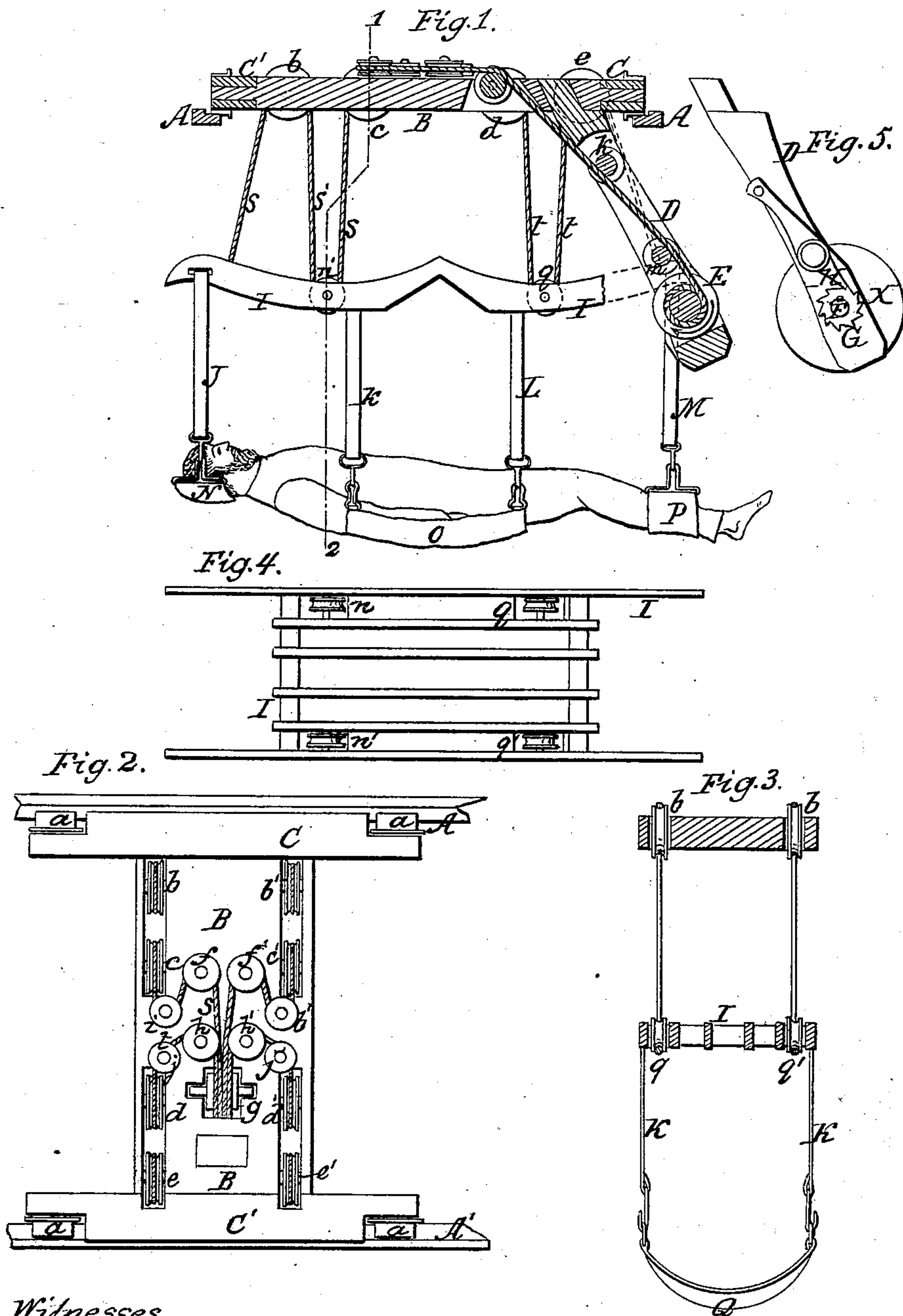


J. RUTH.
Invalid Carriage.

No. { 2,541, }
 { 33,545. }

Patented Oct 22, 1861.



Witnesses
Charles Foster
Charles Howson.

Inventor.
Henry Howson
Att'y for Jacob Ruth.

UNITED STATES PATENT OFFICE.

JACOB RUTH, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN APPARATUS FOR REMOVING INVALIDS.

Specification forming part of Letters Patent No. 33,545, dated October 22, 1861.

To all whom it may concern:

Be it known that I, JACOB RUTH, of Philadelphia, Pennsylvania, have invented an Apparatus for Removing Invalids; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

My invention consists of an apparatus, described hereinafter, for readily raising invalids from their beds, removing them to a distance from the same, and as readily replacing them in their beds again.

In order to enable others to make and use my invention, I will now proceed to describe its construction and operation.

On reference to the accompanying drawings, which form a part of this specification, Figure 1 is a side view, partly in section, of my apparatus for removing invalids; Fig. 2, a top view of the apparatus; Fig. 3, a transverse vertical section on the line 1 2, Fig. 1; Fig. 4, a plan of the suspended frame, and Fig. 5 a detached view of a portion of the apparatus.

Similar letters refer to similar parts throughout the several views.

A and A' are two rails supposed to be secured near the ceiling of a room in which are a number of beds for invalids, the rails being placed at right angles to the beds.

B, Fig. 2, is a platform, one end of which is secured to the beam C, the opposite end being secured to a similar beam C'. Each of these beams carries two flanged wheels *a a*, those of the beam C resting on the rail A' and those of the beam C' on the rail A, so that the upper frame-work, composed of the platform B and beams C and C', can be readily moved backward and forward along the rails. The platform B carries a number of grooved pulleys *bb'*, *cc'*, *dd'*, *ee'*, and *g*, all of which revolve in a vertical plane. The platform also carries a number of grooved pulleys, which revolve in a horizontal plane, and which are marked *ff'*, *h h'*, *i i'*, and *j j'*.

From the under side and near one end of the platform B projects a diagonal frame D, which carries the flanged guide-pulley *k*, a second guide-pulley *m*, and a flanged barrel E, the shaft F of which is furnished on the outside of the frame with a ratchet-wheel G, into the teeth of which catches the short arm

of the lever *h*, the long arm being furnished with a cord or wire, so that the lever can be operated from below. A spring so acts on this lever that when the long arm is not forcibly depressed the short arm is always in gear with the ratchet-wheel.

Below the upper traversing frame is a second frame I, which consists of a number of light slats connected together, as best observed on reference to Fig. 4, this frame carrying the four grooved pulleys *nn'* and *qq'*.

To the barrel E are secured the ends of four cords, which pass upward over the guide-pulley *m*, bearing against the guide-pulley *k*, and pass over the pulley *g*, from which point the cords take different directions. Thus the cord *s* passes from the pulley *g*, round the pulleys *f* and *i*, over the pulley *c*, downward and under the pulley *n'* of the lower frame, thence upward and over the pulley *b* of the upper frame, thence downward to the lower frame to one of the slats, to which it is secured. The cord *t* passes from the pulley *g*, round the pulleys *h* and *j*, over the pulley *d*, downward and under the pulley *q'* of the lower frame, upward and over the pulley *e*, and downward to the lower frame, to which it is secured. The course taken by the two remaining cords will be readily understood from the drawings, on reference to which it will be seen that each of the four cords supports one corner of the lower frame, and that on turning the barrel E in the direction of the arrow, and thus winding up the whole of the cords simultaneously, the lower frame will be raised at all points alike.

From each side of the frame are suspended the four straps J, K, L, and M, the two straps J supporting the opposite ends of a broad band N, of sacking or other suitable material, for receiving the head of the invalid, the two bands M M supporting a similar band P for receiving the patient's feet, and the four bands K K and L L supporting the four corners of a broad band Q, on which rests the invalid's body. It will be observed that the straps are connected to the bands by a simple hook-and-eye arrangement, so that the straps can be readily detached from and as readily connected to the bands.

When a patient has to be removed from one bed to another, or when he has to be simply moved away from the bed on which he

has been reclining for the purpose of cleansing either the bed or the person of the invalid, the several bands are disconnected from the straps and the former placed in their proper position beneath the patient. The frame I is then lowered by moving the lever II away from the ratchet-wheel and allowing the frame to descend by its own weight to the desired point. The several straps are then connected to their respective bands, and the barrel E is turned by means of a hand-wheel X or other suitable attachment until both frame I and the invalid, now suspended to the same, are raised to the desired height, when the whole may be made to traverse along the rails A and A' and the patient moved to any part of the room desired. If the patient is capable of assuming a sitting position, the central band only will be required for the patient to sit upon.

Although I have described the apparatus as used in a room containing a number of beds for invalids, as in hospitals, it is of equal

utility in an ordinary chamber containing a single bed, adjacent to which the apparatus may be readily arranged in the proper position.

Without further description it will be evident that the apparatus not only affords to the nurses every facility for removing patients, but that it is a source of comfort to the patients themselves.

I claim as my invention and desire to secure by Letters Patent—

The frame I, with its bands or straps, in combination with the traversing platform and the system of raising and lowering cords herein described, or their equivalents, for the purpose specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JACOB RUTH.

Witnesses:

HENRY HOWSON,
JOHN WHITE.