating their existence. This invention also provides means for giving the nurse an opportunity to slowly and deliberately bathe and massage every inch of the skin of the back. It will permit a change in the position of the patient, arrangement of bed clothes and relief from the terrible monotony of one position continuously. A change in position, no matter how slight is appreciated by such patients.

The type of spring 1 described in this invention will supply a need that heretofore has been accomplished by slipping a rigid board under the spring of an ordinary bed to lend rigidity, a necessary feature in a fracture bed. There will be a minimum of sagging in this bed, at the same time affording some comfort from the use of stiff springs instead of a board. In the use of a board a proper application of the bed pan approached the impossible. The lifting mechanism provided by this invention is simple and efficient consisting of two beveled gears 18 and 17 a vertically arranged spindle 10, and a crank handle 20 for raising or lowering.

It is to be understood that this invention is not confined to the specific modification of the raising mechanism disclosed herewith. Any other suitable device for raising may be adapted without in any manner affecting the merits of this invention.

Another great advantage of this invention is that of providing a convenient means, not only as an aid to the nurse, but also as a protection to her back as well as as aid to the patient.

What I claim is:

In a fracture bed, side rails, flat plates supported by the rails on each side of the bed and extending inwardly thereof, a mattress supporting means extending between and connected to the plates, a central opening in the mattress supporting means extending from one side plate to the other, a vertically movable plate in the central opening and substantially coextensive therewith, and means for elevating the vertically movable plate above the level of the opening.

In testimony whereof I affix my signature.

ELLIOTT H. HUTCHINS.