(No Model.) 2 Sheets—Sheet 1.

S. R. MILLEN.

BED.

No. 392,743. Patented Nov. 13, 1888.

Fig. 1.

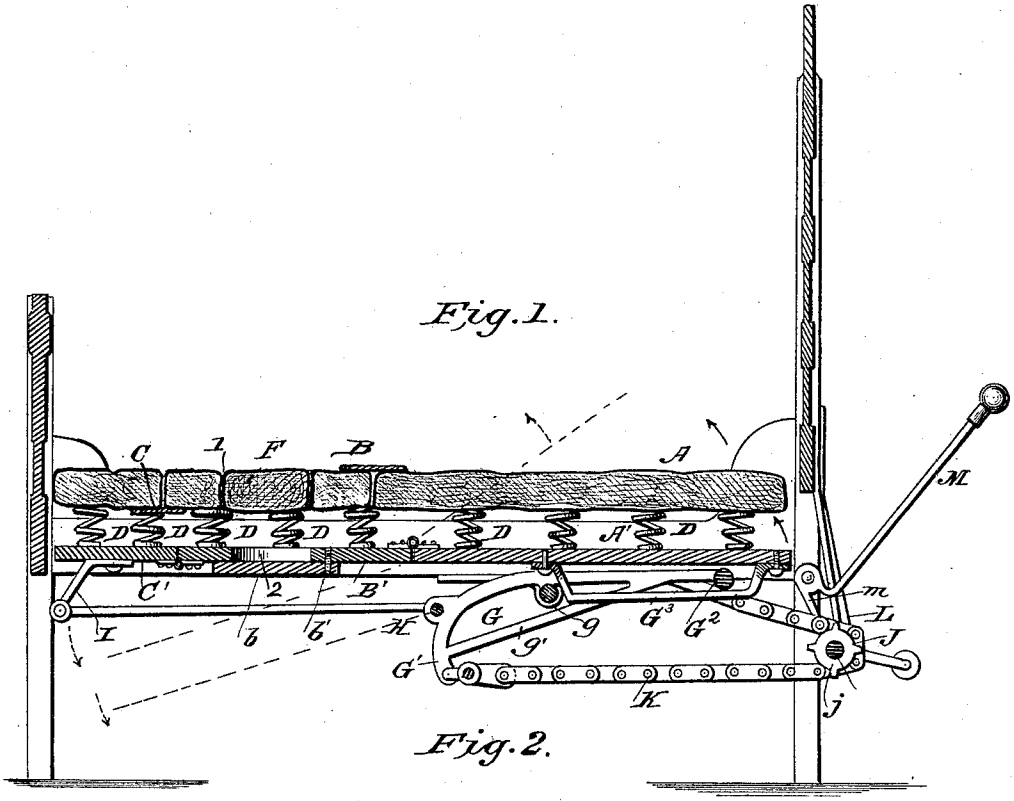
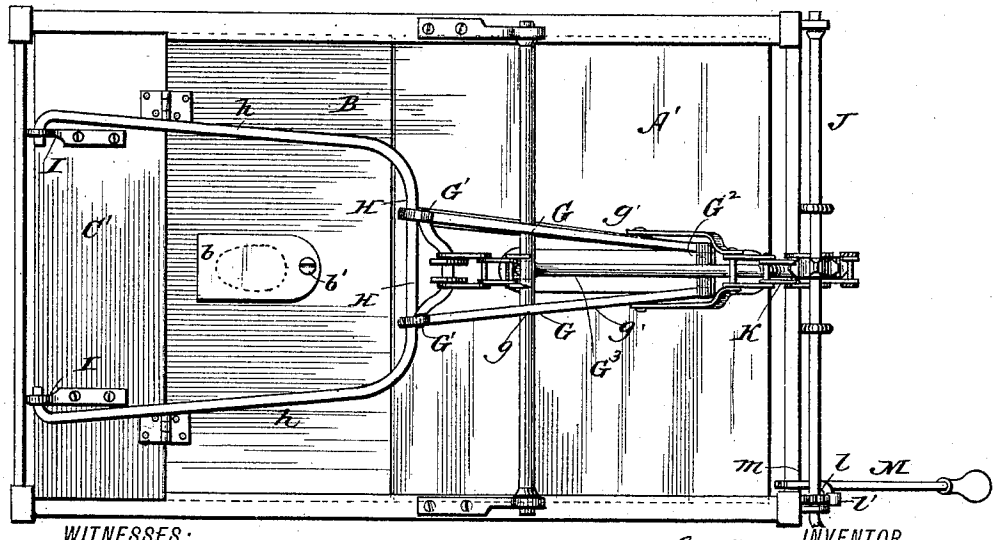


Fig. 2.



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(No Model.) 2 Sheets—Sheet 2.

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Fig. 3.

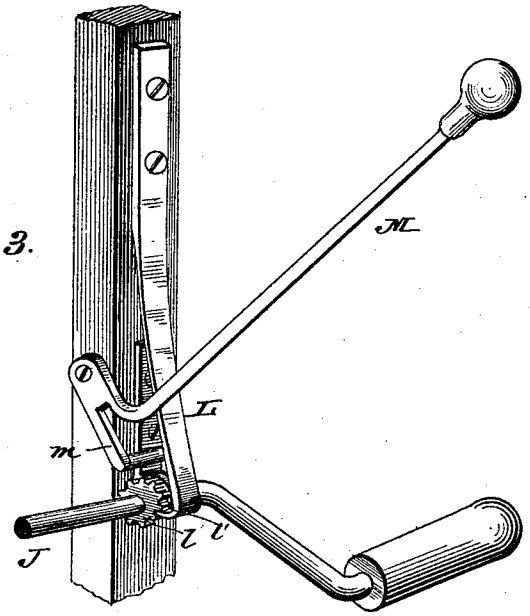


Fig. 4.

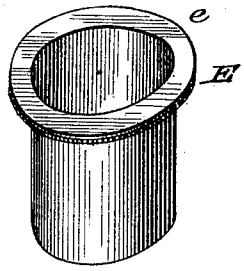
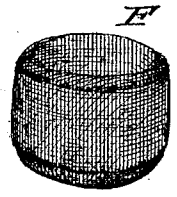


Fig. 5



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UNITED STATES PATENT OFFICE.

SAMUEL R. MILLEN, OF CLARINDA, IOWA.

BED.

SPECIFICATION forming part of Letters Patent No. 392,743, dated November 13, 1888

Application filed March 29, 1888. Serial No. 268,804. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL R. MILLEN, of Clarinda, in the county of Page and State of Iowa, have invented a new and useful Improvement in Beds, of which the following is a specification.

My invention is an improvement in invalid-beds; and it consists in certain novel constructions and combinations of parts, as will be hereinafter described and claimed.

In the drawings, Figure 1 is a vertical longitudinal section of a bed provided with my improvements. Fig. 2 is a bottom plan view thereof. Fig. 3 is a detail view of the detent and its operating-lever. Fig. 4 is a detail view of the vessel, and Fig. 5 is a detail view of the mattress-plug, all of which will be described.

The mattress is formed in three sections, A, B, and C, and its support is formed in three similar sections, A′, B′, and C′. For convenience in reference I shall term such parts A A′, B B′, and C C′, respectively, the back, seat, and foot sections. The section B is fixed in position in the bedstead or other suitable supporting-framing, and the sections A′ and C′ are hinged at or to the opposite ends of the seat-section. On the sections A′, B′, and C′ I secure the springs D, and the mattress rests on such springs, as shown. By elevating the back-section and lowering the foot-section it will be seen that the parts are adjusted to form practically a chair, in which the occupant may rest easily, and the adjustment may be such as to hold the person sitting upright or partially reclining to any desired extent.

Through the seat-sections of the mattress and the support I form openings 1 2, in which may be placed a vessel, E, the latter being formed with a rim-flange, *e*, as shown, which flange may be provided with a cushion of rubber or other suitable material. When this vessel is in use, the plug F is removed from the openings and may be replaced on the removal of the vessel, the support-section B′ being provided with a valve or flap, *b*, pivoted at *b′*, so it may be turned under the opening 2 to close the same when the vessel is removed, and to form a support for the plug when in place. It will be noticed that I arrange the openings forming the space for the vessel at a point below the middle of the bed, so the hips of a person reclining in the bed, when the latter is spread out flat, will not come over the said openings.

To enable the easy adjustment of the sections of the bed, I provide a lever, G, pivoted between its ends, at *g*, to the bedstead-frame or other suitable support. At its upper end the lever bears against the under side of the back-section, and serves to elevate and lower such section as the upper end of said lever is given such motion. At its lower end the lever has an arm, G′, forming the said lever into practically a bell-crank, as shown, braces *g′ g′* being provided to strengthen the lever, so it may be made light and yet have sufficient rigidity to operate in the desired manner. By preference the lever is formed with side bars, and they are connected at their upper ends by a short cross bar or shaft, G^2, which operates within a bail-guide, G^3, which preserves the back-section and the lever in proper contact. At a point below its pivot the lever G is joined by a connection, H, with the foot-section C′. In the construction shown the section C′ has depending brackets or lugs I, and the connection H is a rod bent into U shape, having its intermediate portion journaled in the lower arm of the lever and its side arms, *h h*, connected at their ends with the lugs I. To conveniently operate the lever and so adjust the sections of the bed, I provide the operating-shaft J, suitably journaled and having a crank by which it may be turned. This shaft is connected with the lever so its turning may adjust such lever. In order that the shaft may serve to adjust such lever positively in both directions, I prefer to connect the operating-shaft with both arms of the lever—that is to say, on both sides of its pivot. In the construction shown the shaft J has a sprocket-wheel, *j*, and a sprocket belt or chain, K, passing over and engaging the same is connected at its ends with the upper and lower ends of the lever. On the operating-shaft I secure a toothed wheel, *l*, engaged by a tooth, *l′*, of a spring detent-bar, L, which latter may be moved out of engagement with wheel *l* by a pivoted bar, M, having a long weighted upper arm and a short lower arm, *m*, which latter is movable into and out of engagement with the spring detent-bar and may be operated to release said bar.

As the operating-shaft is turned in one di-

rection the back-section will be raised and the foot-section lowered, so as to adjust the occupant of the bed into a sitting position. Then, when desired, by turning the shaft in the reverse direction, the back-section may be lowered and the foot-section raised to a horizontal position.

Manifestly the improvements may be embodied in a double or single bed; or, if desired, the invention may be embodied in an operating-chair, as will be readily understood.

Having thus described my invention, what I claim as new is—

1. The combination of the back, seat, and foot sections, the brackets or lugs depending from the foot-section, the bail-guide G^3, fixed to the under side of the back-section, the lever having its upper end engaged in the bail-guide G^3 and its lower end connected by U-shaped rod with the brackets or lugs of the foot-section, the operating-shaft, the connecting belt or chain, and the detent, all substantially as and for the purposes specified.

2. The improvement in beds, comprising the fixed seat-section, the hinged back-section having bail-guide G^3, the hinged foot-section, the lever G, formed with side bars connected at their upper ends by short cross bar or shaft G^2, operating in guide G^3, the connection H, uniting said lever with the foot-section, the shaft J, having sprocket *j*, and the chain K, all substantially as and for the purposes specified.

SAMUEL R. MILLEN.

Witnesses:
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