

No. 653,259.

Patented July 10, 1900.

E. OTTO.
INVALID BED.

(Application filed Aug. 12, 1899. Renewed May 18, 1900.)

(No Model.)

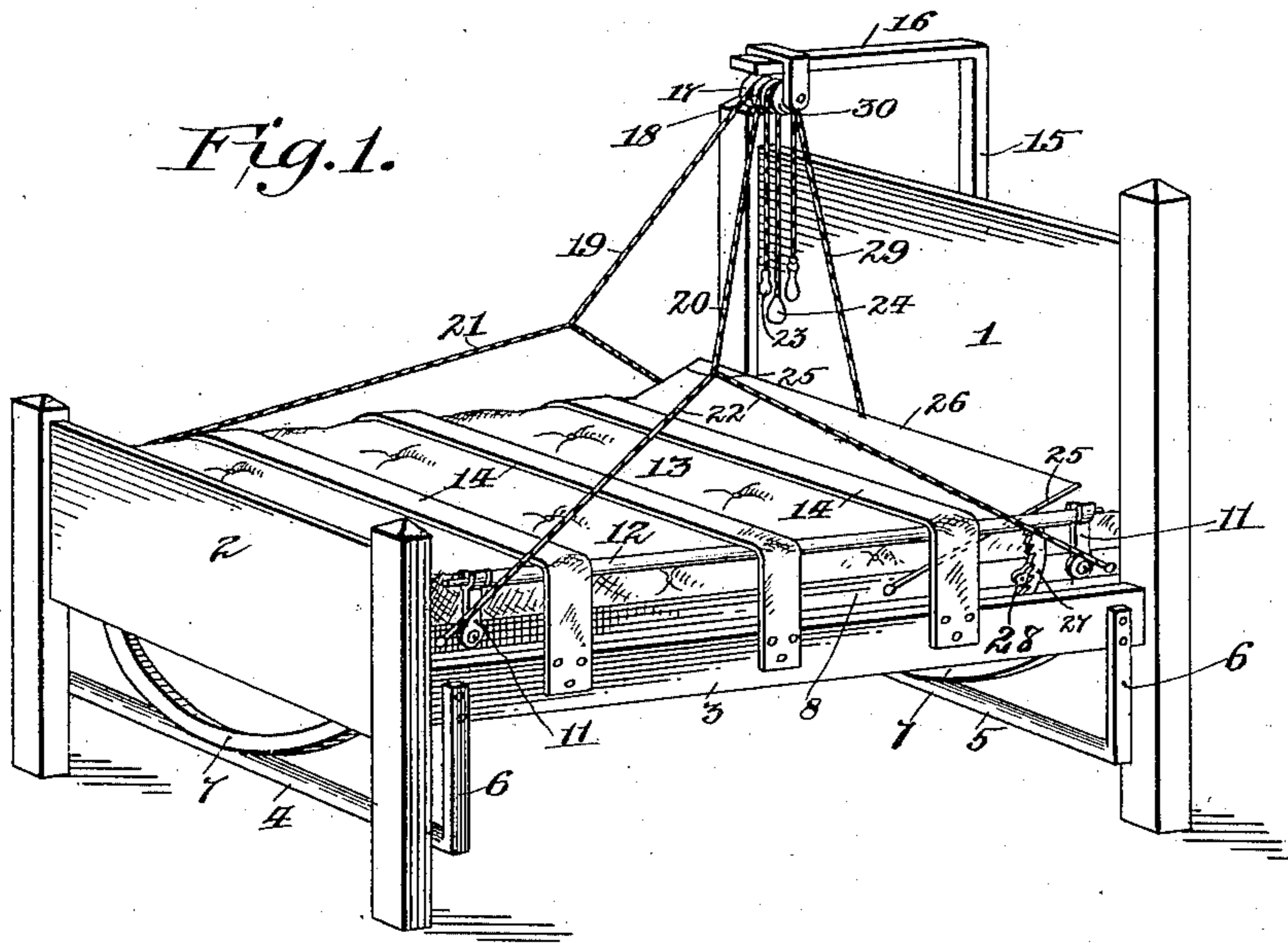


Fig. 2.

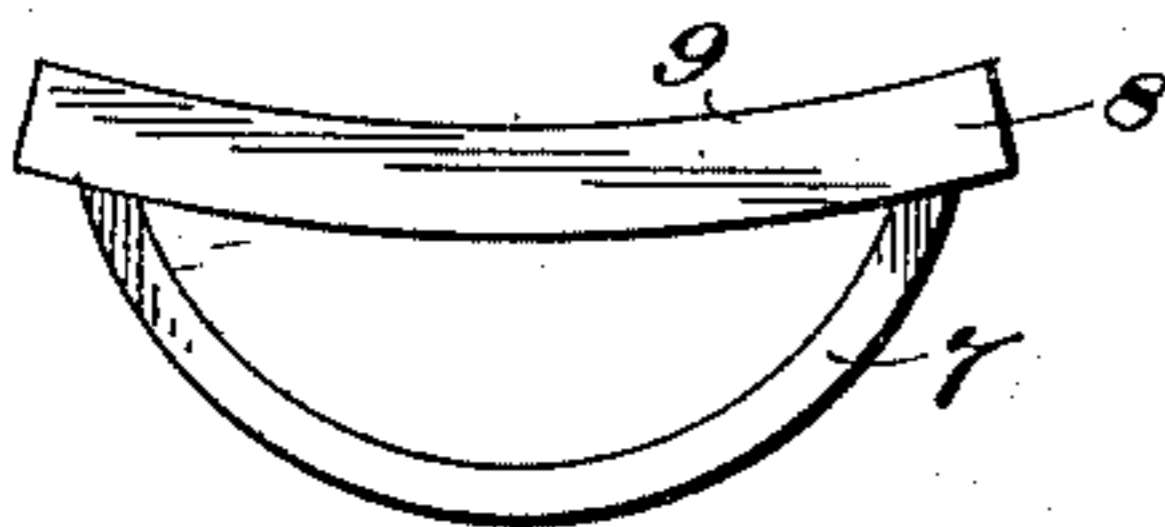


Fig. 3.

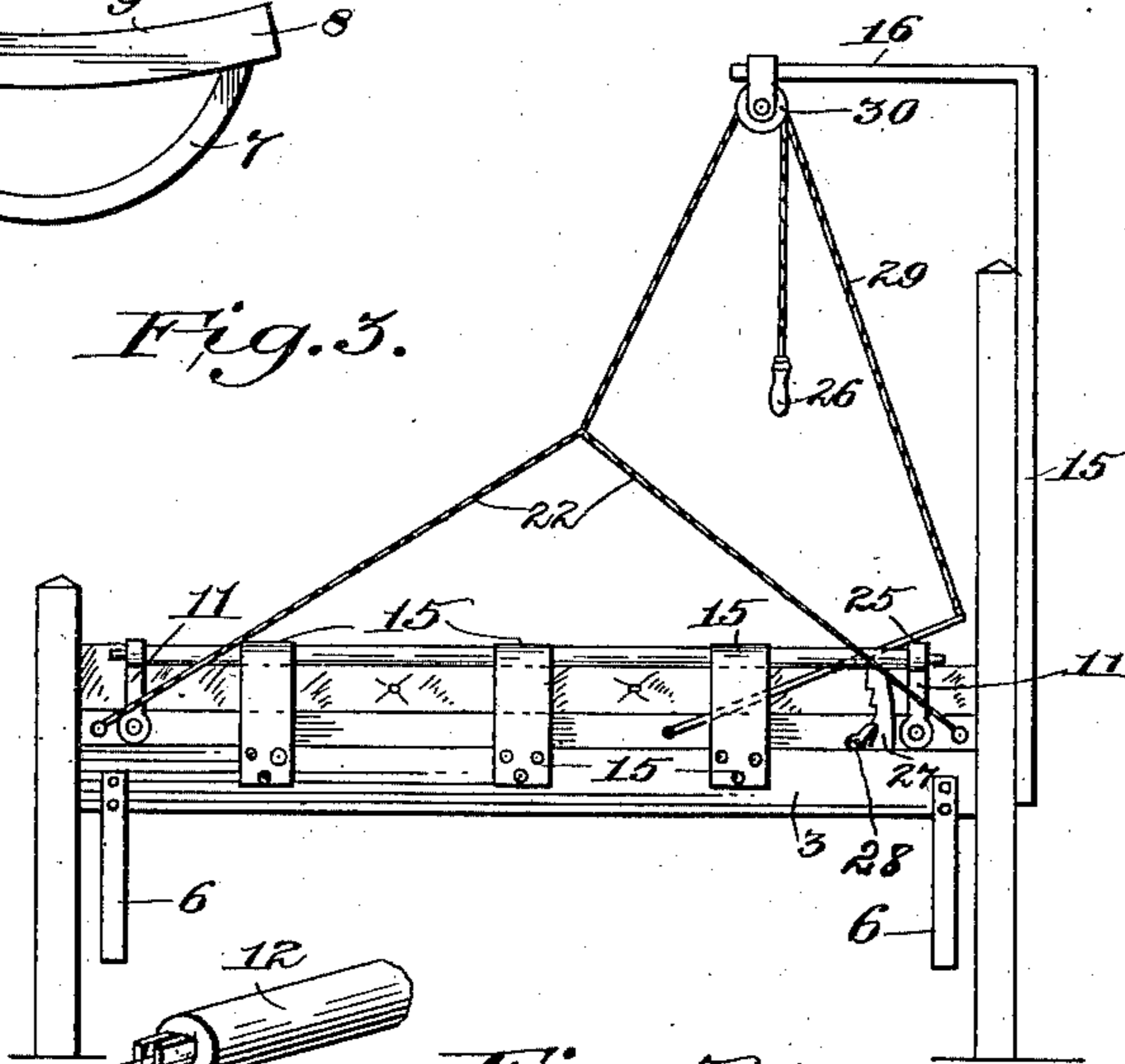


Fig. 4.

WITNESSES

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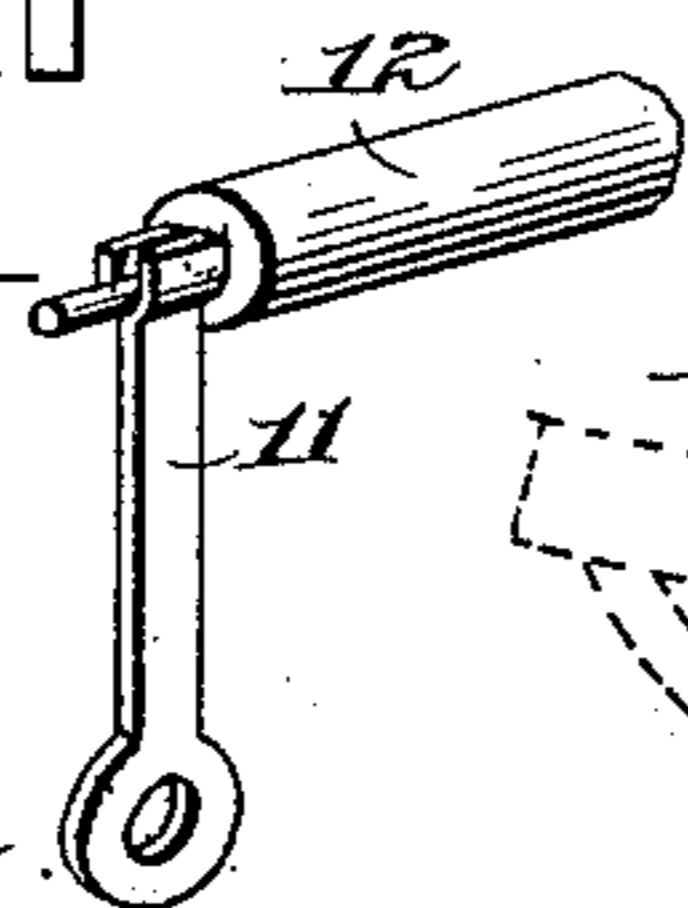
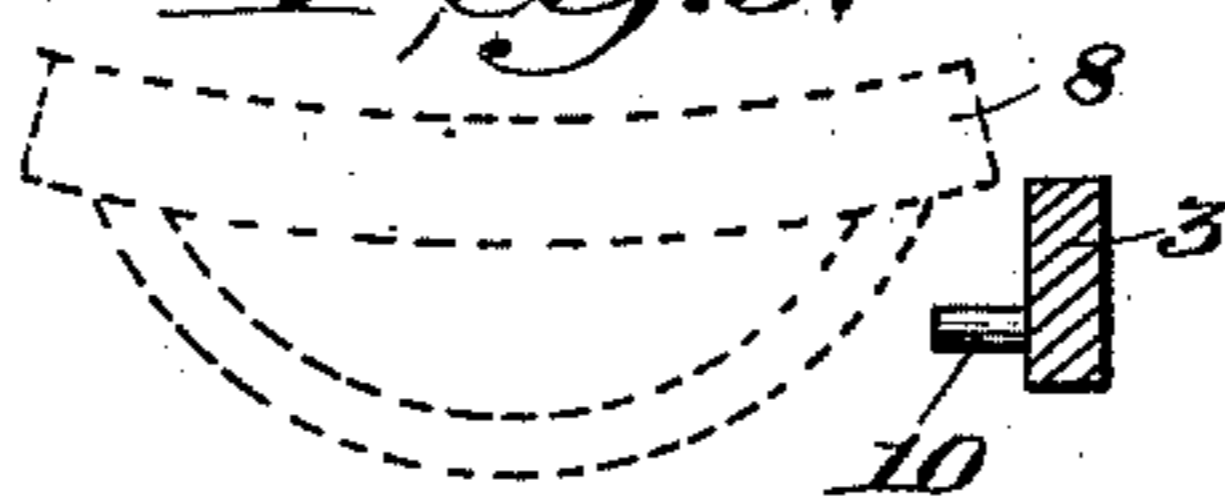


Fig. 5.



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EMIL OTTO, OF ELMHURST, ILLINOIS.

INVALID-BED.

SPECIFICATION forming part of Letters Patent No. 653,259, dated July 10, 1900.

Application filed August 12, 1899. Renewed May 18, 1900. Serial No. 17,173. (No model.)

To all whom it may concern:

Be it known that I, EMIL OTTO, a citizen of the United States, residing at Elmhurst, in the county of Du Page and State of Illinois, have invented certain new and useful Improvements in Invalid-Beds, of which the following is a specification.

My invention relates to invalid-beds; and its object is to provide improved means for facilitating the turning and lifting of the occupant of the bed.

The construction and novel features of the invention will be fully described hereinafter in connection with the accompanying drawings, and defined in the appended claims.

In the drawings, Figure 1 is a view in perspective of a bed with my improvements applied thereto. Fig. 2 is an end elevation of a wire mattress forming a part of the invention. Fig. 3 is a side elevation of the bed, illustrating the means for raising the patient's head and body. Fig. 4 is a detail view of a portion of one of the side rollers and one of its supporting-brackets, and Fig. 5 is a detail view showing a stop to limit the downward movement of the wire mattress.

The reference-numeral 1 designates the headboard, and 2 the footboard, of a bedstead, connected by the usual side rails 3. Below the bedstead and suspended from the side rails thereof and adjacent to the head and foot are transverse bars 4 and 5, having their ends 6 turned upwardly for attachment to the bedstead, as shown. These bars 4 and 5 serve as supports or trackways for curved runners or rockers 7, which depend, respectively, from the head and foot ends of a wire mattress 8, the ends 9 of which are curved downward or concave, as shown.

The bedstead is of sufficient width to permit the wire mattress 8 to rock freely between the side rails of the bed, and the inner sides of said side rails are provided with lugs or stops 10 to limit the downward movement of the wire mattress.

To the outer side of each of the side rails of the wire mattress 8 are secured two brackets 11, one adjacent to the head and the other to the foot end of said side rails. The upper ends of these brackets are slotted or forked to receive rollers 12, one of which is arranged

at each side of the mattress and supported removably in the brackets.

13 designates a hair mattress or other covering for the wire mattress 8, and over this mattress and the sheet or other bedclothing which may be placed thereon are arranged three transverse straps 14, which are parallel to one another and pass over the rollers 12, having their ends attached securely to hooks or other fastenings 15, secured to the side rails 3 of the bedstead. One of these straps is so located as to pass under the shoulders of the patient, another to extend under the hips, and the third to pass under the calves of the legs. These straps are appreciably longer than the width of the bed to permit them to slacken or give longitudinally to accommodate the rocking movement of the wire mattress.

15 designates a standard secured at its lower end centrally to the headboard of the bed and provided at its upper end with a horizontal arm 16, which overhangs the bed. From the arm 16 are suspended two pulleys 17 and 18, over which pass, respectively, cords 19 and 20. The cord 19 is secured to two converging cords 21, secured at their lower ends to one side of the wire mattress 8, while the cord 20 is secured to the converging meeting ends of two cords 22, secured to the opposite side of said wire mattress. The free end of each of the cords 19 and 20 is provided with a hand-grasp, as 23 and 24, said hand-grasps or handles being of different shape to enable them to be readily distinguished from each other in the dark by the sense of feeling.

The operation of the mechanism as thus far described may now be described. By means of the pull-cords shown the patient himself or the nurse or attendant, with little effort, can tilt the wire mattress to either side desired, the weight of the patient aiding such movement. When it is desired to turn the patient, say, to the left side, the pull-cord connected with the right side is operated to raise the right side and the bed is tilted readily, the turning movement being guarded against sudden jars by the contact of the straps with the rollers, which to an extent retard the tilting movement. To elevate the patient's head, I employ the mechanism shown

in Fig. 3, comprising parallel arms 25, pivotally secured one to each side of the wire mattress 8 and connected by a cross-rod 26. The frame thus formed by the arms 25 and rod 26
 5 is covered by a strong linen fabric and passed below the pillows and bedclothing. From the outer sides of the frame 25 depend segmental racks 27, which coöperate with dogs 28, projecting from the sides of the mattress-
 10 frame and adapted to engage the teeth of the racks to support the pivoted frame in any position to which it is adjusted. A cord 29 extends from the center of the cross-bar 26
 15 as shown. The utility of this device for raising the head and upper portion of the body of the patient will be apparent, and it constitutes an important accessory, especially in the treatment of patients of more than ordi-
 20 nary weight.

I claim—

1. The combination with a bedstead provided with parallel bars or trackways, of a
 25 mattress; rockers depending from the mattress; rollers removably supported at each

side of said mattress, and a plurality of transverse straps passing over said rollers, and secured at their ends to the side rails of the bedstead.

2. The combination with a bedstead provided with depending bars or tracks; a mattress having end rockers adapted to said tracks, stops for limiting the downward movement of said mattress, a support overhanging the bed, pulleys on said support, and pull-
 35 cords attached to the sides of the mattress and passing over said pulleys.

3. The combination with a bedstead provided with rocker-supports, of a wire mattress provided with rockers; a support overhanging the bed; pulleys on said support, and
 40 pull-cords attached to the sides of the mattress and passing over said pulleys.

In testimony whereof I affix my signature in presence of two witnesses.

EMIL OTTO.

Witnesses:

H. BRODT,
 C. F. WINK.