No. 752,198. PATENTED FEB. 16, 1904.

B. BRATLIE.

INVALID LIFTING APPARATUS.

APPLICATION FILED JULY 9, 1903.

NO MODEL.

Fig. 1.

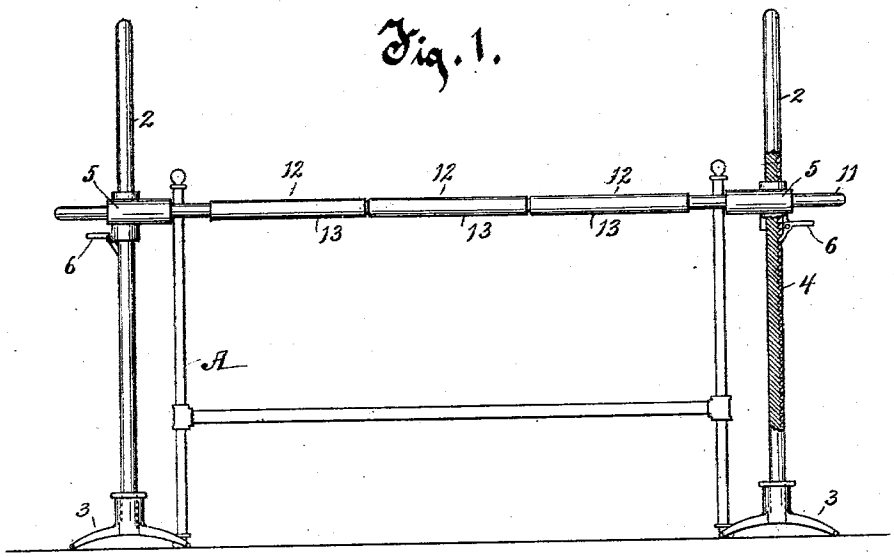


Fig. 2.

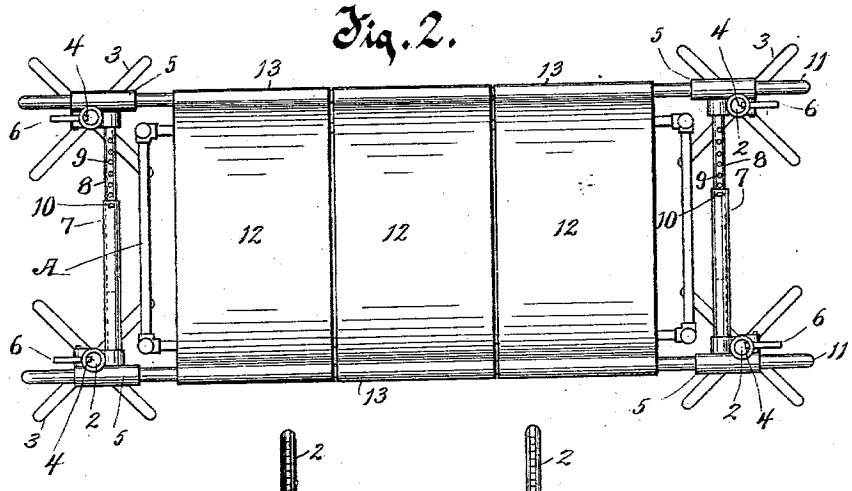
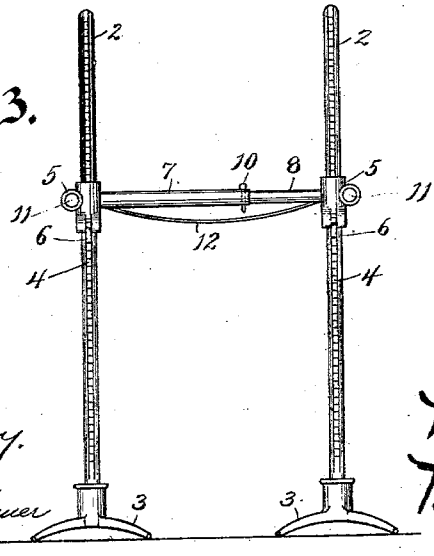


Fig. 3.



Witnesses:

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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

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UNITED STATES PATENT OFFICE.

BIRGIT BRATLIE, OF BROOKLYN, NEW YORK.

INVALID-LIFTING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 752,198, dated February 16, 1904.

Application filed July 9, 1903. Serial No. 164,762. (No model.)

To all whom it may concern:

Be it known that I, BIRGIT BRATLIE, residing at Brooklyn, in the county of Kings and State of New York, have invented a new and useful Improvement in Invalid-Lifting Apparatus, of which the following is a description, reference being had to the accompanying drawings, which are a part of this specification.

The object of my invention is to provide improved means for lifting invalids or sick persons from and supporting them above and independent of a bed, thus affording opportunity for changing or making up the bed on which the invalid had been lying, the improved means for so lifting and supporting the invalid being adapted for use conveniently by two persons or even by one person.

The invention consists of the apparatus, its parts, and combinations of parts, as herein shown and described, or the equivalents thereof.

In the drawings, Figure 1 is an elevation at one side of my improved apparatus, a part being in section to exhibit interior construction in connection with a bedstead in outline to exhibit the relation of the apparatus to a bed from which an invalid can be lifted by my improved apparatus. Fig. 2 is a top plan view of my improved apparatus in connection with a bedstead in outline to exhibit the relations of my apparatus to the bed in connection with which my apparatus is adapted to be used. Fig. 3 is an end view of my improved apparatus.

In the drawings, A represents the posts and rails of a bedstead of ordinary form, and this bedstead is shown in the drawings merely to illustrate the relation of my improved apparatus to a bedstead and the method of using it in connection with a bed thereon.

My improved apparatus consists of four posts 2 2, each post being provided with a spreading foot 3, by means of which the post is adapted to stand firmly on a floor. These posts are advisably constructed of metal rods fixed in the central hub of the spreading foot 3, and each post is provided with means for supporting a block or head adjustable vertically thereon, and such means may consist of the series of ratchet-teeth 4, which are shown in the drawings. On each of these posts there is a well-fitted but movable block or head 5, and a finger latch or pawl 6 is pivoted in the block and is adapted to engage releasably the ratchet-teeth 4. For connecting the blocks 5 on two of the posts to each other, so as to hold them in position and to permit of the increasing or decreasing of the distance between the two of the posts thus connected, the blocks on two of the posts are provided with laterally-projecting rigid tubular partial rails 7 7, and the blocks 5 of the other two posts are provided with laterally-projecting rigid partial rails 8 8 of such size that they are adapted to telescope in the tubular rails 7 7. The tubular rails 7 7 and the therein entering rails 8 8 are provided with means for securing them to each other adjustably, which may consist of a series of holes 9 9 in one set of the partial rails and with complementary holes in the others of the set of partial rails, into and through which pins 10 10 may be inserted for locking the telescoping rails adjustably in position. These adjustable rails are thus employed at the head and the foot of the apparatus and of the bed and are arranged in sets or pairs, as shown in Fig. 2, so that the posts at the head and at the foot of the bed, respectively, can in pairs be adjusted at equal and such distances apart as may be desired within the limits of the lengths of the partial rails.

At the sides of the apparatus and of the bed longitudinal rails 11 11 are provided, which rails are, like the other parts of the apparatus already described, made of metal, and these rails are advisably of round rods and are fitted movably into apertures or bearings therefor in the blocks 5 5, the rail on either side of the apparatus and the bed being fitted movably and removably in the blocks 5 on the posts at that side of the apparatus and bed. In connection with these side rails 11 11 an apparatus-bottom is employed which preferably consists of a plurality of flexible sections 12 12, advisably made of heavy canvas of such length as to extend across the apparatus from side to side and provided with terminal loops 13, through which the rails 11 can be readily passed. The number of these sections is not

important; but I have shown as a desirable number three sections making up the apparatus-bottom, the sections being of such width that together they make a bottom substantially as long as the bed.

This apparatus is of such size and so constructed that the posts can be placed near the respective corners of the bedstead on a bed on which an invalid is lying, but a little outside of the bedstead both at the top and at the bottom, so as to make a rectangular frame a little larger in size than the size of the bedstead. The posts at the respective sides of the bed can be adjusted and secured in position at a proper distance apart by adjusting the partial rails 7 7 and 8 8 therefor, and the blocks 5 being let down to the plane of the bed one of the rails 11 is inserted in the blocks 5, being passed medially through the sections 12 12. Thereupon these bottom sections can be carried under the invalid and under a portion of the bed-clothing, if desired, in such manner as is common with nurses for passing bed-clothing under invalids, and the other rail 11 will then be passed through the blocks 5 and medially through the loops of the sections 12. Thereupon two persons, one at the head and the other at the foot, can with their two hands grasp the extremities of the rails 11 and regularly and evenly lift the two ends of the rails, with the bottom sections and the invalid thereon, away from the bed on the bedstead to such height as is desired to enable attendants to change or make up the bed on the bedstead. The invalid can then be let down onto the bed by the two persons again taking hold of the ends of the rails 11 11 and lifting the latches 6 by a finger applied thereto and then letting the blocks 5 slide down the posts by gravity. In fact, by means of this apparatus an invalid can be lifted by one person alone lifting a little first at the head and then at the foot of the apparatus alternately, and the invalid can be again let down to the bed by a single person by reversing the method of lifting the invalid.

While ratchets on the posts and pawls on the blocks engaging the ratchets are considered a safe and desirable means of securing the blocks in position on the posts, still the invention should not be limited to this specific means for thus locking the blocks to the posts releasably, for clamping of any well-known form or even pins through holes in the posts might be employed successfully for this purpose and without departing from the spirit of the invention.

What I claim as my invention is—

1. An invalid-lifting apparatus, comprising four vertical posts, blocks slidable on the posts, means for locking the blocks to the posts releasably, means independent of a bedstead for securing the posts to each other adjustably in sets of two, side rails insertible in the blocks in pairs, and a flexible bottom having means adapted to be engaged and held by the side rails.

2. In an invalid-lifting apparatus, a set of vertical head-posts and a set of vertical foot-posts, blocks slidable and adjustable on the posts, telescoping rails fixed to the blocks adapted to secure the head-posts and the foot-posts respectively to each other in pairs adjustably, side rails severally insertible in and removable from a block on a head-post and a block on a foot-post, and a bottom supported on the side rails.

3. In an invalid-lifting apparatus, means for supporting bottom-carrying side rails, comprising vertical posts provided with spreading feet, ratchet-teeth on the posts, blocks slidable on the posts and provided with pawls adapted to engage the teeth on the posts, partial rails fixed in the blocks in sets the rail in one block of each set being adapted to telescope with the partial rail fixed in the other block of the set, and means for locking the telescoping rails to each other releasably.

4. In an invalid-lifting apparatus, four upright posts, means securing the posts to each other in two pairs the posts of each pair being separated from and adjustable toward and from each other, side rails detachable from but adapted to be supported removably from the pairs of posts, and a bottom consisting of a plurality of wide sections of flexible material provided with terminal loops extending across the sections and adapted to receive said rails therein, and therethrough endwise.

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

BIRGIT BRATLIE.

Witnesses:
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HENRY E. TOBEY.