J. E. FAZAKERLEY.

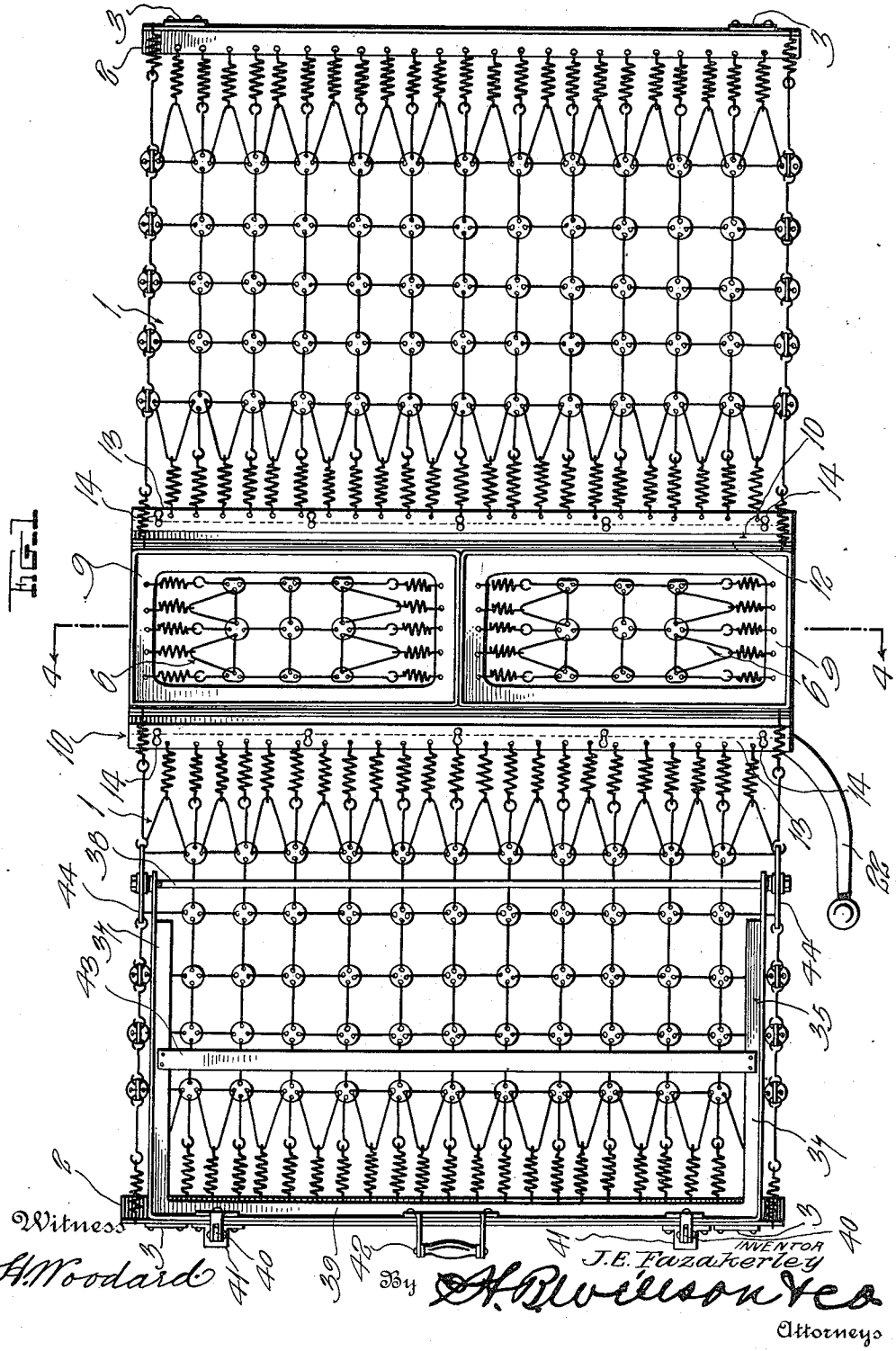
HOSPITAL BED.

APPLICATION FILED FEB. 8, 1917.

1,257,072.

Patented Feb. 19, 1918.

4 SHEETS—SHEET 1.



Witness

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4 SHEETS—SHEET 2.

FIG. 2.

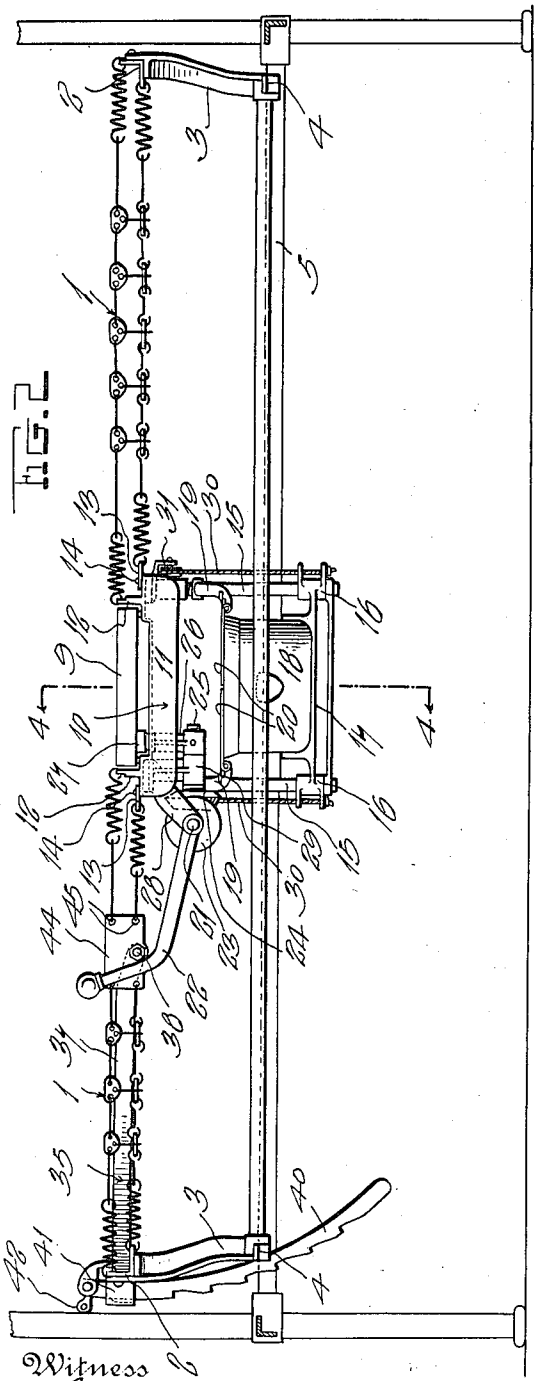
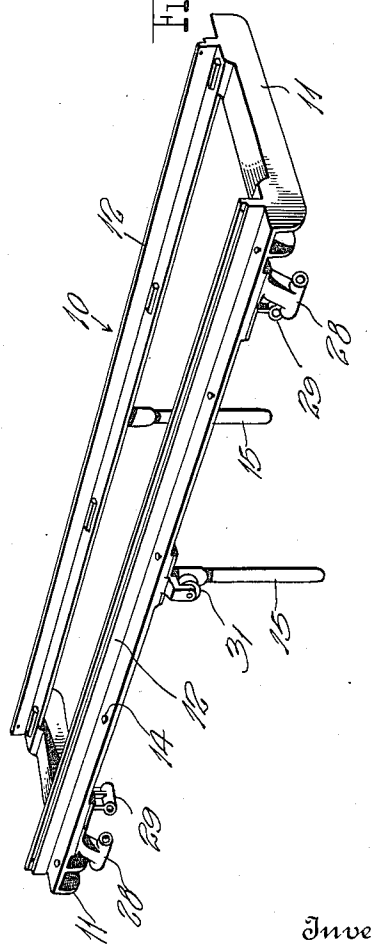


FIG. 7.



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4 SHEETS—SHEET 3.

FIG. 4.

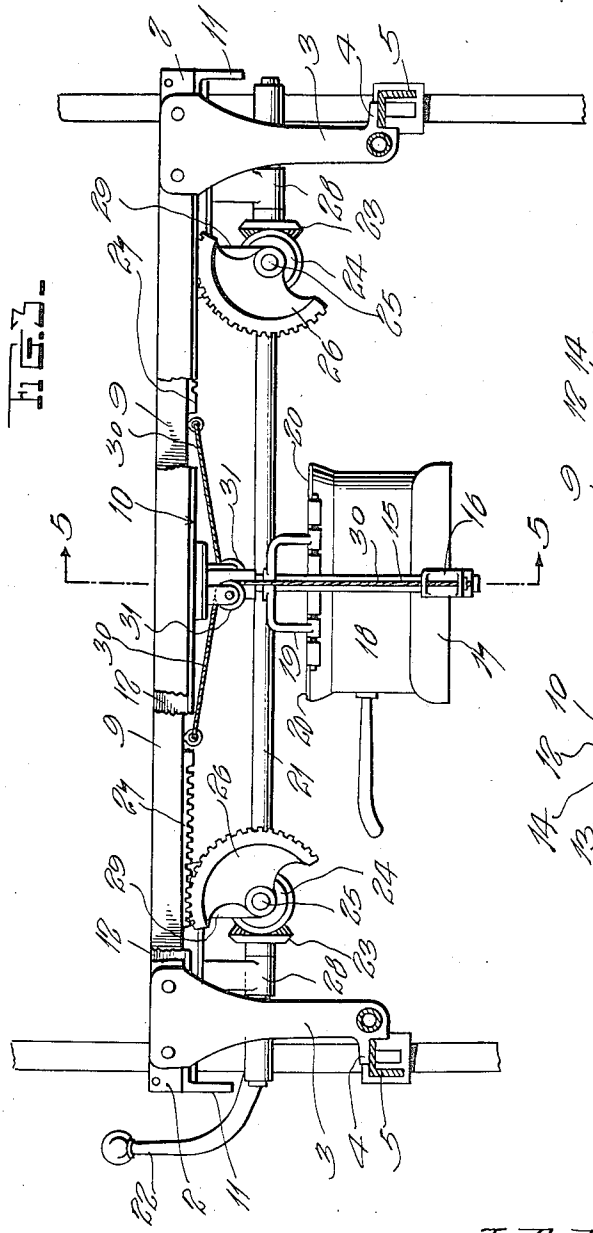
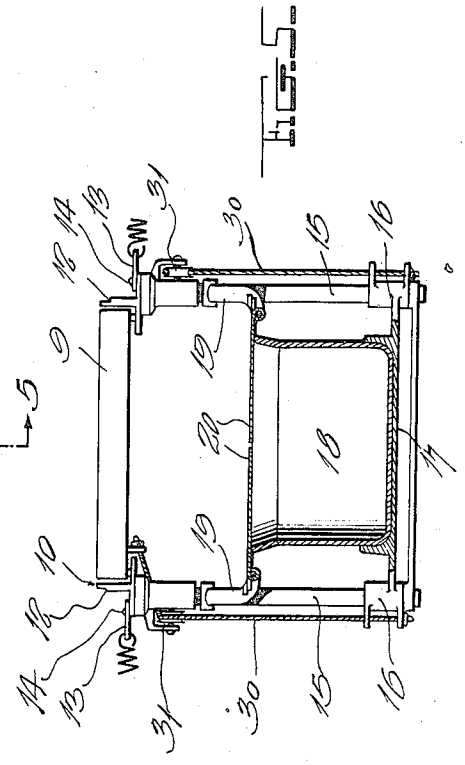


FIG. 5.



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4 SHEETS—SHEET 4.

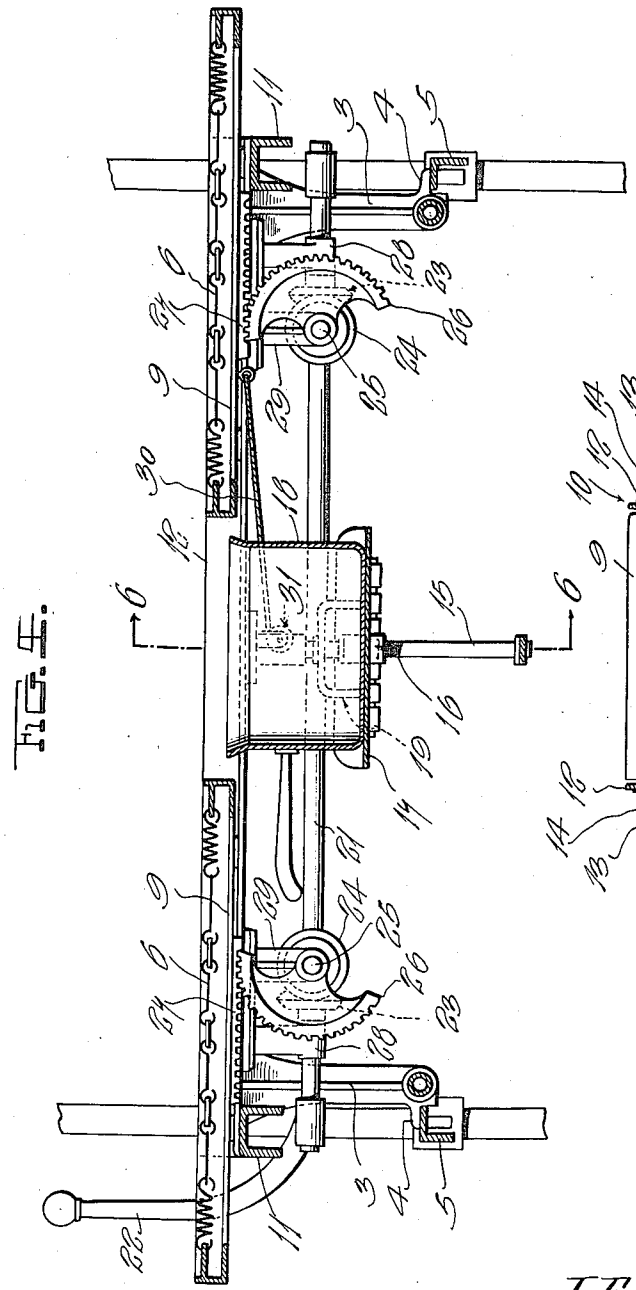


FIG. 4.

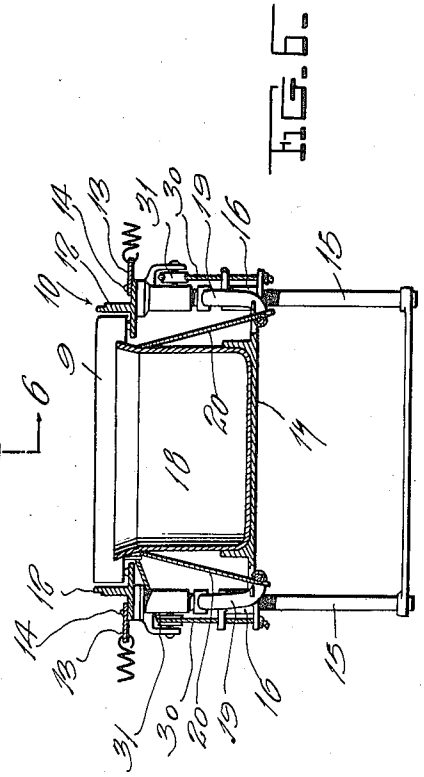


FIG. 6.

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UNITED STATES PATENT OFFICE.

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HOSPITAL-BED.

1,257,072. Specification of Letters Patent. Patented Feb. 19, 1918.

Application filed February 8, 1917. Serial No. 147,455.

To all whom it may concern:

Be it known that I, JOSEPH E. FAZAKERLEY, a citizen of the United States, residing at Pittsfield, in the county of Berkshire and State of Massachusetts, have invented certain new and useful Improvements in Hospital-Beds; and I do 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.

My invention relates to that class of beds having commodes and means for bringing them into operative position when required, the present invention being an improvement over the construction shown by my U. S. Patent #1203721, issued November 7, 1916.

The principal object of the invention is to support the commode solely from the spring so that it may move bodily with said spring as the latter yields under the weight of the patient.

Another object is to provide improved and simplified means for operating the transversely separable sections of the spring and for synchronously raising the receptacle.

Yet another object is to provide a head and back rest so that if desired the occupant of the bed may be raised more or less to a sitting position.

With the foregoing general objects in view, the invention resides in certain novel features of construction and unique combinations of parts to be hereinafter fully described and claimed, the descriptive matter being supplemented by the accompanying drawings which constitute a part of this application and in which:

Figure 1 is a top plan view of a bed spring embodying the present improvements;

Fig. 2 is a side elevation of the spring applied to a bed;

Fig. 3 is an end elevation partly in section;

Fig. 4 is a vertical transverse section on the plane of the lines 4—4 of Figs. 1 and 2, showing the receptacle raised;

Fig. 5 is a detail longitudinal section on the plane of the line 5—5 of Fig. 3;

Fig. 6 is a similar view on the plane of the line 6—6 of Fig. 4, illustrating the manner in which the cover of the receptacle is automatically removed therefrom when said receptacle is raised;

Fig. 7 is a perspective view of the frame carried by the center of the bed spring.

In the drawings above briefly described, the invention is applied to a bed spring 1 capable of use on practically any of the well known types of iron beds such as those commonly used in hospitals, sanitariums and the like. The ends of the spring 1 are anchored to transverse angle iron bars 2 having legs 3 at their ends provided with outstanding feet 4 to rest on the side rails 5 of the bed, said spring 1 being preferably though not necessarily of the link and spring construction shown. The spring 1 includes a pair of transversely separable sections 6 carried within rectangular angle metal frames 9 which slide upon a main supporting frame 10 which is of rectangular shape and is secured at its front and rear sides to the head and foot portions of the spring 1 so as to be supported thereby and movable bodily with said spring as the latter yields under the weight of the patient.

The frame 10 is by preference though not necessarily in the form of a casting with its end bars 11 of arch shape in transverse section while its side bars 12 are of inverted T-shape in cross section, the frames 9 being supported slidably on the inner flanges of said bars 12 while by means of transverse bars 13, the head and foot portions of the spring 1 are detachably connected to the outer flanges, said bars 13 having pin and slot connections at 14 with said outer flanges of the bars 12. By this arrangement the entire frame 10 and all parts carried thereby may be removed when required for cleaning and sterilizing.

Guide bars or tracks 15 depend rigidly from the centers of the bars 12 and receive thereon bearings 16 on the ends of a suitable receptacle carriage 17 upon which an appropriate receptacle 18 rests removably. Arched hinge supports 19 are carried by the tracks 15 as shown clearly in Figs. 3, 5 and 6 and the two sections 20 of a receptacle cover are hinged to said supports so that when the receptacle 18 is raised by upward movement of the carriage, said sections of the cover will be moved from the position of Fig. 5 to that of Fig. 6 so as to leave the upper side of the receptacle open for use.

Extending transversely beneath the spring 1 immediately in rear of the frame 10, is an operating shaft 21 having at one end a suitable handle 22 in convenient reach of the patient. The shaft 21 has thereon a pair of bevel gears 23 meshing with simi-

lar gears 24 on short longitudinally disposed shafts 25 which carry gear segments 26 meshing with rack bars 27 on the lower side of the frames 9. The shaft 21 is mounted in bearings 28 preferably formed integrally with the rear side bar 12 of the frame 10 while other bearings 29 depend from said bar to rotatably support shafts 25. By this arrangement of parts, it will be obvious that a forward push on the handle 22 will slide the two frames 9 outwardly whereas return of said handle to its initial position will similarly return said frames. The carriage 17 is automatically moved upward when the frames 9 are shifted outwardy so as to position the receptacle 18 in the gap formed between said frames and when the latter are again brought together, the carriage is returned to its initial position and the cover sections 29 close the upper side of the receptacle 18, which latter may be removed whenever convenient, and replaced by another.

For operating the carriage 17 in the manner set forth, cables 30 are secured to the bearings 16 at one end and to the frames 9 at their other ends, the intermediate portions of said cables being trained over pulleys 31 carried by the side bars of the frame 10. It will thus be obvious that as the frames 9 move outwardly they will pull upon the cables 30 and will thus raise the carriage 17 to raise the receptacle 18 to operative position, at the same time causing the cover sections 20 to pivot around their hinges to permit unobstructed upward movement of said receptacle as will be clear from Figs. 5 and 6. Similarly, the return of the frames 9 to their initial positions will permit the cover sections 20 to again lower.

Particular emphasis is laid upon the fact that all parts of the commode and its operating means are supported solely by the spring 1. This permits said parts to move bodily with the spring as the latter yields and thus they will at all times assume the same relation with respect to said spring and the mattress sections employed thereon, it being understood that sections similar to those shown in Figs. 1 and 2 of the patent above referred to will be employed in connection with the present invention. Mounting of the several parts in this manner also renders the bed much more comfortable to the occupant since it can yield freely under his weight, there being no fixed supports to prevent downward movement of the spring at all points between its ends.

Preferably employed in connection with the parts so far described, is a head and back rest in the form of an arched angle metal frame 35 which overlies the head portion of the spring 1, the two arms 37 of said frame being pivotally mounted upon a transverse rod 38 while the crown 39 thereof is equipped with arcuate rack bars 40 sliding through suitable guides 41 carried by the bar 2 at the head of the bed so that when said frame is raised, said rack bars will hold the same in adjusted position. A handle 42 is preferably secured to bar 39 for raising and lowering the same and by preference a transverse bar 43 will extend between the arms 37 to assist in raising the head section of the mattress.

The ends of the rods 38 are supported by vertically disposed plates 44 which are secured to the spring in any suitable manner although certain of the links of said spring are preferably passed through openings 45 in said plates as shown.

The provision of the head and back rest 35 permits the patient to move more or less to a vertical posture either when using the receptacle 18 or when expedient for other reasons, and it will be observed that the resiliency of the bed is by no means impaired by the provision of said rest since it also is carried by the spring and moves bodily therewith as the latter yields.

From the foregoing, taken in connection with the accompanying drawings, the uses and manner of operation of the improved bed will be understood without requiring a more extended explanation and it will be observed that although the invention is of extremely simple formation, the same will be highly efficient and durable. For these reasons, the construction shown constitutes the preferred form of the improved bed but it is to be understood that within the scope of the invention as claimed, numerous changes may be made without sacrificing the principal advantages.

I claim:

1. The combination with a mattress support including an open frame between the head and foot portions of said support and a pair of separable sections slidably mounted on said frame, of a shaft extending transversely of said mattress support adjacent the frame, bevel gears secured on said shaft, a pair of shafts at right angles to the aforesaid shaft and having bevel gears meshing with the first named gears, gear segments carried by said pair of shafts, racks carried by the aforesaid separable sections and meshing with said segments whereby turning of the first named shaft will separate said sections, a receptacle carriage below the aforesaid frame, and means for automatically raising said receptacle carriage when said sections are separated.

2. The combination with a mattress support including an open frame between the head and foot portions of said support and a pair of separable sections slidably mounted on said frame, of a shaft extending transversely

of said mattress support adjacent the frame, bevel gears secured on said shaft, a pair of shafts at right angles to the aforesaid shaft and having bevel gears meshing with the first named gears, gear segments carried by said pair of shafts, racks carried by the aforesaid separable sections and meshing with said segments whereby turning of the first named shaft will separate said sections, a pair of vertical tracks depending from said frame, a receptacle carriage having bearings slidable on said tracks, and means connected with said bearings for raising said carriage automatically when the aforesaid sections are separated.

3. The combination with a mattress support including an open frame between the head and foot portions thereof and a pair of separable sections slidably mounted on said frame, of a pair of bearings depending from the rear side bar of said frame, an operating shaft rotatably mounted in said bearings and having at one end a handle, bevel gears on said shaft, additional bearings depending from said rear bar of the frame, a pair of longitudinal shafts mounted in said additional bearings and having bevel gears meshing with the aforesaid gears, gear segments secured on said pair of shafts, racks carried by the aforesaid separable sections and meshing with said segments whereby turning of the operating shaft will separate said sections, a receptacle beneath the aforesaid frame, and means for automatically raising said receptacle when said sections are separated.

4. The combination of a mattress support including a pair of separable sections between the head and foot portions thereof and movable transversely of said support, a receptacle carriage mounted for vertical movement beneath the meeting ends of said sections, means for separating said sections, a pair of cables secured at one end to the ends of said carriage and at their other ends to the aforesaid sections, and guides over which the intermediate portions of said cables are passed whereby said receptacle carriage is raised automatically when said sections are separated.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

JOSEPH E. FAZAKERLEY.

Witnesses:
GEORGE H. CONNOR,
JAMES FANNING.