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Moody

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[54] **HOSPITAL BED WITH REMOVABLE BED PAN**

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[51] **Int. Cl.** **A61g 7/02**

[58] **Field of Search** 5/90, 91; 178/33

[56] **References Cited**

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[57] **ABSTRACT**

A hospital bed having a central edge section of the bed frame and mattress supported thereon adapted to be swingably pivoted to a position beneath the bed frame with a tray then adapted to be similarly pivoted from a storage position to a position replacing the portion of the bed frame which has been pivoted out of the way, the tray adapted to receive a conventional bedpan thereon with the top of the bedpan disposed slightly beneath the top surface of the surrounding mattress for use by a patient in the bed without having to any way lift or shift the patient on the mattress thus avoiding any pain to the patient and any labor for the nurses and other hospital attendants.

3 Claims, 6 Drawing Figures

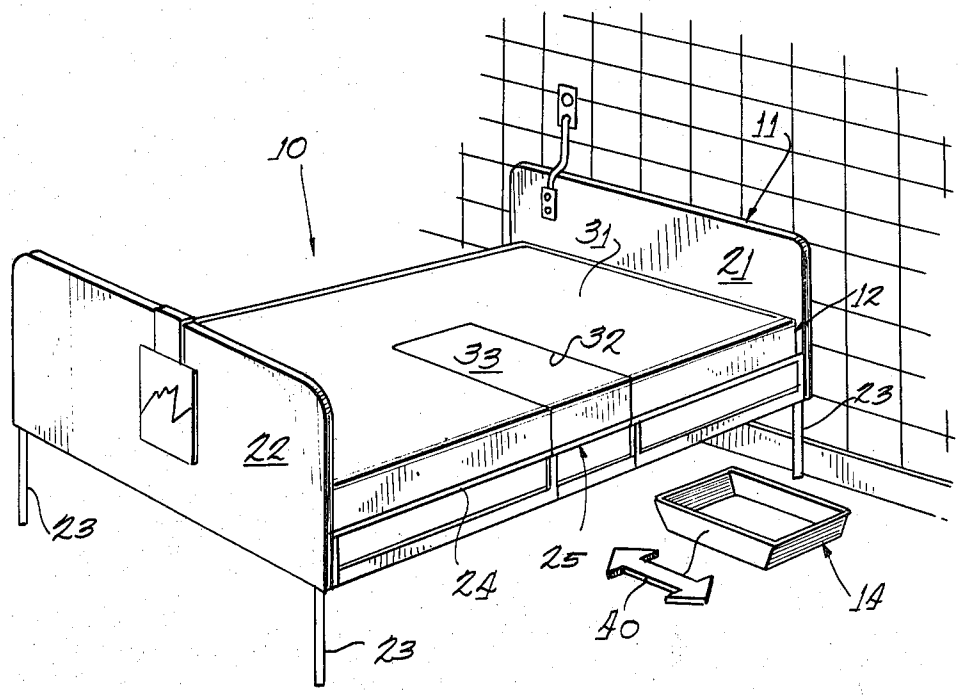

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Fig. 1.

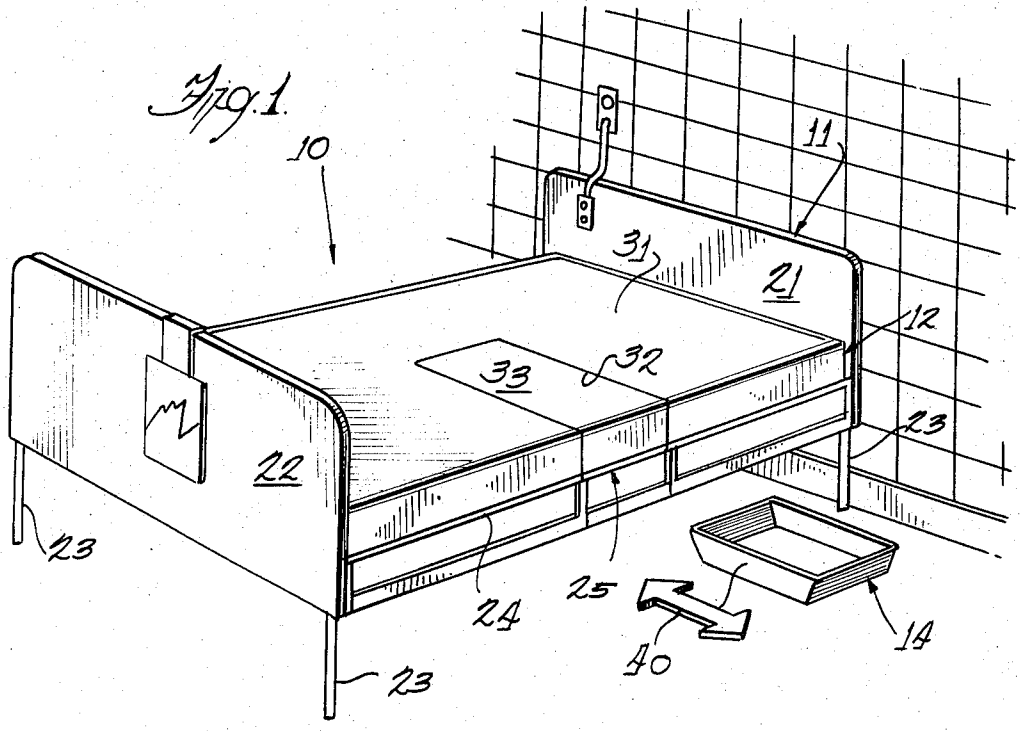


Fig. 2.

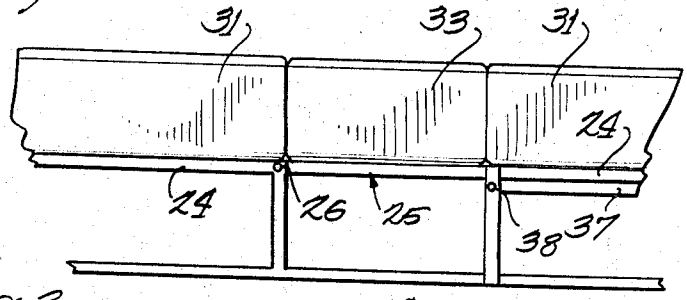


Fig. 3.

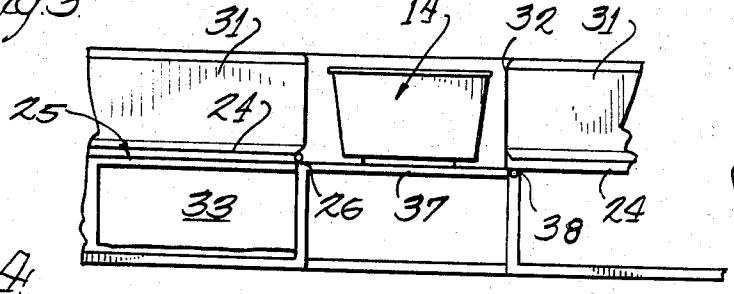


Fig. 4.

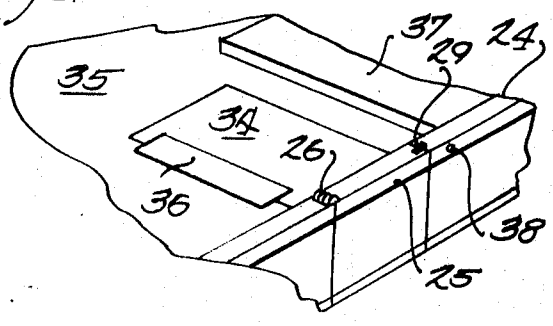


Fig. 5.

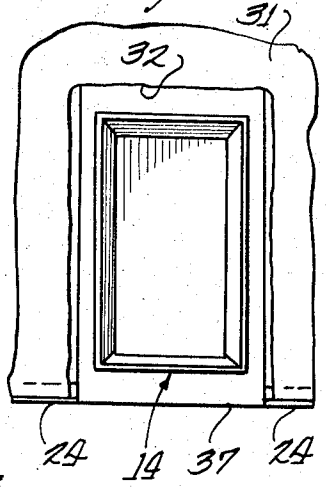
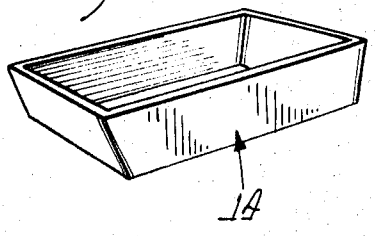


Fig. 6.



HOSPITAL BED WITH REMOVABLE BED PAN

BACKGROUND OF THE INVENTION

1. Field of the Invention

This invention relates generally to hospital beds and more particularly to a novel hospital bed and associated mattress wherein a central edge portion of the mattress is adapted to be pivoted to a position beneath the bed frame with a bedpan adapted to replace that portion of the mattress for use by the patient in the bed without the patient having to be moved or lifted from the mattress.

2. Description of the Prior Art

The present invention is specifically designed for use with hospital and invalid type bed structures, and specifically concerns itself with the problem of a patient having to dispose of human waste without leaving the bed. While many devices have been provided from time to time for use by such patients in hospitals, the most conventional and common form of container, of course, is the conventional bedpan. However, the placement and removal of bedpans is quite difficult, and in addition, may prove very uncomfortable to the patient. In the use of bedpans, the usual practice is to lift the patient in the region of the buttocks and then place the bedpan beneath the patient, or alternatively, to roll the patient to one side and then, after placing the bedpan on the mattress, roll the patient back onto the bedpan while at the same time lifting the patient onto the bedpan.

It is to be understood that the use of a bedpan is a time consuming and difficult task that also proves quite uncomfortable to the patient since the bedpan rests directly on the mattress with the patient also being supported and resting upon the mattress.

In view of the difficulties of use of a bedpan, and as in many instances where patients are confined to a bed it is undesirable to move the patient for any reason, and accordingly some prior art structures have been provided in the past for permitting removal of body waste by separation of mattress segments or the like. However, prior to the present invention, the various hospital bed constructions and mattresses contemplated to date in which body waste removal means is provided for use of the patient, have not been completely successful or practical for one reason or another. Among the reasons and disadvantages for the lack of success of such devices is their impracticality of usage due to the construction thereof; the necessity of the patient having to be moved to some extent in preparing the bedpan for use; the discomfort of the patient during the use of the device; the device being overly complicated and costly; the device being an inconvenience to the nurse or attendant assisting the patient due to difficulties in using the same; and other disadvantages involving lack of patient comfort as well as impracticality of usage.

SUMMARY OF THE INVENTION

The present invention remedies and overcomes all of the foregoing deficiencies and disadvantages of presently available hospital and invalid bed structures having means to dispose of human waste associated therewith. The present invention provides a novel hospital bed having a section of the bed frame and mattress pivotally mounted in a manner to be easily and quickly pivoted out of the plane of the mattress and bed frame to a position disposed beneath the frame without having to move or in any way disturb the patient lying on the mattress, after which a tray is pivoted to a position substantially co-planar with the bed frame beneath the open section of the mattress and is adapted to receive thereon a conventional type bedpan in a position disposed beneath the top surface of the surrounding mattress such that the same may be readily and comfortably used by a patient on the mattress without having to move or disturb the patient, after which the bedpan is readily removable for cleaning purposes, the tray pivotable to a storage position, and the frame and mattress section pivoted back into position, this all being accomplished in a manner avoiding any lifting or movement of the patient either on the part of the patient or the part of any attendant to the patient.

It is a feature of the present invention to provide a hospital bed and associated mattress wherein a bed pan may be prepared for use and removed after use without any movement or disturbance of the patient.

A further feature of the present invention is the provision of a hospital bed structure and associated mattress having provision for the ready disposal of human waste and which is relatively simple in its construction such that it may be readily manufactured by conventionally known manufacturing methods so as to be provided to hospitals, rest homes and the like at a cost approximately the same as a conventional hospital bed without the human waste disposal feature.

Yet still a further feature of the present invention is the provision of a hospital bed and mattress having means for disposing of human waste associated therewith with such means being easy to use and reliable and efficient in operation.

Other features and advantages of this invention will be apparent during the course of the following description.

BRIEF DESCRIPTION OF THE DRAWINGS

In the accompanying drawings forming a part of this specification, and in which like reference characters are employed to designate like parts throughout the same:

FIG. **1** is a perspective view of a hospital bed and mattress constructed in accordance with the present invention;

FIG. **2** is an enlarged fragmentary side elevational view of the bed and mattress in the normal position;

FIG. **3** is a fragmentary side elevational view similar to FIG. **2** but with a central edge section of the bed frame and mattress pivoted to a position beneath the bed frame and having a bedpan inserted into the existing opening in the mattress;

FIG. **4** is a bottom perspective view of a fragmentary portion of the bed frame and mattress;

FIG. **5** is a fragmentary top plan view of the mattress and bed frame showing the mattress section removed with the bedpan inserted therein; and

FIG. **6** is a perspective view of a bedpan.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring now to the drawings in detail there is illustrated a preferred form of a hospital or invalid bed and mattress constructed in accordance with the principles of the present invention and designated generally in its entirety by the reference numeral **10** and which is com-

prised of a bed **11** and a mattress **12** which, as will be later described, is adapted to receive a conventional type bedpan, such bedpan being as designated by reference numeral **14.**

The bed **11** is of a substantially conventional construction having a headboard **21,** a footboard **22,** spaced apart supporting legs **23,** and a bed frame **24** having a removable section **25** disposed centrally along one edge thereof and pivotally mounted by a hinge **26** for swinging movement about the axis of the hinge from a position co-planar with the remainder of the bed frame **24** and a position disposed beneath and substantially parallel and adjacent to a portion of the bed frame. Section **25** is provided with a locking device **27** which releasably retains the section in the co-planar position with the bed frame **24,** release of the locking device permitting the pivotal movement of the section relative to the bed frame.

The mattress **12** is of a conventional construction having a top surface **31** with an elongated rectangular opening **32** disposed centrally thereof along one edge thereof and adapted to be positioned above the pivotable bed frame section **25,** such as seen in FIG. **1,** with a removable mattress section **33** provided and adapted for pivotable movement with said frame section **25** between a position co-planar with the mattress **31** and a position disposed parallel to and beneath an adjacent portion of the mattress. The mattress section **33** has a bottom surface **34** with the mattress **31** having a bottom section **35,** one edge of the bottom surface **34** being hingedly connected to an adjacent edge of bottom surface **35** adjacent an edge of opening **32** by means of a flexible cloth type hinge **36** to permit the swinging pivotal movement of the mattress section **33** with frame section **25.**

Pivotally mounted to bed frame **24** at a position adjacent frame section **25** opposite from the hinge member **26** is a tray **37** which is pivotally connected by a pivot rod **38** extending through frame **24** in a manner to pivot relative to the frame between an inoperative position disposed beneath mattress **31** and an operative position disposed beneath mattress opening **32** when the mattress section **33** and bed frame section **25** have been pivoted out of the way. When the tray **37** is in position beneath opening **32,** a conventional type bedpan **14** may be rested on the tray with the top edge of the bedpan disposed beneath the top surface of the surrounding mattress **31** such that the bedpan may be used by the patient without the patient having to move or be otherwise disturbed, the patient using the bedpan in comfort thus avoiding any pain to the patient as well as avoiding the need for any labor or excess effort on the part of any attendants who may be attending the patient, such as nurses and the like. The bedpan **14** is rested on and removed from the tray **37** in the direction of arrow **40** in FIG. **1.**

In operation, locking device **27** is released permitting bed frame section **25** and associated mattress section **33** to pivot to an inoperable position disposed beneath an adjacent portion of the mattress **31** and is secured in such position by any conventional type fastening means, such as latch devices and the like, this inoperable position being as illustrated in FIG. **3.** The tray **37** is then pivoted about pivot rod **38** from its inoperative position beneath a portion of the mattress **31** opposite that portion beneath which the frame section **25** is pivoted to, to an operative position beneath mattress opening **32** where it is secured by any conventional fastening means, such as latches and the like. The bedpan **14** may then be slid onto the top surface of the tray **37** to be received in mattress opening **32,** such as seen in FIG. **5,** with the same being readily positioned for ease of usage by a patient lying on the mattress **31** without the patient having to be moved, lifted or otherwise physically shifted in a manner which may cause pain or discomfort to the patient.

After completion of use of the bedpan, the bedpan **14** is removed from tray **37,** the tray **37** is unlatched from its operative position and swung about pivot axis **38** to resume its inoperative storage position, and frame section **25** and mattress section **33** are unlatched from their respective storage positions and are pivoted about pivot axis **26** to resume their normal operative positions with frame section **25** lying co-planar with bed frame **24** and mattress section **33** lying co-planar with mattress **31.**

There is thus provided a novel hospital or invalid bed and associated mattress permitting for a patient to dispose of human waste without having to be lifted from the mattress or suffer the discomforts and other embarrassments normally associated with conventional bedpans when used in the conventional manner, the mattress and bed frame permitting for the rapid and easy insertion and removal of a bedpan for use by the patient.

It is to be understood that the form of this invention herewith shown and described is to be taken as a preferred example of the same, and that this invention is not to be limited to the exact arrangement of parts shown in the accompanying drawings or described in this specification as various changes in the details of construction as to shape, size, and arrangement of parts may be resorted to without departing from the spirit of the invention, the scope of the novel concepts thereof, or the scope of the sub-joined claims.

Having thus described the invention, what is claimed is:

1. A hospital bed in combination with a mattress adapted for receiving a bedpan relative thereto, comprising a bed frame having a head end, a foot end, and opposed side edges; a portion of one of said side edges of said bed frame disposed intermediate said head and foot ends being pivotally mounted at one end thereof for swinging movement between an operative position lying co-planar with the remainder of the bed frame and an inoperative position lying beneath and substantially parallel to an adjacent portion of said bed frame; a tray having a portion of one edge thereof pivotally mounted to said one side edge of said frame adjacent said pivotable frame section at the end thereof furthest from its pivotal connection to said side edge of said frame, said tray disposed beneath said frame in a storage position and swingable about said pivot means to an operable position bridging said frame across the gap present when said movable side frame section is pivoted to a storage position; a mattress having a top surface and a bottom surface and adapted to rest on said bed frame, an elongated rectangularly shaped opening disposed centrally of said mattress adjacent one edge thereof and disposed immediately above said movable section of said bed frame; a rectangularly shaped mattress section adapted to be received in said mattress opening in a manner lying co-planar with said mattress, said mattress section having a top surface and a bottom

surface, one edge of said bottom surface being pivotally connected to an adjacent edge of said mattress bottom surface with said edge being that edge lying in substantial alignment with the pivoted end of said movable frame section whereby said movable frame section and said associated mattress section may be pivotally swung to an inoperative position disposed beneath an adjacent portion of said bed frame and said mattress with said tray then being swung to an operative position bridging the gap in said bed frame disposed beneath said mattress opening and adapted to receive on said tray a conventional type bedpan for use by a patient lying on said mattress.

2. The hospital bed and mattress as set forth in claim 1 wherein said mattress section is of the same thickness as said mattress.

3. The hospital bed and mattress as set forth in claim 2 wherein said movable frame section has one end connected by hinges to an adjacent end of said bed frame, the opposite end having a latch device associated therewith and adapted to detachably engage a portion of said bed frame to retain said movable section in substantial co-planar alignment with said bed frame when in the operative position; and wherein said mattress section is hingedly connected to an adjacent edge of said mattress by means of a flexible cloth hinge spanning the gap between a portion of said mattress bottom surface and a portion of said mattress section bottom surface to provide for pivotal swinging movement of said mattress section with said movable frame section between said operative position and said storage position.

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