

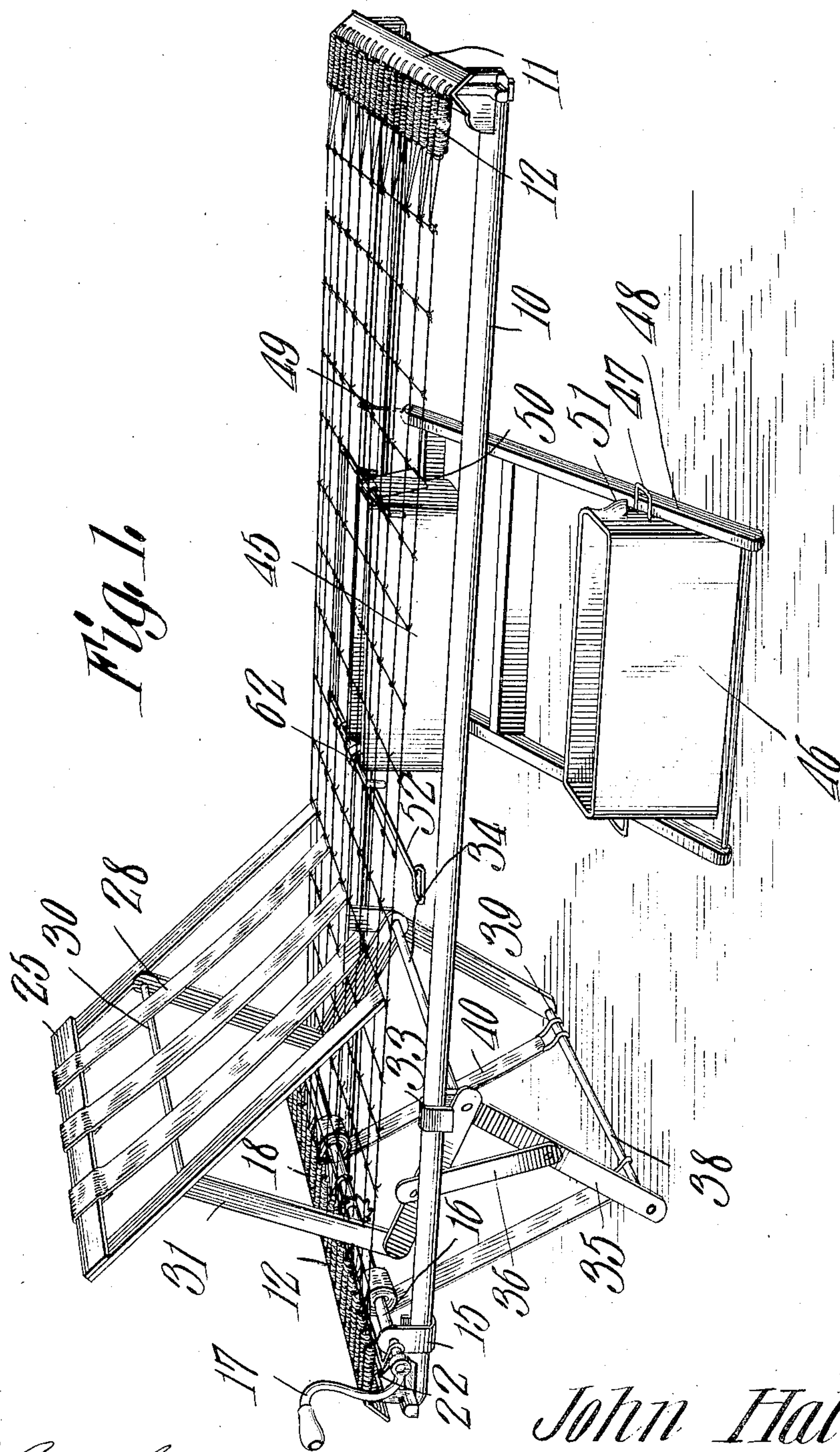
No. 897,890.

PATENTED SEPT. 8, 1908.

J. HALL.
INVALID BED.

APPLICATION FILED SEPT. 9, 1907.

4 SHEETS—SHEET 1.



Witnesses
E. J. Stewart
John C. Parker

By

John Hall, Inventor
C. A. Snow & Co. Attorneys

No. 897,890.

PATENTED SEPT. 8, 1908.

J. HALL.
INVALID BED.

APPLICATION FILED SEPT. 9, 1907.

4 SHEETS—SHEET 2.

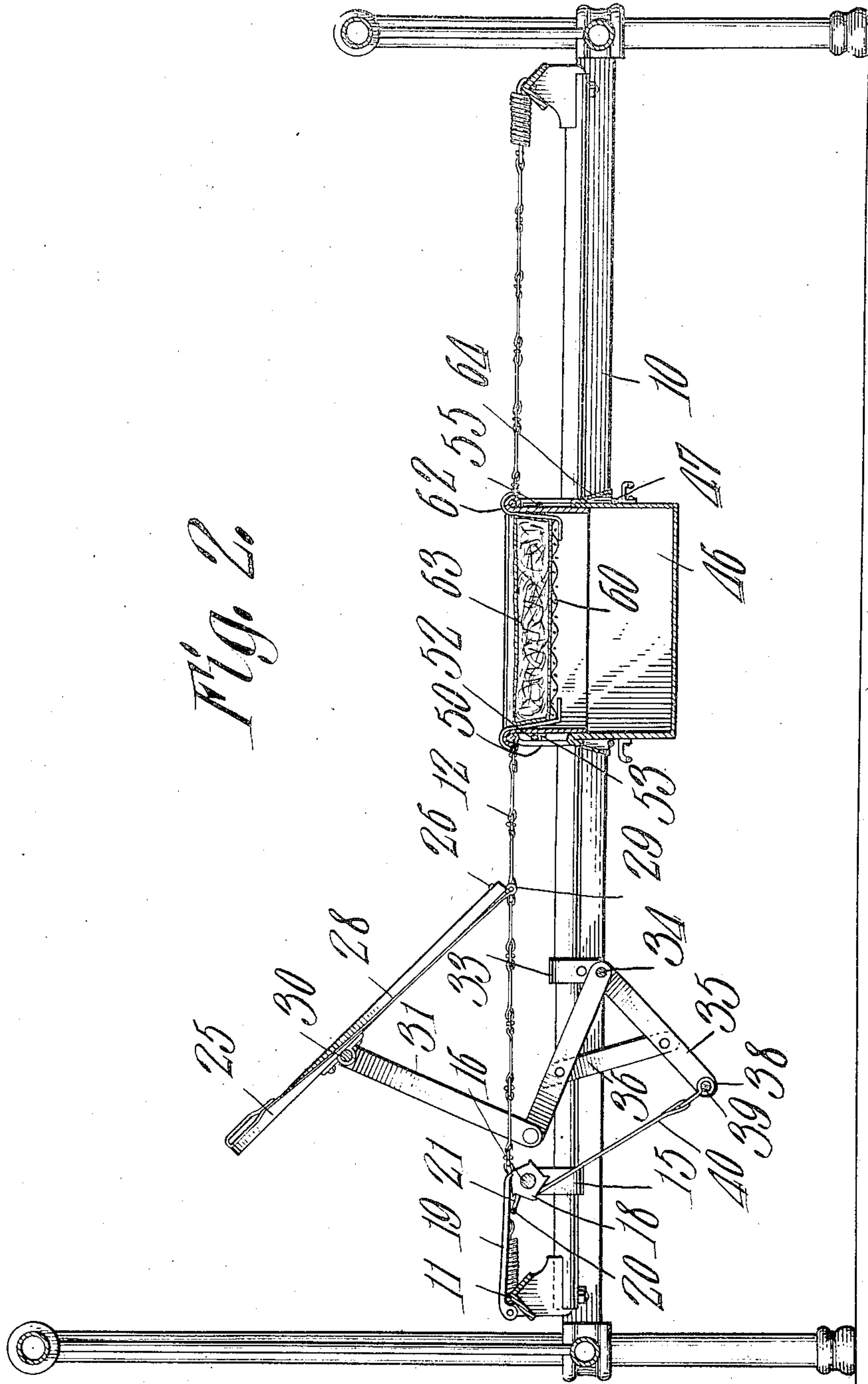


Fig. 2.

Witnesses
E. W. Stewart
Geo. Parker

Inventor
John Hall,
Cash & Co.
Attorneys

No. 897,890.

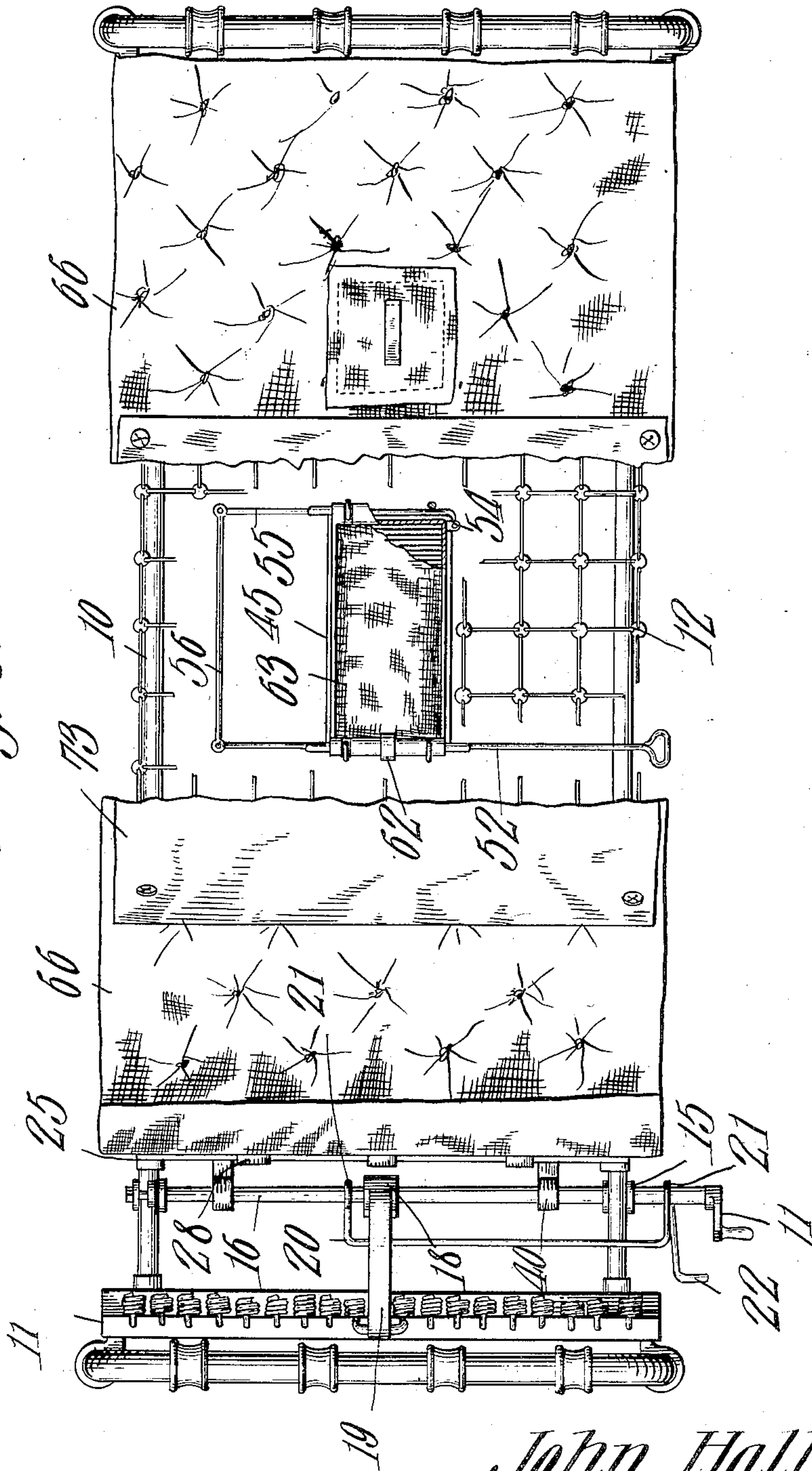
PATENTED SEPT. 8, 1908.

J. HALL.
INVALID BED.

APPLICATION FILED SEPT. 9, 1907.

4 SHEETS—SHEET 3.

Fig. 3.



Witnesses

E. J. Stewart
John E. Parker

By

John Hall, Inventor
C. A. Snow & Co. Attorneys

No. 897,890.

PATENTED SEPT. 8, 1908.

J. HALL.

INVALID BED.

APPLICATION FILED SEPT. 9, 1907.

4 SHEETS—SHEET 4.

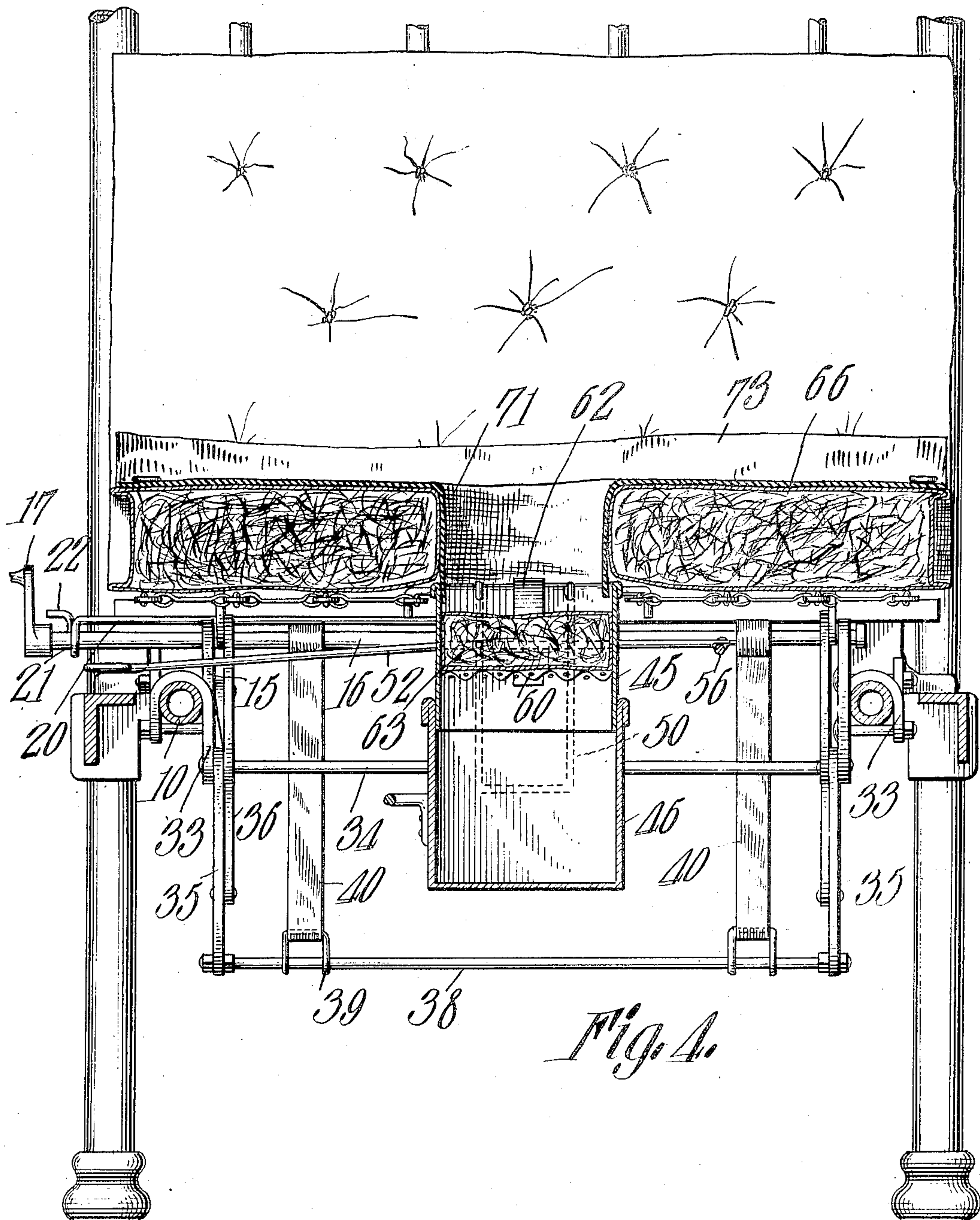


Fig. 4.

Inventor

John Hall,

Witnesses

E. J. Stewart
John Parker

By

C. A. Snow & Co.

Attorneys

UNITED STATES PATENT OFFICE.

JOHN HALL, OF NORTH MONROE, NEW HAMPSHIRE.

INVALID-BED.

No. 897,890.

Specification of Letters Patent.

Patented Sept. 8, 1908.

Application filed September 9, 1907. Serial No. 391,971.

To all whom it may concern:

Be it known that I, JOHN HALL, a citizen of the United States, residing at North Monroe, in the county of Grafton and State of New Hampshire, have invented a new and useful Invalid-Bed, of which the following is a specification.

This invention relates to invalid beds, and has for its principal object to provide a bed of this type with a commode attachment that is supported by the spring mattress, and is so arranged and mounted as to move freely with the mattress, so as to be retained in place as the mattress yields.

A still further and important object of the invention is to provide a bed of this class in which the commode attachment and other parts are so arranged as to form a part of the bed structure proper; that is to say, the spring or other mattress support, as distinguished from the bedstead or supporting framework, so that the device may be made and sold as a distinct and separate article of manufacture to be applied to existing bedsteads of any type.

With these and other objects in view, as will more fully hereinafter appear, the invention consists in certain novel features of construction and arrangement of parts, hereinafter fully described, illustrated in the accompanying drawings and particularly pointed out in the appended claims, it being understood that various changes in the form, proportions, size and minor details of the structure may be made without departing from the spirit or sacrificing any of the advantages of the invention.

In the accompanying drawings:—Figure 1 is a perspective view of a bed constructed in accordance with the invention. Fig. 2 is a vertical longitudinal section through the bed. Fig. 3 is a plan view thereof with parts broken away. Fig. 4 is a vertical transverse section.

Similar numerals of reference are employed to indicate corresponding parts throughout the several figures of the drawings.

The bed proper comprises a substantially rectangular frame including a pair of side bars 10 and end bars 11, the latter serving for the support of a spring 12 which may be of any ordinary construction, but it is preferred to employ a spring of the type shown wherein the mesh is open, so that certain of the operating members of the back rest may be readily passed through the spring.

The side bars or rails 10 carry vertical brackets 15 in which is journaled a shaft 16 having at one end a winding crank 17, and on the shaft is a ratchet wheel 18 that is arranged to be engaged by a pivoted locking pawl 19, the pawl being under the control of a release bar 20 having two arms 21 that are pivoted on the shaft proper, one of the arms being extended to form a handle 22 adjacent to the crank 17, so that the pawls may be moved to release position from the winding end of the shaft.

The back rest comprises a substantially U-shaped frame 25, the side bars of which are connected to the springs by small hooks 26 which permit free swinging of the frame in order to move the mattress up or down, and arranged between the side bars are flexible mattress supporting strips 28, the lower ends of which are provided with spring engaging hooks 29, while the upper ends of said strips are connected to the cross bar of the frame.

Secured to the lower faces of the parallel bars of the frame 25 is a cross bar 30 to which are pivoted the upper ends of a pair of links 31 which links pass downward through the mesh of the spring.

The side rails of the bed are further provided with brackets or hangers 33 carrying a transversely disposed shaft 34, to which are secured two bell crank levers 35, each of these being preferably reinforced by a brace bar 36. The approximately horizontal arms of the bell crank levers are connected to the lower ends of the links 31, and the approximately vertical arms of said bell crank levers are connected together by a cross bar 38. The cross bar 38 is engaged by hooks 39 that are secured to the lower ends of flexible members 40 in the form of straps, chains, or the like, the upper ends of said flexible members being secured to the shaft 16, so that as the shaft is turned, these flexible members will be wound thereon, and the bell crank frame will operate to elevate the back rest 25 to any desired angle, and when this angle is reached, the frame will be held in its adjusted position by the pawl 19. To lower the back rest to horizontal position it is merely necessary to release the pawl and lower the rest by allowing the first movement of the winding shaft. It will be observed that all of this mechanism is carried by the bed proper, and not by the bedstead, so that in case of sickness, the ordinary spring bed may be removed from the bedstead, and the bed forming the subject of

the present invention substituted therefor, without the necessity of purchasing an entirely new bedstead or frame.

The central portion of the mattress is cut
5 away for the reception of a preferably rectangular thimble 45 which may be held to the spring by suitable hooks or other fastenings, and this thimble is arranged to receive a commode pan 46 that may be readily ad-
10 justed to position when necessary, the opposite ends of the pan being provided for this purpose with projecting handles 47 which are arranged to rest on a frame 48. One end of the frame 48 is hung from the spring by a
15 pair of links 49, and the frame extends transversely of the bed so that after the handles 47 have been adjusted to proper position, the free end of the frame may be raised to move the pan up on the thimble 45.

20 In order to retain the pan in position, a pair of U-shaped links 50 are hung from the spring, and these links are arranged to engage shoulders 51 that project from the ends of the pan, the shoulders being disposed
25 above the handles 47 and having tapered upper faces, so that as the pan is moved upward, these tapered faces will engage with the cross bars of the links and move the same outward until the shoulders have been
30 elevated to an extent sufficient to allow the links to swing in under them, whereupon the pan will be supported from the spring and will be properly held in position, its movements conforming to those of the spring un-
35 der the shifting weight of the patient.

To detach the pan, a lever 52 is used, this lever projecting out at one side of the bed. The lever extends transversely of the bed, and is pivoted at a point intermediate its
40 ends to a bracket 53 that projects from one corner of the thimble. At the diagonally opposite corner of the thimble is a second bracket 54 to which is pivoted a lever 55, and the rear ends of the levers 52 and 55 are con-
45 nected by a link 56. The levers 52 and 55 extend between the links 50 and thimble, so that when the lever 52 is moved in the direction of the foot of the bed, both links 50 will be moved out from under the shoulders 51,
50 and the commode pan will thus be detached from the thimble and allowed to fall on the frame 48 which is held in readiness to receive it. The free end of the frame is then lowered to the floor, so that the pan can be
55 readily removed.

Fitting within the upper portion of the thimble is a sheet of wire netting 60, the ends of which are supported by small hooks 62 that fit over the end portions of the thimble,
60 so that the sheet 60 is suspended slightly below the level of the spring proper. This sheet 60 is arranged for the reception of a pad 62 which may be saturated with some suitable disinfectant or like substance.

65 The mattress 66 is preferably made in two

sections, or two hingedly connected sections in order to permit free movement of the back rest, and extending through the mattress is an opening 71 in alinement with the thimble. Preferably a sheet 73 of water proof material
70 is placed over the central portion of the mattress, and is provided with an opening in alinement with that of the mattress, while portions of the waterproofsheet are extended down through the mattress opening in order
75 to prevent soiling the wall of such opening.

The mattress and spring may be further provided with an opening or openings and a suitable receptacle may be employed for the feet of the patient when moved to sitting po-
80 sition.

I claim:—

1. In an invalid bed, a spring structure including a spring frame, the spring having an opening, a thimble in alinement with the
85 opening and hung from the spring, a pair of links hung from the spring adjacent to the opposite ends of the thimble, a commode pan having shoulders arranged to be engaged by said links, and means for simultane-
90 ously moving the links to release position to permit removal of the pan.

2. In an invalid bed, a spring structure including a spring supporting frame, the spring having an opening, a thimble in
95 alinement with the opening and hung from the spring, a pair of links hung from the spring adjacent the ends of the thimble, a commode pan having a pair of shoulders for engagement with the links, the upper por-
100 tions of such shoulders being tapered to permit automatic engagement with said links, a pair of levers pivoted to the thimble and arranged to spread the links, one of said levers extending out to a position adjacent
105 the edge of the spring structure, and means for connecting the said levers.

3. In an invalid bed, a spring structure including a spring carrying frame, the spring having an opening, a thimble in alinement
110 with the opening and supported from the spring, a pair of links hung from the spring adjacent the opposite ends of the thimble, a commode pan having shoulders in engagement with the links, a pair of handles ex-
115 tending from the pan, and a pan lifting frame, one end of said frame having an elongated connection with the spring.

4. In a bed of the class described a spring structure including a spring carrying frame,
120 the spring having an opening, a lifting frame pivotally connected to the spring and having one end normally resting upon the surface on which the bed is mounted, a commode vessel, handles extending therefrom and
125 slidably mounted upon and supported by the pivoted frame, said frame constituting means for positioning the commode vessel below the opening.

5. In a bed of the class described a spring 130

structure including a spring carrying frame,
the spring having an opening, a thimble de-
pending from the spring and surrounding
the opening, supporting devices depending
5 from the spring adjacent opposite ends of
the thimble, a lifting frame pivotally con-
nected to the spring structure and having
one end normally resting upon the surface
on which the bed is mounted, a commode
10 vessel, handles extending therefrom and
slidably mounted upon and supported by
the frame, said handles being shiftable by
the frame into engagement with the sup-
porting devices.

6. The combination with a spring struc- 15
ture including a spring carrying frame, the
spring having an opening; of a commode
vessel, a lifting device therefor, and means
for automatically engaging said commode
vessel to support the same below the opening. 20

In testimony that I claim the foregoing as
my own, I have hereto affixed my signature
in the presence of two witnesses.

JOHN HALL.

Witnesses:

JAMES G. PEABODY,
JENNETTE W. PEABODY