

UNITED STATES PATENT OFFICE.

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INVALID-BED.

SPECIFICATION forming part of Letters Patent No. 356,982, dated July 19, 1887.

Application filed December 9, 1886. Serial No. 221,101. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH D. SMITH, a citizen of the United States of America, residing at Rising City, in the county of Butler and State of Nebraska, have invented certain new and useful Improvements in Invalid-Beds; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

My invention relates to certain new and useful improvements in invalid-bedsteads; and it consists in providing the bed near its head portion with a section which can be elevated, so as to provide a back-rest for the invalid, and permit the insertion of a suitable receptacle or pot and a guide therefor, the parts being so constructed that the back-rest cannot be lowered until the receptacle or pot is removed; and to this end, as well as to the other objects, which will be hereinafter stated, my invention consists in the construction shown, and as will be hereinafter fully set forth.

In the accompanying drawings, which illustrate my invention, Figure 1 is a longitudinal sectional view through the center of a bed constructed in accordance with my improvement. Fig. 2 is a sectional view, parts broken away, showing the back-rest elevated; and Fig. 3 is a transverse sectional view through the line *x x* of Fig. 1.

The bed consists of suitably-constructed head and foot boards, which are connected to each other in the usual manner by the side rails, said side rails adjacent to the head-board being provided with brackets *a a*, which form bearings for a transverse shaft, *A*, which is located beneath the side rails, said transverse shaft being provided near the side rails with spools *a'* and at one end with a crank-handle and a pawl and ratchet. The side rails are provided with suitable longitudinal strips which serve to support the cross-bars *b*, to which the springs are attached, and the bed near its central portion is provided with a cross-bar, *B*, to which are attached suitable spiral springs, *C*, which serve to support the plate *D*, which is provided centrally with a

circular opening having a downwardly-projecting flange, *d*.

Immediately beneath the opening in the plate *D*, the cross-board *B* is provided with an opening, *B'*, of larger diameter than the one above.

To the under side of the cross-board *B*, or adjacent to the opening *B'*, are secured transverse rails *E E*, which are provided at their upper edges with grooves *e*, within which will lie the outwardly-projecting flange *f* of the pot or receptacle *F*.

G refers to a pivoted section, the side bars, *G'*, of which are pivotally attached to the side rails of the bed-frame, and the pivoted side pieces, *G'*, are connected to each other by transverse bars *g g*, the lower bar having attached thereto springs, while the upper one is provided with a projecting board, as shown in Figs. 1 and 2. The transverse bars *g* and *g* on this pivoted section are provided centrally with an extended bar, *H*, which is rigidly secured thereto, this bar having near its end a recess, *h*, within which will lie the grooved strip *E*, when said bar is placed in a horizontal position, and the terminal portion of this bar *H* carries a spring, *h'*, which, when the pot *F* is removed, will enter the opening and be on a line with the other springs forming the bed-bottom.

The bars *G'* of the head-section *G* are each provided with downwardly-extending rods *i*, the ends of which are formed into suitable eyes for the attachment of cords thereto, the opposite ends of said cords being secured to the spools on the transverse shaft *A*. The mattress *J* is provided with a suitable conical opening, *J'*, and a conical cover, *j*, therefor, as well as a head-section, *L*, which is hinged thereto.

For the convenience of the patient, the bed is provided near the foot thereof with pivoted bars *M*, to the ends of which are secured the transverse board *N*, one side of which may be provided with a looking-glass, while the other side will form a convenient table.

The invalid-bed hereinbefore described is especially adapted for use in hospitals, and when used for home purposes the cross-board *B* can be removed and the ordinary cross-bars placed in position.

Before the bed can be used for the purpose

intended, it is first necessary to elevate the pivoted section G, and when the same is sufficiently raised the spring *h'* will be perfectly clear of the opening B', and the pot or other receptacle can be secured in place under the opening in the cross-bar, the conical section having been removed. After the patient has performed and desires to again assume a reclining position, it is necessary for the attendant to remove the chamber F before the section can be lowered, as the spring *h'*, abutting against the bottom of the chamber, will not permit the lowering of the pivoted section. Therefore this device necessitates cleanliness on the part of the attendant and insures the removal of the receptacle before the head-section can be lowered. After the chamber has been removed, the section can be readily lowered, and the spring *h'* will pass through the openings and will be approximately on a level with the other springs, so as to prevent the conical section of the mattress being depressed more than the other portions of the mattress.

What I claim as new, and desire to secure by Letters Patent, is—

1. The combination of the bed frame provided with a support, B, having a central opening, and a transverse guide-strip on either side of said opening, the head-section pivoted to the side rails of the frame near the head, a supporting-bar, H, rigidly secured to the pivoted head-section and provided at its free end with a spring, and the springs supported by the bed-frame, substantially as described.

2. In a bed for invalids, a transverse support provided on its upper side with springs, two or more of said springs maintaining in position a plate having a central opening, the under

side of said board being provided with grooved strips, in combination with a pivoted section, G, a spring, *h'*, and a supporting-bar, H, rigidly secured to the pivoted section to support said spring normally within the opening in the plate, substantially as shown, and for the purpose set forth.

3. The combination of the bed-frame provided with a transverse support having a central opening, B', the mattress having an opening above the opening B', a cover for the opening in the mattress, springs to support the mattress, a pivoted head-section, a spring, *h'*, and a supporting-bar rigidly secured to the pivoted head-section to hold spring *h'* against the under side of the cover or to withdraw it from the opening B', according to the position of the head-section, substantially as described.

4. In a bed, a suitable support, as B, provided with recessed strips, and an opening, a vessel, F, having a flange adjacent to its upper rim, a spring-section, D, having a central opening and a downwardly-projecting flange, a mattress provided with an opening and cover thereto, in combination with a pivoted section, G, having a bar, H, rigidly secured thereto, said bar being provided with a spring, *h'*, bars *i*, carrying cords attached to a transverse shaft having a pawl and ratchet, the parts being organized substantially as shown, and for the purpose set forth.

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

JOSEPH D. SMITH.

Witnesses:

F. JORWENAT,
E. GRUBB.