A. J. GOODWIN.
Invalid Bedstead.

No. 202,106. Patented April 9, 1878.

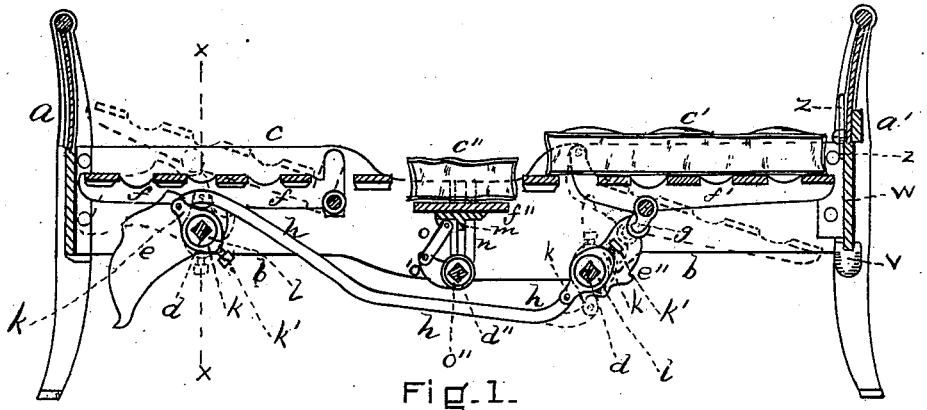

Fig. 1.

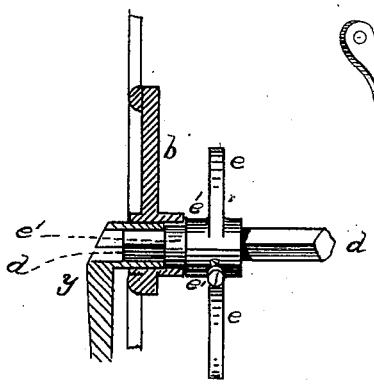

Fig. 2

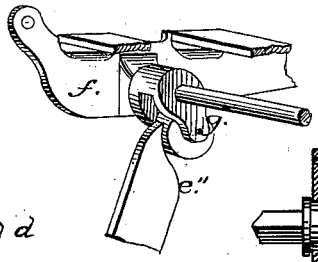

Fig. 4.

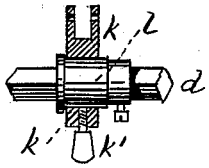

Fig. 3

WITNESSES

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IMPROVEMENT IN INVALID-BEDSTEADS.

Specification forming part of Letters Patent No. **202,106**, dated April 9, 1878; application filed February 1, 1878.

To all whom it may concern:

Be it known that I, ASAHEL J. GOODWIN, of Brookline, in the county of Norfolk and State of Massachusetts, have invented a new and useful Improvement in Hospital-Bedsteads, of which the following is a specification:

This invention relates to bedsteads for hospital and invalid purposes, and embraces improved mechanism for simultaneously raising the upper and lowering the lower portions of the bedstead, and for depressing a section of the bedstead, so that a bed-pan or chamber-vessel can be inserted.

The nature of the invention in detail is fully described hereinafter.

In the accompanying drawing, in which similar letters of reference indicate like parts, Figure 1 is a longitudinal section of an invalid or hospital bedstead embodying my invention, the bed being in a horizontal position. Dotted lines show the positions of the parts when the upper portion is raised and the lower portion lowered. In this figure the central section is represented as depressed, for the purpose below explained. Figs. 2 and 3 are part transverse sections upon the line *x x*, Fig. 1. Fig. 4 is a detail view.

a a' represent the head-board and foot-board, respectively, and *b* the side rails. *c* is the mattress which rests upon the upper section *f* of the bed-frame; *c'*, the mattress which rests upon the lower section *f'*, and *c''* the mattress which lies upon the central section *f''*. The upper or head section *f* is that part which is capable of being swung upward. The lower or foot portion *f'* is that part which is capable of being swung downward, and the narrow central portion *f''* is that portion which is capable of being lowered.

d is a shaft, extending across the bedstead under the section *f*. This shaft is square, three-sided, or polygonal, and the hub *e'* of the cam *e* fits exactly upon it.

By reference to Fig. 2 it will be seen that the hub *e'* of the cam extends into the side rail *b*. A similar cam and hub are placed upon the opposite end of the shaft *d*, just within the opposite side rail *b*.

By placing a key, *y*, Fig. 2, upon the end of the shaft *d* and turning the same, the cam *e*, whose hub *e'* fits upon said shaft, raises the section *f* of the bedstead into the position shown by the dotted lines in Fig. 1, so as to alter the position of the patient.

As the cam *e* has been shown in my patent of October 26, 1875, No. 169,099, I will not describe it in detail. It will be seen, however, that by extending the hub *e'* of the cam into the side rail *b*, so that said hub, and not the shaft *d*, forms the journal in the bearing, the shaft *d* is allowed to retain its shape throughout its entire length, which is very desirable, as it must be operated upon at its ends by the key or wrench *y*, and be keyed to the cam-hubs *e'* between the rails. Of course, if the cam-hubs *e'* did not extend within the side rails *b*, the shaft *d* would have to be made round at those points and squared again at its ends, so as to fit the key *y*.

d' is a shaft, similar to *d*, placed beneath the lower section *f'* of the bedstead, provided with two cams, *e''*, similar to the cams *e*. These cams are placed upon cam-hubs exactly similar to the cam-hubs *e'*. The cams themselves are placed in exactly opposite positions to the cams *e*, so that when the cams *e* project down the cams *e''* extend up. The lower section *f'* has on its lower side projecting ears, upon which the friction-rollers *g* are journaled, said rollers resting upon the cams *e''*, and by this means the section *f'* is raised and lowered, as desired, as the cams *e''* actuate it.

h is a rod, connecting the two shafts *d* and *d'*, the object being to cause the simultaneous movement of the upper section *f* and the lower section *f'*, so that when the upper section is swung up the lower section will swing down, and vice versa. Each end of the rod *h* is hinged to a bifurcated sleeve, *k*, which lies on a socket-piece, *l*, fitting upon the square shaft. This is illustrated particularly in Fig. 3. The sleeve *k* is held immovably upon the socket-piece *l* by means of the set-screw *k'*. Thus it will be seen that if either shaft *d* or *d'* is actuated both are turned.

If it is desired to actuate either shaft without affecting the other, the set-screw *k'*, which holds the sleeve *k* to the socket-piece *l* fitting upon such shaft, is loosened. Thus the section *f* may be raised without affecting the section *f'*, and the section *f'* may be lowered without

affecting the section *f*. The upper and lower sections of the bedstead may thus be operated together or separately.

d'' is a shaft under the central section *f''*, similar to the shafts *d'* and *d*. Fixed to said shaft are a pair of hubs, *o''*, one near each side rail, from which extend levers *o'*, which hinge to levers *o*, which hinge to the section *f''*. From each end of said section a projection, *m*, extends, which runs in the track or groove *n*, which is attached to the side rail.

When it is desired to use a bed-pan or chamber-vessel, the key *y* is applied to one end of the shaft *d''*, and, turning it, brings the levers *o o'* into the position shown in Fig. 1, thus lowering the section *f''*, (the projections *m* sliding in the grooves *n*, thus steadying the section.) The mattress *c''* is then drawn out from under the patient, and the vessel placed upon the section *f''*, and the shaft turned back until the levers *o o'* are straight. When the vessel is to be removed, the central section is lowered, the mattress replaced, and the section raised, as before.

As a matter of convenience, although not of necessity, I usually make my bedstead in such a manner that it may be easily taken apart, as will be seen by referring to Fig. 1, where *v* represents a rest, into which the foot-rail *w* rests, and the foot-board *a'*, which is of a piece with the legs, is provided with a button, *z*, which buttons over the foot-rail *w*. To remove the foot-board *a'*, turn the button *z* and allow the said foot-board to fall back from the rail *w*, which then comes out from the rest *v*.

Having thus fully described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The combination of the rising upper section *f* and the falling lower section *f'* of the bedstead, said sections being operated simultaneously by means of the reverse cams *e* and *e''* and connecting-rod *h*, substantially as and for the purpose set forth.

2. The combination of the rod *h*, sleeves *k k*, socket-piece *l l*, set-screws *k' k'*, and shafts *d d*, all arranged substantially as and for the purpose herein described.

3. In a bedstead, the central section *f''*, extending the width of said bedstead, and adapted to be moved vertically up and down by means of the shaft *d''*, levers *o o'*, hubs *o''*, and projection *m*, moving in groove *n*, substantially as and for the purpose specified.

4. The combination of the shaft *d''*, hub *o''*, levers *o* and *o'*, projection *m*, and side rail, having groove or track *n*, all substantially as and for the purposes set forth.

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Witnesses:

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