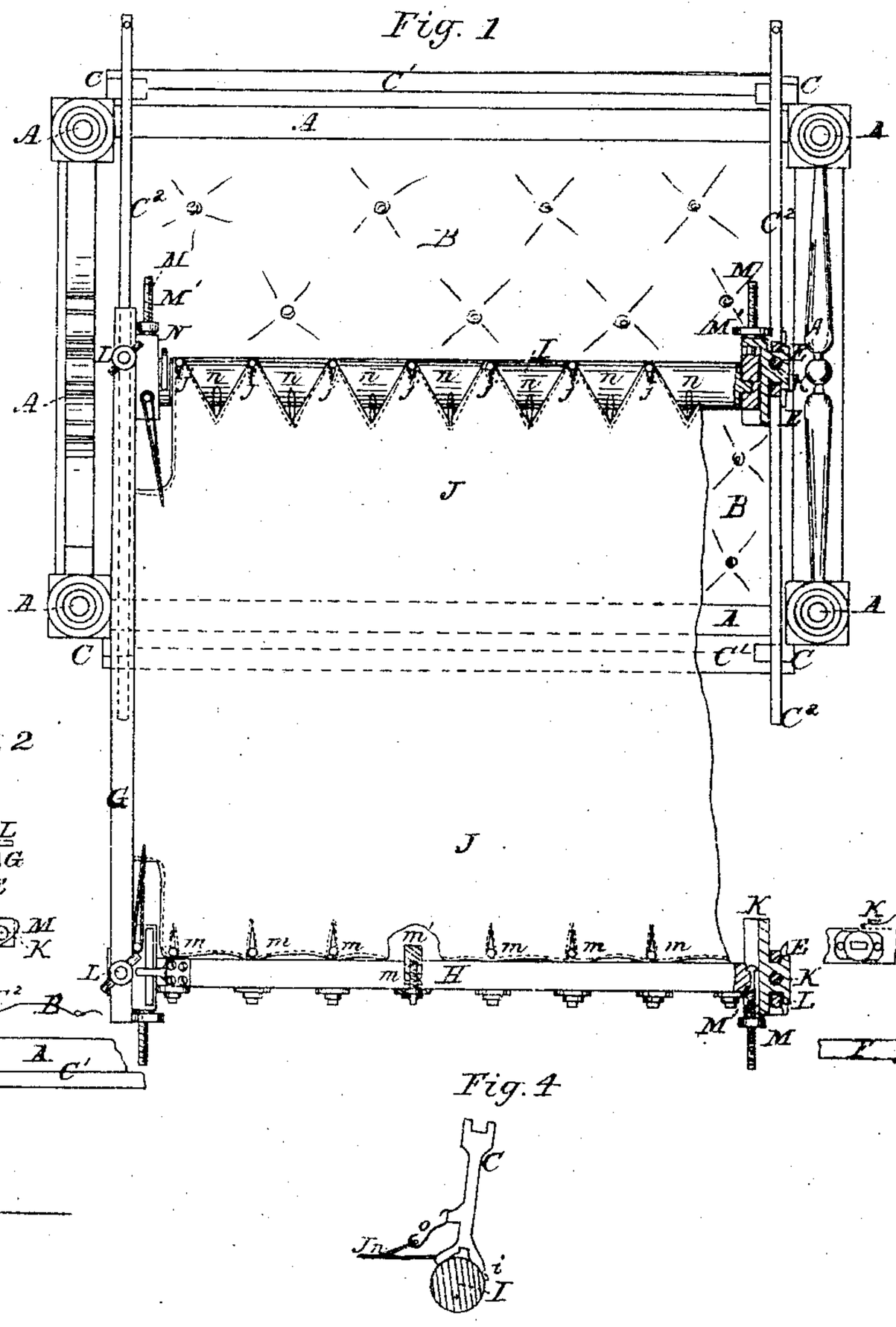
Sheet 1 — 2 Sheets

W. W. Rowles and A. J. Russell,

Bedstead

No. 75,983. Patented Mar. 24. 1868.

Fig. 1



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Sheet 2 – 2 Sheets

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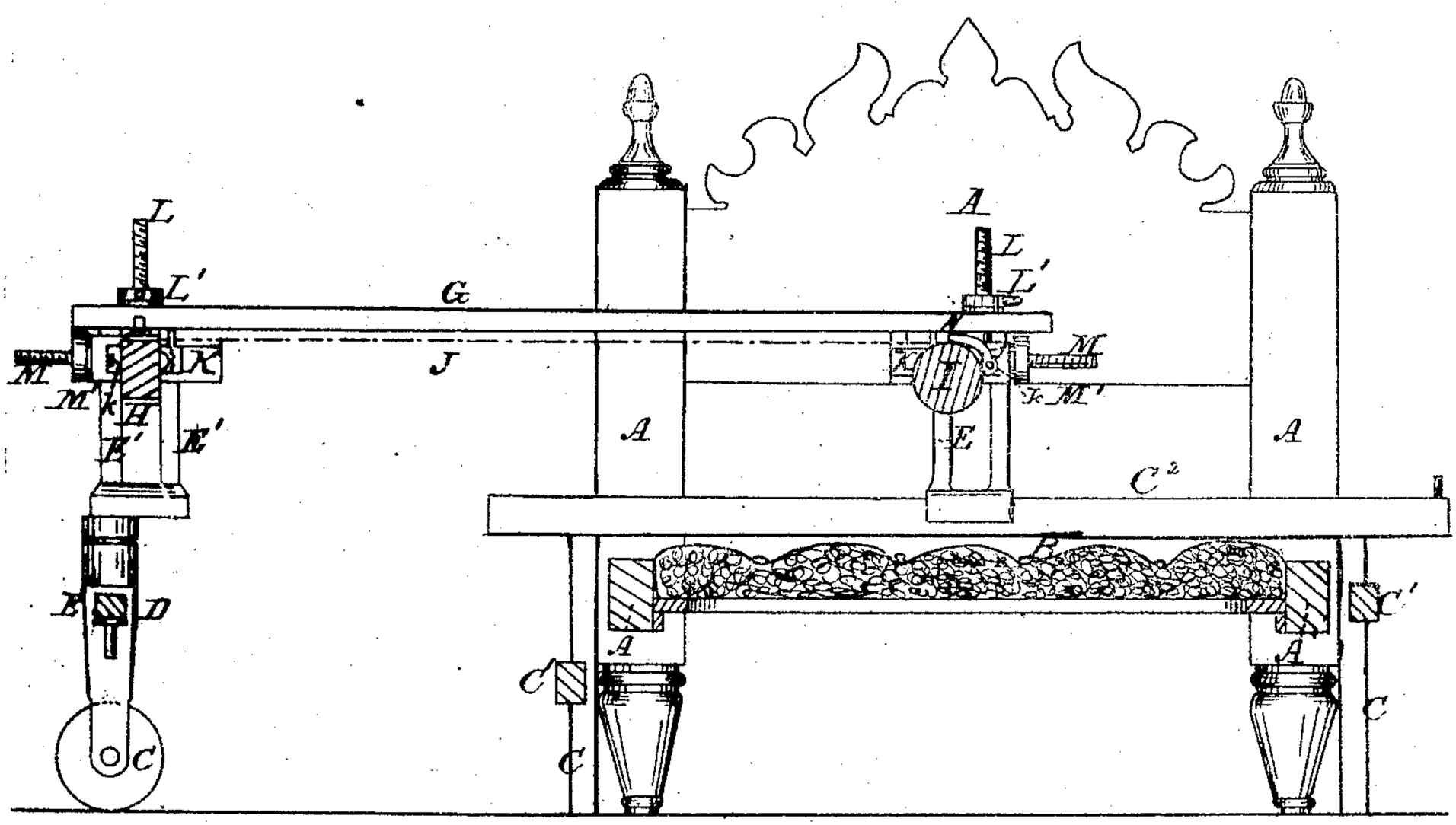
Fig. 5



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Letters Patent No. 75,983, *dated March* 24, 1868.

IMPROVED INVALID-BEDSTEAD.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that we, W. W. ROWLES and A. J. RUSSELL, of the city and county of Baltimore, and State of Maryland, have invented a new and improved Invalid-Bedstead; and we do hereby declare the following to be a full, clear, and exact description of the same, sufficient to enable those skilled in the art to which our invention appertains to make use of it, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a top view.

Figure 2, a detached portion in elevation and section.

Figure 3, another detached portion similarly shown; and

Figure 4, a view showing the operation of the key or wrench in tightening the sheet; and

Figure 5 is a cross-section.

This invention is an apparatus which may be attached to any bedstead, and by means of which a sick person may be gently raised and removed from the bed and returned to it again, without being caused any pain, when it is necessary that the bed should be made, or the clothes changed.

The principle of the invention consists in employing, in connection with the ordinary bedstead, a supplementary one, upon which the patient can be lifted up from the bed. The patient having been thus raised, that part of the supplementary apparatus which supports him can be run out sideways from the bed, removing the sick person entirely therefrom, and enabling the attendants to change the clothes, &c., as conveniently as though no one were occupying the bed.

In the drawings, the ordinary bedstead is represented by A A, and the bed by B. Over the bed, between the head-board and foot-board, is placed the supplementary bedstead, the legs of which are shown by C C, the sides by C^1 C^1, and the head and foot by C^2 C^2. The cross-bars which compose the head and foot of the supplementary bedstead, extend across slightly above the bedstead A A, and just inside of its head-board and foot-board, as shown clearly in fig. 1. The supplementary bedstead, as so far described, is designed to remain always in the position shown in fig. 1, its office being to support the apparatus hereafter explained.

Another frame, the front side of which rests upon two posts D D, which travel to and from the bedstead A A, upon casters or trucks *c c*, and the rear side of which is supported upon short posts E E, which slide back and forth upon the pieces C^2 C^2 of the supplementary bedstead, serves directly to furnish the means for raising and moving the invalid. This frame consists of a side-bar, F, which connects and steadies the two front legs D D, four double metallic standards E E E′ E′, the first two of which have grooved feet, and slide along the rails C^2 C^2, and the last two of which are fixed permanently upon the top of the posts D D. Two cross-bars G G, which connect the tops of the standards E E to the tops of the opposite standards E′ E′, and two adjustable side-pieces H I, the former connecting the standards E′ E′ together, and the latter the standards E E. These side-pieces support a sheet, J, upon which the patient lies, and upon which he is raised and moved from one position to another without disturbing his repose.

We will now describe more minutely the construction and operation of the parts which raise and lower the sheet J, and move it from side to side at pleasure. The metallic standards E E E′ E′ are made with two vertical parallel posts, resting upon a solid base, and resemble in appearance a musician's tuning-fork, the prongs pointing vertically upward. Between the two posts of each standard, a metallic socket, K, slides up and down, supporting the ends of the side-pieces H I. The sockets K K K K are moved up and down upon vertical screw-rods L L, which pass through them, and are operated by wrenches or nuts L′ L′, above the cross-bars G G. Thus the side-bars H I, and with them the sheet J and the invalid upon it, may be raised or lowered at pleasure by simply screwing the sockets K K up or down. The sockets K K are made with a horizontal groove, *k*, extending inward towards the bed, in which the tenons of the side-pieces H I rest, along which they may slide, thus allowing the side-pieces to be adjusted towards or from each other, so as to increase or diminish the tension of the sheet J held between them. A horizontal screw-rod, M, having a nut or wrench, M′, operates to move them in or out, and hold them firmly in place, in the same manner that the rods L L move them up and down. The sockets K K may be elongated laterally, to allow greater length to the grooves, and increase the movement of the side-pieces.

The apparatus as thus constructed, fully provides the means for raising and lowering the invalid, and for moving him off of the bed and returning him to it, without disturbing him in the slightest degree. Ordinarily, while he is reposing on the bed, the side-pieces H I are lowered down, and caused to approach each other, so as to slacken up the sheet J, and to allow the whole weight of the invalid to be supported by the bed B, as in any other bedstead. When it is necessary to make the bed or change the clothes, the side-screws M M may be started a little, so as to draw the sheet J a little tighter, and then the sheet, with the patient upon it, covered with his blankets, &c., as usual, may be raised as above described. When he has been raised sufficiently high to clear the bed beneath him, the frame is run forward upon the casters *c c* and sliding posts E E, until it assumes the position shown in figs 1 and 5. The necessary operations may thus be performed, after which the patient may be returned to his couch by reversing the action of the frame and screws.

In order to increase the adjustability of the frame and sheet, we make one of the side-pieces I in the form of a roller, bearing in sliding blocks which run in the grooves *k k*, as above described, and provided with a ratchet and pawl, N, to hold it from unrolling. We attach one side of the sheet to this roller by loops *j j*, which fasten over pegs *i i* upon the roller. The tension of the sheet may then be increased or diminished at pleasure, by means of the roller. If desired to stretch it very tight, the key or lever O, shown in fig. 4, may be employed in addition to the roller. The edge of the sheet J that comes in contact with the roller, is deeply serrated, the loops *j j* being at the salient angles of its outline. At the re-entrant angles, another series of loops *n n*, is fixed. By setting the lever O upon the roller, as shown in fig. 4, and catching its hook *o* into one and another of the loops *n n*, after the roller has stretched the sheet as far as possible, it may be tightened still further. This operation will be clearly understood from an inspection of fig. 4. The opposite edge of the sheet is looped and hooked over a set of hooks, *m m*, arranged along the inner surface of the side-bar H. The hooks *m m* may also be used in tightening the sheet, if attached with screws and nuts, as shown at *m' m'*, fig. 1.

With an apparatus thus constructed, the sheet J itself may be very easily changed under the patient, without the necessity of removing him, and without any very great inconvenience to him. It will be only necessary to screw up the apparatus until it clears the bed B, in order that the attendants may have room to operate, and then taking a fresh sheet, similar to sheet J, roll it up and place it across the head or foot of the bed. When it is in this position, unbutton or unhook one loop *n*, and one, *m*, nearest to the end of the sheet J, and hook on in their place the corresponding loops of the fresh sheet. Then unhook the next loops, and hook in their place the corresponding loops of the fresh sheet, and so on until the old sheet is entirely removed and the new one substituted in its place, without moving the invalid. It will be observed that during this operation, the attendants do not have even to touch the patient, all their work being performed at the edges of the sheet upon which he lies. It will also be observed that during the whole operation, nearly the entire length of the patient is supported upon the two sheets, a part resting upon one sheet and a part upon the other, and the sheets being so gently and gradually changed, that he suffers no considerable inconvenience therefrom. Thus by the use of this improved apparatus, all the clothes upon the bed may be changed, aired, or adjusted in any manner, without disturbing the invalid so much as to cause him any annoyance or inconvenience of any importance.

It may be observed here that the key or lever O may be used for unlocking the sheet from the roller, should its loops *j j* be drawn too tight to slip easily off of their pegs, or should the roller be so turned as to bring the loops under it in an inconvenient position.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. We claim the supplementary bedstead C C^1 C^2, when used in combination with the bedstead A A, substantially as and for the purposes specified.

2. We claim the laterally-sliding frame, composed of the end-pieces G G, and vertically-adjustable side-pieces H I, supported upon the sliding standards E E, and the posts D D running upon trucks *e e*, substantially as and for the purpose specified.

3. We claim, in combination with a laterally-sliding frame, as above described, a roller, I, for the purpose of holding and adjusting one side of the supporting-sheet J, substantially as described.

4. We claim the sheet J, having one serrated edge looped, as shown at *j j*, *n n*, substantially as and for the purposes set forth.

5. We claim the forked lever O, having the hook *o*, substantially as and for the purposes shown.

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