

904,587.

E. A. WIBLE.

INVALID'S BED.

APPLICATION FILED AUG. 8, 1907.

Patented Nov. 24, 1908.

2 SHEETS—SHEET 1.

Fig. 3.

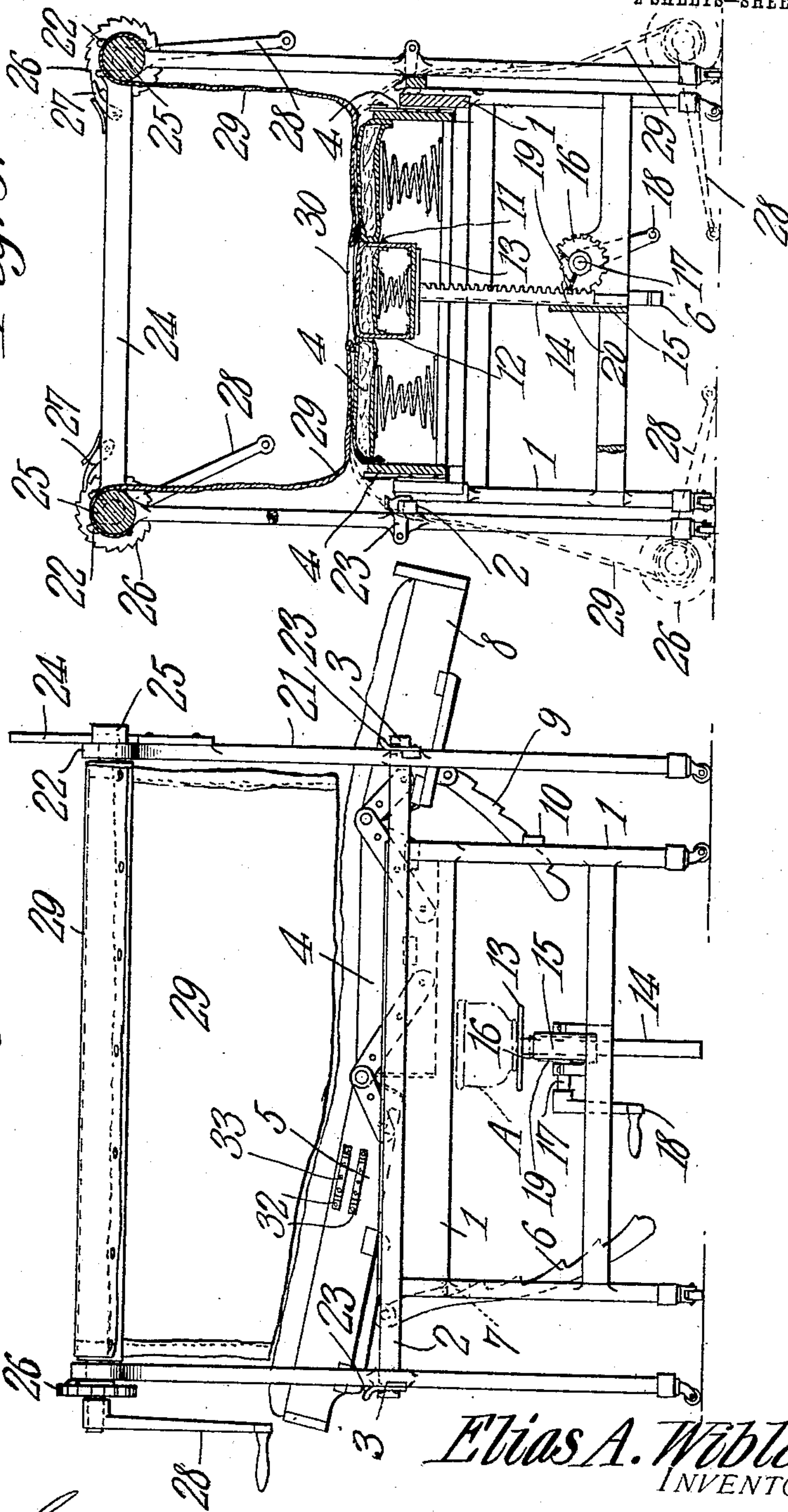


Fig. 1.

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2 SHEETS—SHEET 2.

Fig. 2.

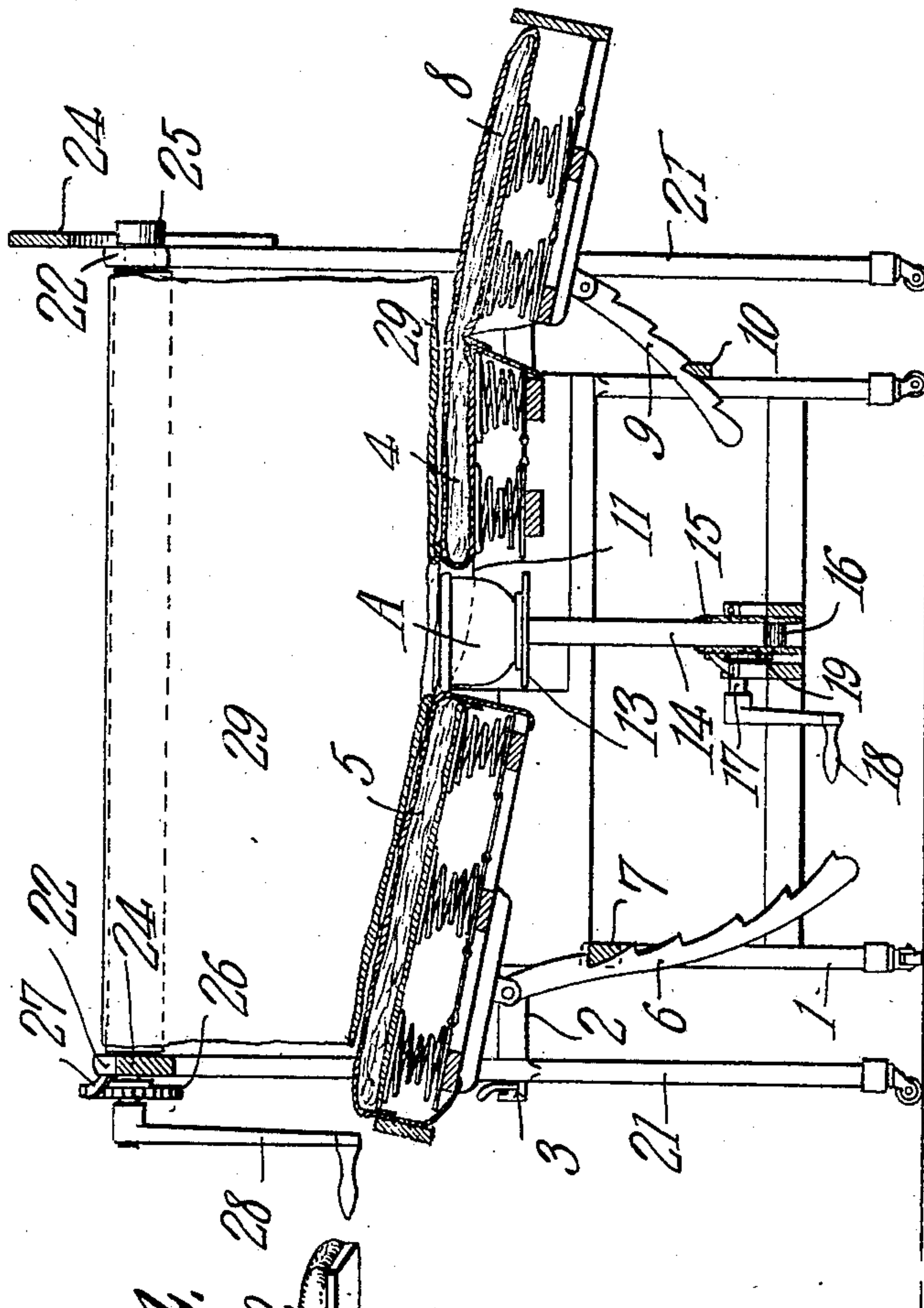
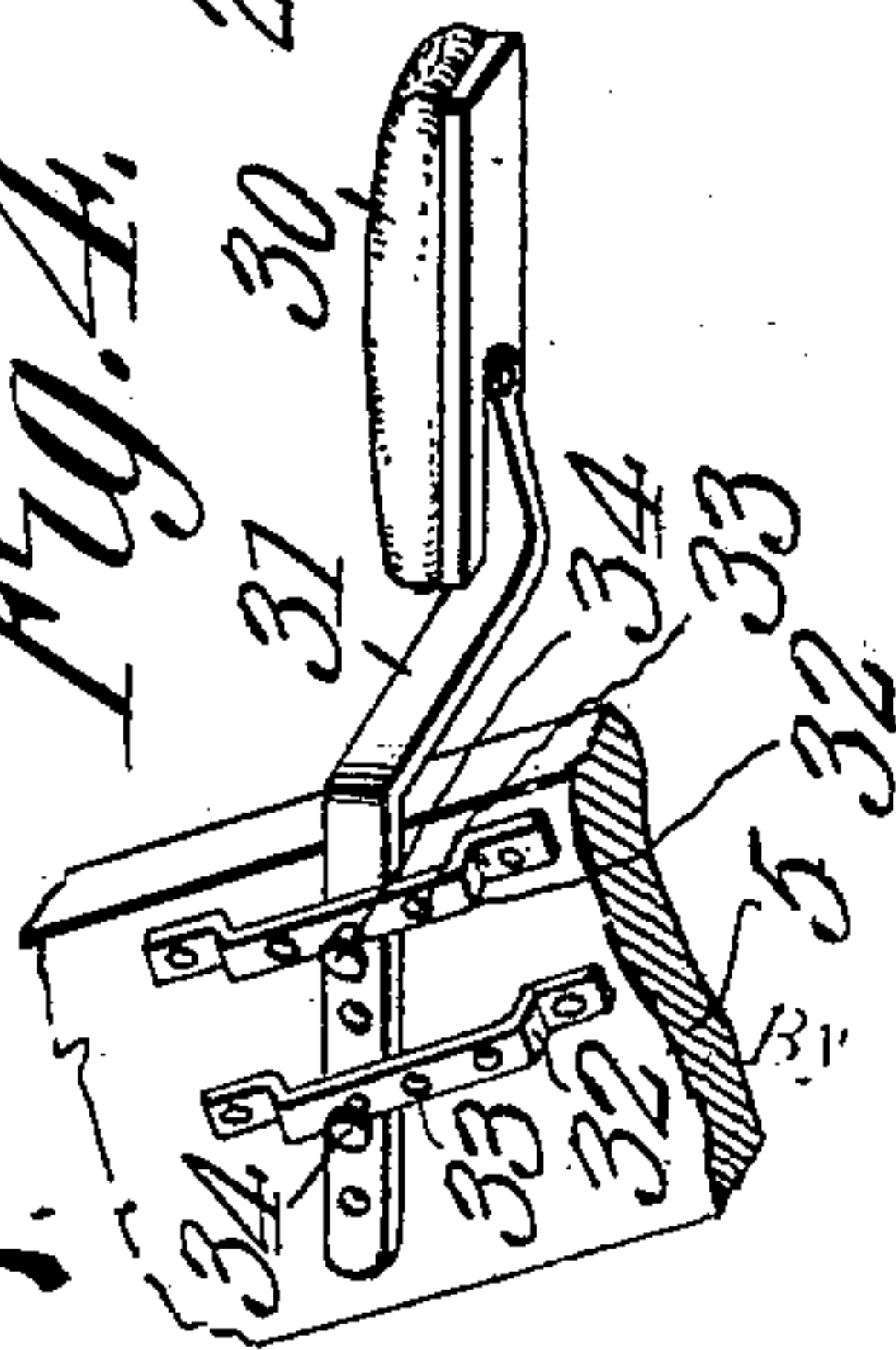


Fig. 4.



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UNITED STATES PATENT OFFICE.

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INVALID'S BED.

No. 904,587.

Specification of Letters Patent.

Patented Nov. 24, 1908.

Application filed August 8, 1907. Serial No. 387,694.

To all whom it may concern:

Be it known that I, ELIAS A. WIBLE, a citizen of the United States, residing at Eureka, in the county of Humboldt and State of California, have invented a new and useful Invalid's Bed, of which the following is a specification.

This invention relates to invalid beds and is more particularly designed for use in the care and treatment of helpless persons such as paralytics and cripples.

The object of the invention is to provide a bed body which can be easily adjusted to comfortably support the patient either in a reclining or sitting posture.

Another object is to provide a mattress having a removable section whereby a suitable receptacle may be conveniently positioned below the patient.

With these and other objects in view the invention consists of certain novel features of construction and combinations of parts which will be hereinafter more fully described and pointed out in the claims.

In the accompanying drawings is shown the preferred form of the invention.

In said drawings: Figure 1 is a side elevation of an invalid's bed embodying the present improvements. Fig. 2 is a longitudinal section therethrough showing a vessel in position for use. Fig. 3 is a central transverse section showing the removable mattress section in position. Fig. 4 is a detail view of an arm rest for use in connection with the device.

Referring to the figures by characters of reference, 1 designates the supporting frame of the bed, said frame having side bars 2 extending beyond the ends thereof and each of said bars having transverse notches or slots 3 in the upper edge thereof adjacent its ends and which are for the purpose hereinafter set forth. The main mattress section 4 is suitably secured upon the frame 1 and has a head section 5 hingedly connected thereto and designed to be supported in any preferred manner by means of a toothed bar 6 which is pivoted to the head section and is designed to adjustably engage a cross bar 7 connecting opposite sides of the frame 1. The foot section 8 is hingedly connected to the opposite end of the section 4 and is designed to be secured at any desired angle to the horizontal by means of a toothed bar 9 disposed to adjustably engage a cross bar 10

connecting the sides of the frame 1. Obviously as a result of this construction the bed bottom can be readily adjusted so as to hold the occupant thereof in a partly sitting or reclining posture. The main section 4 is provided close to its point of connection with the section 5 with a preferably circular opening 11 which is normally closed by means of a removable section 12 of the same material as section 4. This removable section is detachably mounted upon the head 13 of a lifting device made up of a rack bar 14 mounted within a suitable guide 15 secured within the frame 1. This rack bar is engaged by a gear 16 secured to a shaft 17 and a crank 18 or other suitable device may be utilized for rotating the shaft and gear so as to raise or lower the rack and move the section 12 into or out of the opening 11. A ratchet wheel 19 is secured to the shaft 17 and is normally engaged by a pawl 20 so that the rack 14 will automatically lock in any position to which it may be raised.

The position of the occupant of the bed is such that whenever necessary the rack bar 14 can be lowered so as to cause the sections 12 to move downward in the opening 11. Said section can then be removed from the head 13 and a suitable receptacle such as indicated at A can be placed upon the head 13 and raised into the opening 11 and pressed against the body. The vessel can be as readily removed simply by reversing the movement of the crank 18 so as to lower the rack bar whereupon the section 12 can be replaced and raised into the opening 11. It will thus be seen that the operation can be effected without the necessity of shifting the positions of, or otherwise disturbing the patient. As shown in Fig. 3 the removable section 12 may be cushioned in the same manner as the sections 4, 5, and 8 and therefore will yield under the weight of the body to the same extent as will the other parts of the bed body.

When the patient is utterly helpless the lifting and turning mechanism may be used in connection with the bed. This mechanism is separate from the bed and can be readily connected thereto or detached therefrom. It consists of preferably four corner posts 21 each having its upper end forked as shown at 22 and each carrying a hooked locking member 23 which is pivotally connected to the post and designed to swing into one of

the notches 3 and to lap one of the rails 2 so as to bind the posts readily to the rail. The end posts 21 are connected by cross rails 24 so as to prevent spreading. Detachably mounted within the forks 22 are rollers 25 each of which has a ratchet wheel 26 at one end normally engaged by means of a spring pressed pawl 27. A crank 28 or other suitable device is also connected to each roller so that the same may be readily rotated. A lifting sheet 29 preferably formed of canvas or other strong material is fastened along opposite edges to the rollers 25 and is of sufficient proportions to extend over the sections 4 and 5 and upward from the sides thereof to the rollers. This sheet has an opening 30 therein designed to register with the opening 11 so that when it is in use the operations hereinbefore described will not be interfered with. When the lifting and turning apparatus is not in immediate use the rollers 25 can be lifted from the forks 22 and placed upon the floor and at the sides of the device as indicated by dotted lines in Fig. 3 whereupon the space below the bed will be concealed from the sides and the circulation of air across the top of the bed will not be interrupted. Should it be desired to turn the patient the two rollers are placed in proper position upon the posts 21 and are rotated in the same direction simultaneously so as to wind the sheet thereon and cause the patient to be almost or entirely raised from the bed bottom. The rollers are then rotated in opposite directions so that the sheet will be unwound from one and wound upon the other. This will obviously turn the patient upon the sheet.

If for any reason it should be desired to remove the bed underneath the patient, as when it is desired to clean the same, the patient can be lifted in the manner described whereupon the side rails 2 can be disengaged from the posts 21 and the entire bed drawn outward from under the sheet and between the posts 21. The patient will thus be held suspended without any discomfort to the patient and after the bed has been returned to its initial position and secured in place the patient can be lowered to proper position. It is of course to be understood that the usual linen sheet is to be placed upon the sheet 29 or upon the bed section if said sheet 29 is not employed. It will of course be necessary, however, to provide the usual

linen sheet with an opening to correspond with the opening 11.

As shown in Fig. 4 the bed, when the section 5 is raised so as to hold the occupant in a sitting posture, can be provided with one or more arm rests. As indicated in said figure the rest 30 is secured upon an arm 31 extending between brackets 32 fastened to the side of section 5. Each of these brackets has a series of openings 33 and one of the openings of each series is designed to receive a pin 34 extending through arm 31. It is therefore apparent that said arm 31 can be secured at any desired angle to the section 5 to suit the taste of the occupant of the bed.

I claim:

1. A bed of the character described comprising a supporting frame, side bars secured thereto and extending beyond the ends thereof, hingedly connected sections constituting a bed bottom, one of said sections being fixedly secured to the supporting frame, cross bars upon the frame, arcuate toothed bars pivotally connected to the movable sections of the bed bottom for engaging the cross bars to support the movable sections, and corner posts detachably engaged by the terminal portions of the side bars.

2. A bed of the character described comprising a supporting frame, side bars secured thereto and extending beyond the ends thereof, hingedly connected sections constituting a bed bottom, one of said sections being fixedly secured to the supporting frame and having an opening therein, a guide upon the supporting frame and below said opening, a rack bar movably mounted upon the guide, means upon said bar for supporting an object within the opening, means for actuating the rack bar, means for securing the rack bar in adjusted position, cross bars upon the frame, arcuate toothed bars pivotally connected to the movable sections of the bed bottom for engaging the cross bars to support the movable sections, and corner posts detachably engaged by the terminal portions of the side bars.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

ELIAS A. WIBLE.

Witnesses:

ELIZABETH BARRY,
JOEL S. BURNELL.