

E. CLEAVES.
 DEVICE FOR HANDLING INVALIDS.
 APPLICATION FILED JAN. 4, 1909.

943,003.

Patented Dec. 14, 1909.

Fig. 1.

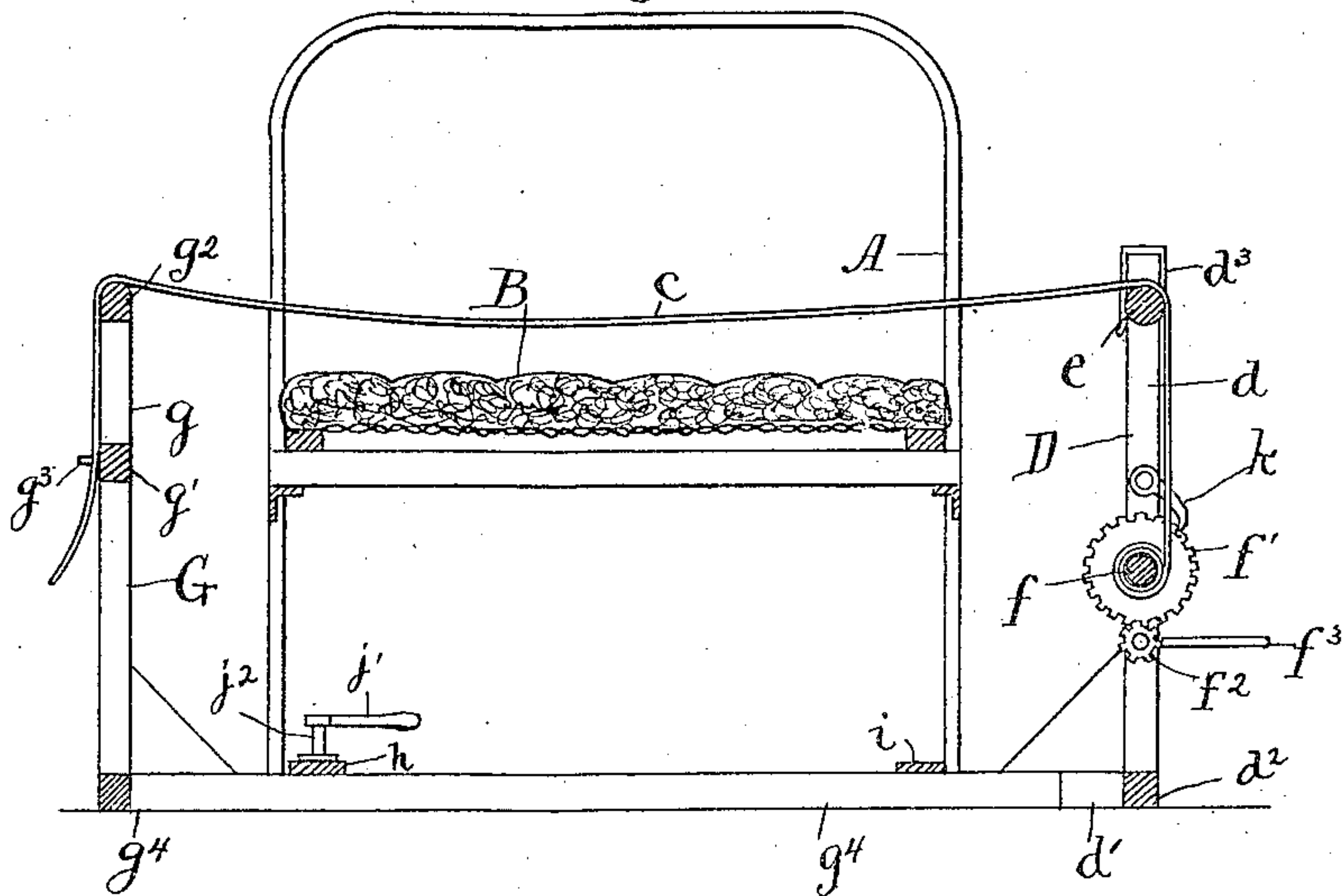


Fig. 2.

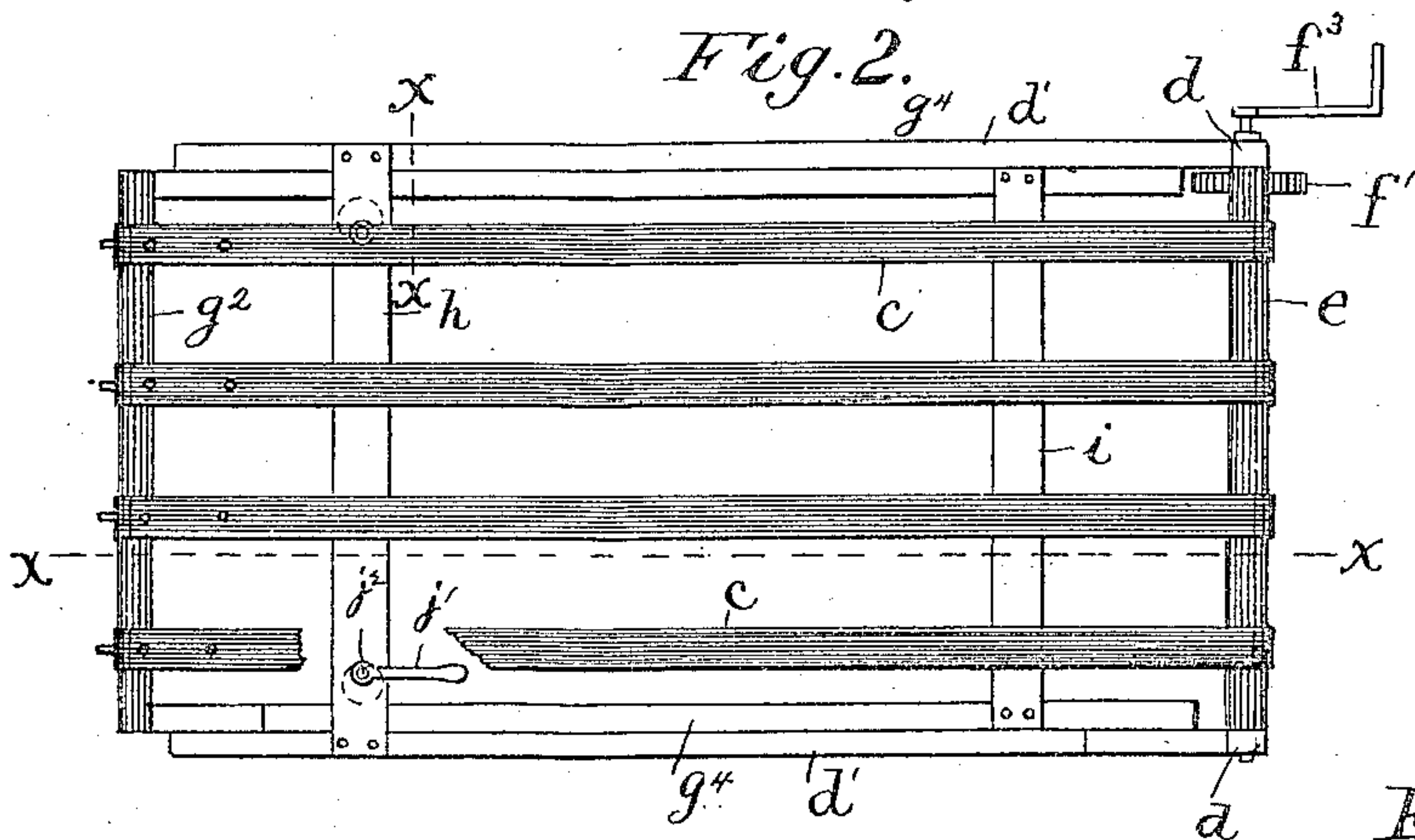


Fig. 3.

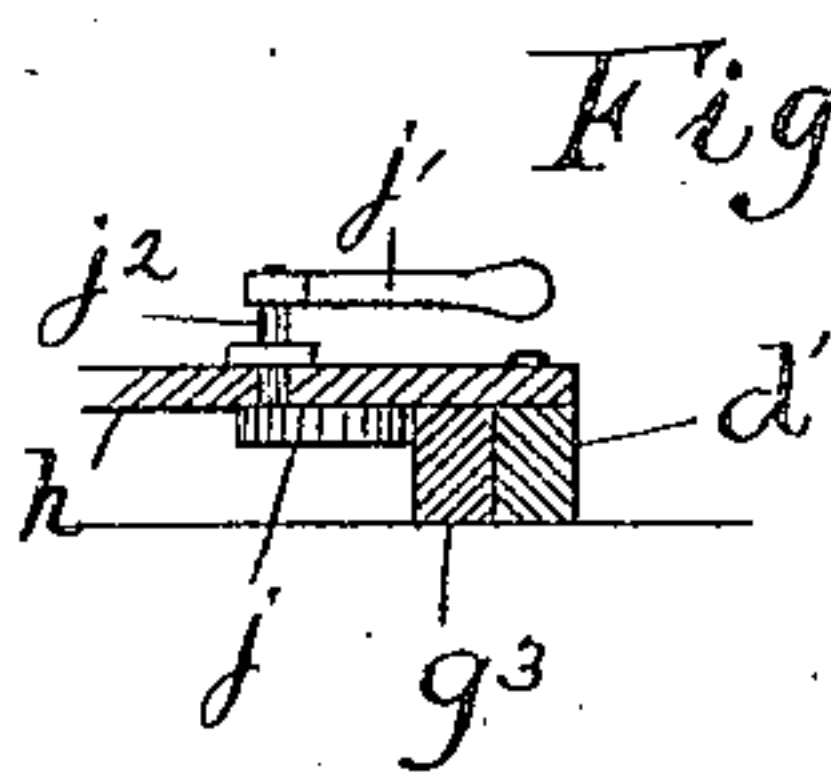
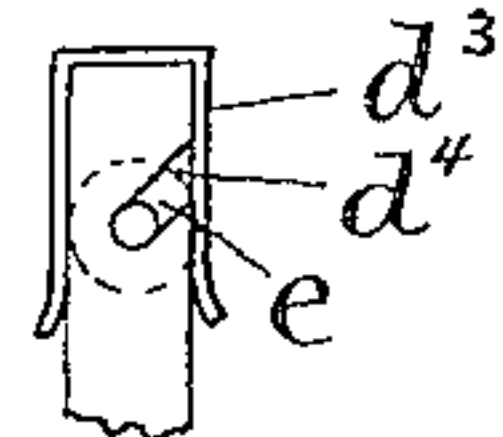


Fig. 4.



Witnesses:
 E. S. Colley
 C. W. Dennis.

Inventor:
 Eudavilla Cleaves
 by S. W. Bates
 Atty.

UNITED STATES PATENT OFFICE.

EUDAVILLA CLEAVES, OF SEARSPORT, MAINE.

DEVICE FOR HANDLING INVALIDS.

943,003.

Specification of Letters Patent.

Patented Dec. 14, 1909.

Application filed January 4, 1909. Serial No. 470,696.

To all whom it may concern:

Be it known that I, EUDAVILLA CLEAVES, a citizen of the United States of America, and a resident of Searsport, county of Waldo, State of Maine, have invented certain new and useful Improvements in Devices for Handling Invalids, of which the following is a specification.

My invention relates to a device for lifting and handling invalids of that class which is adapted to be used in connection with any bed and does not require a special bed and the object of the invention is to construct a device which will be simple, strong, cheaply made and easily and quickly manipulated. I accomplish these objects by means of the mechanism hereinafter described and shown.

I illustrate my invention by means of the accompanying drawing in which—

Figure 1 is a section on the line $x x$ of Fig. 2. Fig. 2 is a plan. Fig. 3 is a detail section on the line $x x$ of Fig. 2 and Fig. 4 is a detail of the upper end of one of the uprights.

In the drawing, A represents the bed and B is the mattress upon which the invalid is supposed to be lying.

My device is made up of two frames resting on the floor and designed to be placed one on each side of the bed with lifting straps suspended laterally over the bed between the two frames and with a winch for tightening the strips and lifting the invalid from the bed. As here shown, one of the frames designated as D is composed of uprights d with a sill d^2 at the bottom and a roller e journaled in the uprights at or near the top for guiding and supporting the lifting straps $c c$. Means are provided for readily dismounting the roller e when desired and for this purpose I journal the roller in an inclined slot d^4 and hold it in place by a spring metal yoke d^3 which fits down over the end of the post. The straps are tightened by means of a winch, the drum f of which is journaled to the uprights d . The winch as here shown is provided with the usual gear f' , pinion f^2 , crank f^3 and pawl h . The frame D is held in a vertical position by being secured to the end of a horizontal supporting frame composed of side pieces $d' d'$ secured to the lower ends of the uprights by means of suitable angle pieces to provide the necessary strength and

the ends of the side pieces d' are united by a cross bar h .

The upright frame D and its horizontal supporting frame which is designed to rest on the floor, form one half of my apparatus and the other half is similar in construction. The other half as here shown is composed of a frame G having two uprights g united at the top by a cross bar g^2 which supports the straps c . As here shown the free ends of the straps are secured to pins g^3 in a cross bar g' below the cross bar g^2 , holes being formed in the straps at suitable intervals, the holes being strengthened by reinforcing eyelets. A horizontal supporting frame is provided for the frame G formed of side pieces g^4 united at or near their ends by a cross piece i . These two supporting frames are so formed that the side pieces $g^4 g^4$ fit immediately between the side pieces $d' d'$ so that the members of the frame lie side by side where they can slide or telescope on one another to bring the upright frames nearer together or farther apart.

Suitable means are provided for clamping the supporting frames together to prevent the two halves of the device from sliding inward under the strain put upon the straps and I have shown a simple form of clamp as applied to the cross bar h . This clamp consists of a cam j on the under side of the cross bar and the cam is provided with a vertical shaft j^2 which extends above the cross bar and is there provided with a handle j' . By turning the handle j' the cam is made to impinge against the side piece g^3 and to hold it firmly against the side piece d' .

In using the device the frames are located one on each side of the bed, the straps are passed under the patient and secured to the frame G. If the patient is to be lifted in a horizontal position all the straps are secured at the same point or made of the same length but if the upper part of the body is to be raised higher than the rest the straps are shortened correspondingly. By varying the lengths of the several straps the patient may be lifted to any desired position. The motion of the lifting straps is slow and gentle and its advantage over the work of nurses and attendants in handling invalids is evident and is important in many forms of disease.

The device may be quickly placed in posi-

tion, readily moved and stowed away in compact form when not in use.

It is evident that various modifications may be made in the construction of the machine without departing from the spirit of the invention.

The device may be constructed of any suitable material but I prefer to have it made of iron and painted with white enamel paint.

10 I claim;—

1. The herein described device for handling invalids consisting of a pair of frames adapted to rest on the floor one at each side of the bed, a support for each of said frames
15 extending beneath the bed, means for adjustably securing said supports together, a plurality of lifting straps suspended from said frames and extending laterally across and above the bed and a winch on one of
20 said frames for tightening said lifting straps.

2. The herein described device for handling invalids adapted to be located one at each side of the bed each frame having a horizontal member resting on the floor beneath the bed and overlapping the horizontal member of the opposite frame, a
25 clamp for adjustably securing said horizontal members together, a plurality of lifting straps suspended from said frames and extending laterally across and above the bed
30 and a winch on one of said frames for tightening said lifting straps.

3. The herein described device for handling invalids consisting of a frame for one

side of the bed including a pair of uprights 35 having a cross bar at the top, horizontal supporting members for said frame, a corresponding frame for the opposite side of the bed having like supporting members and having a roller at the top, lifting straps 40 adapted to be secured to the first mentioned frame and to be suspended between said cross bar and roller, a winch below said roller for tightening the supporting straps and a clamp for adjustably securing the sup- 45 porting members of each frame.

4. The herein described device for handling invalids consisting of an upright frame for one side of the bed including a pair of uprights having a cross bar at the 50 top, a horizontal supporting frame secured by one end to said upright frame, an upright frame for the opposite side of the bed, a roller, a bearing roller thereon, a horizontal supporting frame secured thereto, lifting 55 straps adapted to be secured to said first mentioned frame and to be suspended between said cross bar and roller, a winch below said roller for tightening the supporting straps, the two supporting frames 60 being adapted to telescope or overlap and a clamp for adjustably securing them together.

In witness whereof I have hereunto set my hand this 21st day of December, 1908.

EUDAVILLA CLEAVES.

Witnesses:

JAS. A. COLSON,
A. H. NICHOLS.