Dec. 10, 1940. V. M. FRIEDE 2,224,727

WALL BED CONSTRUCTION

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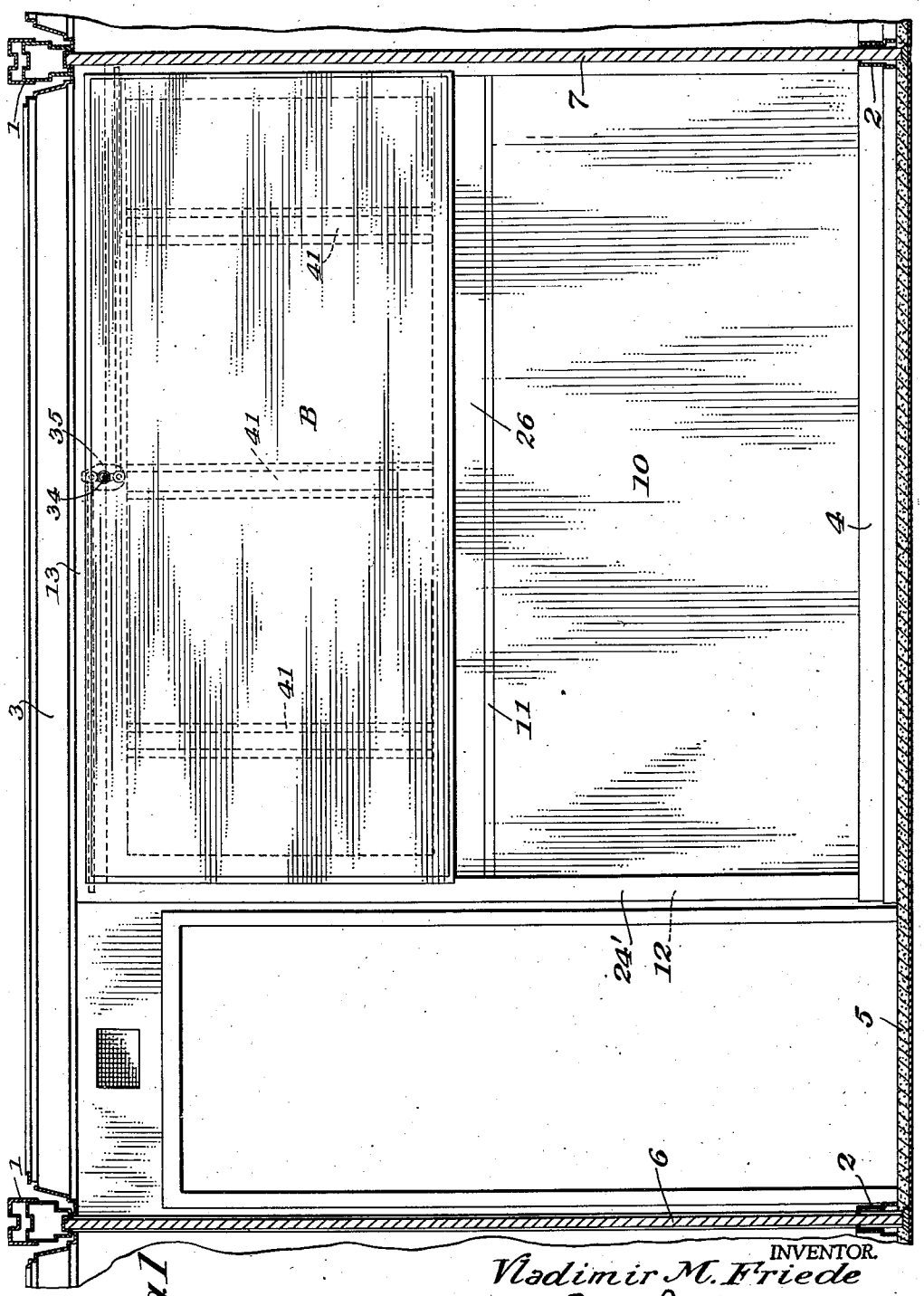


Fig. 1

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Fig. 2

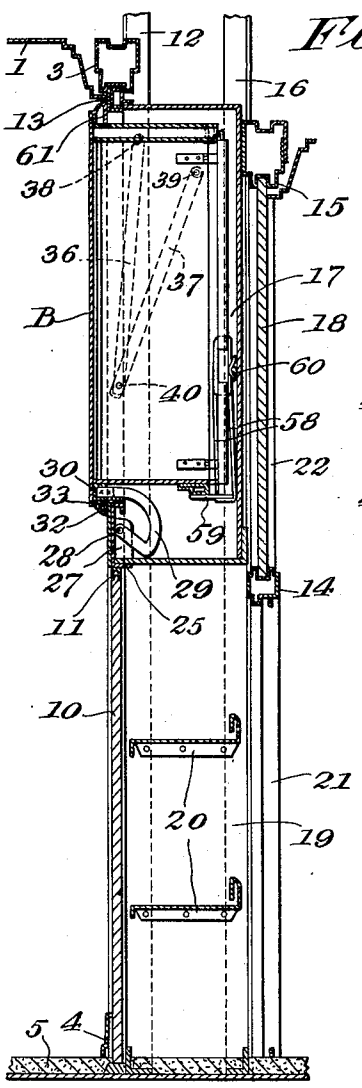


Fig. 3

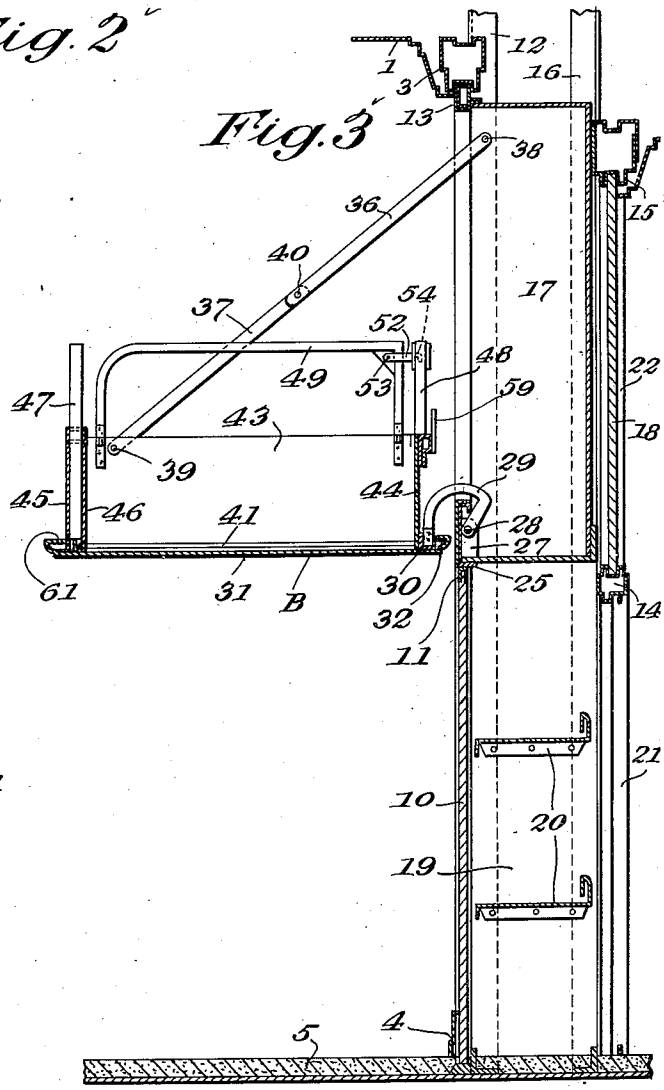
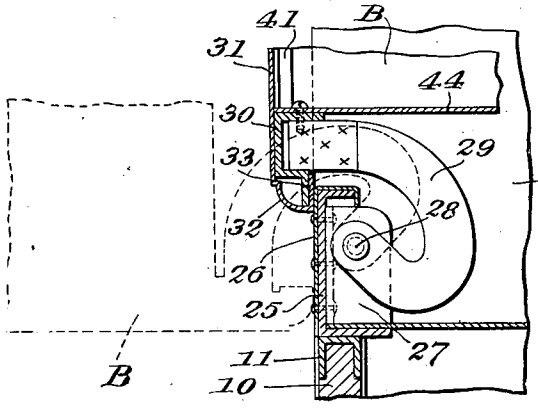


Fig. 4



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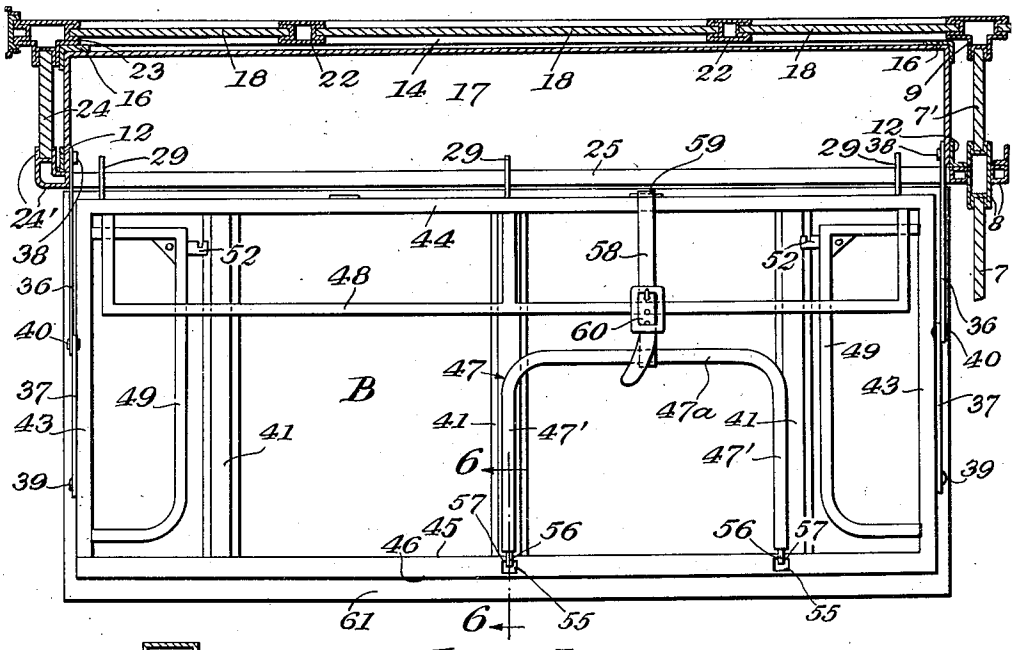


Fig. 5

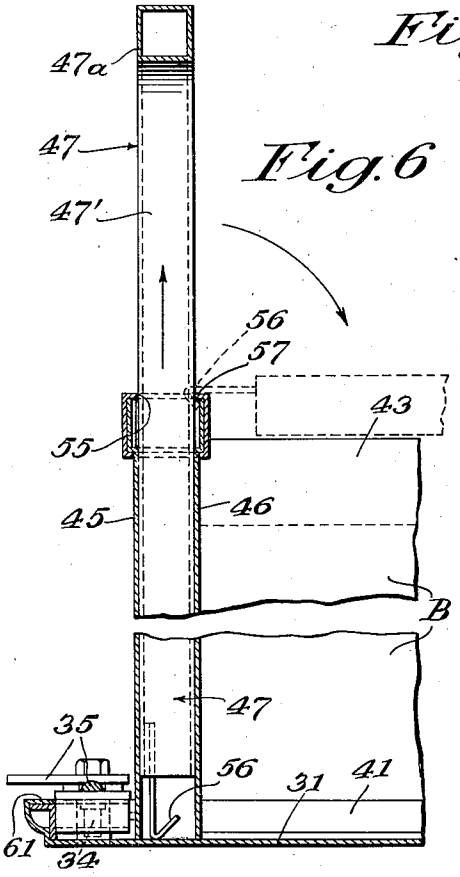


Fig. 6

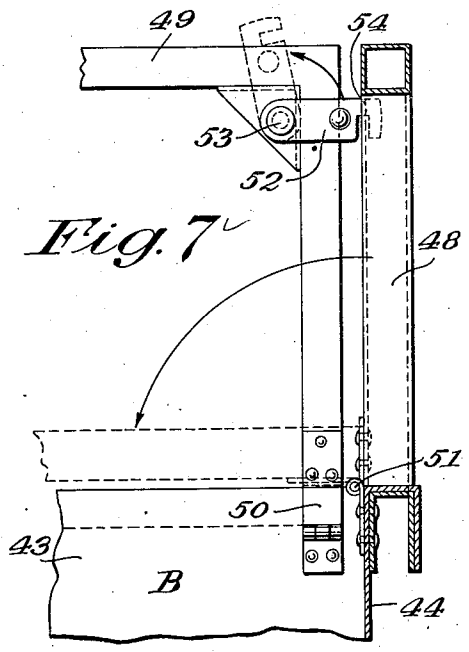


Fig. 7

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Patented Dec. 10, 1940 2,224,727

UNITED STATES PATENT OFFICE

2,224,727

WALL BED CONSTRUCTION

Vladimir M. Friede, New Orleans, La.

Application August 11, 1938, Serial No. 224,309

3 Claims. (Cl. 5—9)

This invention relates generally to wall constructions for supporting disappearing beds, and particularly beds of the type which swing into a recess within a wall with the bottom of the bed closing the recess and lying substantially flush with the wall surface. My wall construction is adapted particularly to installation in staterooms aboard ship or in Pullman sleeping cars, but may be used in any other places where space is at a premium and it is necessary to utilize all that is available.

While disappearing or wall beds are well-known in the art, their use has always been accompanied by a waste of valuable space beneath the bed compartment, and accordingly, one phase of my present invention is directed towards the utilization of this ordinarily wasted space.

I accomplish this by so constructing the wall in which the bed is housed as to provide a storage compartment beneath the bed compartment. This storage compartment serves as a linen closet or the like. It may be suitably partitioned and provided with any desired number of shelves. If desired, it may open into the room beneath the berth. There are advantages however in having the storage compartment open into a passageway between sections of staterooms or into corridors, and it is so shown herein.

Another phase of my present invention is directed to securing the effect of surface continuity in respect to the front wall or panel of the storage compartment and the bottom of the bed when closed into the superadjacent bed compartment of the wall.

I accomplish this by locating the front wall or panel in substantial continuation of the bed bottom when closed and by so constructing and arranging the hinges which carry the bed into and out of the bed compartment that they are entirely concealed from view when the bed is closed and substantially concealed when the bed is open.

According to this phase of my invention, the hinges are constructed as arcuate members which are pivoted at their inner ends to a channel member which extends longitudinally of the bed compartment adjacent the front lower edge thereof in substantial continuation of the front wall of the storage compartment. This channel member masks the space between said front wall and the bottom of the bed when the bed is closed and conceals the hinge connections. It also affords a rigid stable support for sustaining the weight of the bed when open and occupied.

A further phase of my invention is directed to the utilization of the side and end rails of the bed as means for holding the bedding securely in position on the bed when the bed is closed and swung up into the bed compartment. I accomplish this by constructing the side and end rails of the bed as folding and/or telescopic members which when the bed is opened and said rails are erected constitute guard rails for the occupant but which when the bed is closed and said rails are collapsed constitute retaining means for the bedding.

For the purposes of this application, I have illustrated my invention as applied to a stateroom enclosure although it will be understood that it is not restricted to such use.

In the accompanying drawings:

Fig. 1 is a vertical section through a stateroom enclosure and berth or bed according to my invention, the bed being shown in closed position.

Fig. 2 is a vertical section at right angles to Fig. 1, the bed and associated parts being closed, and also illustrating the utilization of the space beneath the bed recess as a storage compartment.

Fig. 3 is a view similar to Fig. 2 but showing the bed and associated parts in open position ready for use.

Fig. 4 is an enlarged cross section particularly illustrating the manner in which the bed hinges are mounted and masked from view, the parts being shown in their closed position in full lines and in their open position in dotted lines.

Fig. 5 is a horizontal section through the bed carrying wall and adjacent parts, the bed being shown in open position with the head and lee rails lowered and fastened together to hold the bedding in place when the bed is swung upwardly into its recess.

Fig. 6 is a section on the line 6—6 of Fig. 5 showing in full lines the raised position of the front lee rail and in dotted lines the lowered position thereof, and

Fig. 7 is a fragmentary section showing in full lines the head rails and the back lee rail latched together, and in dotted lines the back lee rail in lowered position.

Referring to Fig. 1 I have illustrated a stateroom enclosure comprising vertically alined transversely extending top and bottom channel members 1 and 2 and vertically alined longitudinally extending top and bottom channel members 3 and 4. The top members 1 and 3 are adapted to be fastened in any desired manner to deck beams or the like (not shown) and the bottom members 2 and 4 are adapted to be fastened in any desired manner to a suitable floor surface 5.

The oppositely facing channels of the members 1 and 2 receive and retain the upper and lower edges of transversely extending partition panels 6 and 7. These panels may be sectional and at desired intervals may be keyed in vertically disposed channel posts extending between the members 1 and 2. As shown in Fig. 5, the panel 7 is sectional and one section thereof is keyed in the forward channel post 8 and another section 7' is keyed in the alined rear channel post 9.

The upwardly facing channel of the bottom member 4 receives and retains the lower edge of a longitudinally extending front masking panel 10. The upper edge of said panel 10 is received and retained in the channel of a forwardly positioned longitudinally extending channel member 11 which is vertically alined with the bottom member 4 and may be supported at its ends by the forward channel post 8 and an oppositely disposed channel post 24', said posts being carried by a forwardly positioned pair of upright angle irons 12 extending vertically from top to bottom of the stateroom enclosure.

Overlying the channel member 11 but vertically spaced therefrom a distance slightly greater than the width of the swinging bed B is a second member or rail 13 defining the upper forward edge of the bed recess.

This rail 13 is carried by the top channel member 3 and constitutes a limiting stop for the outer edge of the bed frame when the bed is swung upwardly about the member 11 as a fulcrum and into the opening defined by the spaced members 11 and 13. In such position, the bottom of the bed lies substantially flush with the panel 10 as appears in Fig. 2.

The members 11 and 13 are laterally spaced apart from a pair of rearwardly positioned longitudinally extending channel members 14 and 15 a distance slightly greater than the depth of the bed to be received in the bed recess defined by said series of members. The members 14 and 15 are themselves disposed in vertically spaced alinement and may be supported at their ends by a rearwardly positioned pair of upright angle irons 16 extending vertically from top to bottom of the stateroom enclosure.

The bed recess is lined with a housing 17 for the bed, and is closed at its back by a longitudinally extending masking panel 18, the upper and lower edges of which are received and retained in the oppositely facing channels of the members 14 and 15.

The space beneath the bed housing is utilized as a storage compartment 19 which may be partitioned or shelved as at 20. This space is masked at its front by the panel 10. At its rear it may be open and provided with any sliding or folding door or doors 21. If desired, the front panel 10 may be provided with a door and another panel similar to the back panel 18 may be placed over the open back of the compartment 19.

The back panel 18 may be sectional, and if so, the panel sections may be keyed at suitably spaced intervals in the alined channels of vertically disposed panel posts 22 (see Fig. 5). The vertical edges of the endmost panel sections are keyed in the alined channel of vertically disposed channel posts 9 and 23. Other channels of the posts 9 and 23 receive and retain forwardly projecting end-masking panels 7' and 24 at the respective ends of the bed housing.

The forward edge of the masking panel 7' is received in the same channel post 8 which receives the adjacent edge of the alined partition panel 7, and the forward edge of the masking panel 24 is received in the channeled post 24'.

The forwardly positioned pair of angle irons 12 occupy the spaces between the end-masking panels 7' and 24 and the forward edges of the end walls of the bed housing. The rearwardly positioned pair of angle irons 16 occupy the spaces between the channel posts 9 and 23 and the back corners of the bed housing.

Surmounting the channel rail 11 (see Fig. 4) and extending substantially in vertical continuation thereof is a channel beam 25 covered by a flanged facing 26 carried by the panel 10.

Bolted or otherwise fastened to the inner face of the beam 25 at suitably spaced intervals are L-shaped brackets 27 to which are pivoted as at 28 the inner ends of a series of arcuate hinge members 29.

The outer ends of said hinge members are spot welded or otherwise fastened in the inwardly facing channel of a channel bar 30 which is secured in any desired manner to the inner edge of the bed. The channel bar 30 is slightly offset with respect to the channel beam 25 and with it forms a mask concealing the hinge members.

If desired, the bottom surface 31 of the bed, which itself constitutes a finishing panel element, may be extended over the bar 30 as an ornamental trim or molding 32. Preferably the bar 30 has a projecting flange 33 adapted when the bed is closed to abut the channel beam 25 and limit the inward movement of the bed.

As shown in Figs. 1 and 2, the finishing panel 31 for the bottom of my bed or berth B, when the same is in its wall compartment or housing 17, lies substantially flush with the subjacent wall panel 10, extending outwardly therefrom only the depth of the decorative finishing moulding, and only the escutcheon 34 for the three-way latching mechanism 35, more particularly shown in Fig. 6, being visible.

When the bed is opened, as in Fig. 3, it is supported by the hinges 29 and by the articulated suspension brackets 36—37. The inner ends of the bracket sections 36 are pivoted as at 38 to the inner sides of the end walls of the bed housing. The outer ends of the bracket sections 37 are pivoted as at 39 to the ends of the bed frame, and the respective bracket sections are pivoted to each other as at 40. When the bed is swung on its hinges into its housing, the brackets move from the bed suspending position shown in Fig. 3 to the folded position of Fig. 2.

The bed comprises the bottom finishing panel 31 which may be transversely reinforced by channel members 41, the end rails 43, front rail 44, and the channelled back rail comprising the spaced walls 45 and 46. Within the bed frame so formed may be placed the spring, mattress and other bedding.

To the bed frame are attached the means for keeping the bedding in proper position as the bed is swung into and out of its housing. These comprise the front lee rail 47, the back lee rail 48, and the head and foot rails 49. These rails when erected define the area within which the occupant reclines when the bed is in use, and are adapted to swing down over the bedding to hold it in place when the bed is within its housing, and to permit the bed to enter its housing.

The head rails 49 are hinged to the head and foot of the bed frame by hinges 50. The back lee rail 48 is similarly hinged to the back wall of the bed by hinges 51. The head rails 49 and the back lee rail 48 are easily raised to erect

position and are locked in such position by swinging latches 52 pivoted as at 53 to the head and foot rails, and which swing into latching engagement with the back lee rail by passing the latches through the opening 54 therein, as shown in Fig. 7.

The front lee rail 47 is a U-shaped member having spaced side arms 47' and a connecting member 47a. The side arms extend through openings 55 into the space between the two front walls 45—46 when the bed is open, and have hooks 56 on their lower ends which hook over the inturned flanges 57 on the top of the openings 55 when the bed is closed and the lee rail 47 is pulled up and flattened down over the bed, as shown in Figs. 5 and 6.

In preparing the bed to be swung into the wall housing, the head and foot rails 49 are easily swung on their hinges 50 down over the bedding and the back lee rail is similarly swung on its hinges so that its ends overlie the rails 49, as shown in Fig. 5. The front lee rail 47 is next raised up out of the recesses between the front walls 45—46 and is swung down over the bed with its hooks 56 gripping the inturned flanges 57 of the openings 55 as shown in Fig. 6. Then the front and back lee rails are fastened together over the bed by the strap 58, which, as shown in Figs. 2 and 5, passes through guides 59 secured to the back of the back lee rail 48, around the cross bar 47a of the front lee rail 47, and buckles as at 60.

When the bed is closed into its recess, its outer edge 61 abuts the member 13 (see Fig. 2) to assist in limiting its closing movement.

What I therefore claim and desire to secure by Letters Patent is:

1. Wall bed construction comprising a wall having a bed receiving recess in the upper portion thereof, a bed adapted to be swung into and suspended outwardly of said recess, a beam supported on said wall beneath said recess and closing the lower portion of said recess, hinges secured at one end to said bed and at their opposite end pivotally connected to said beam within said recess, said hinges overlying said beam and said bed being suspended from said hinges when in lowered position, said hinges lying beneath the bed within the portion of said recess closed by said beam and said bed having a bottom member closing said recess above said beam when said bed is in said recess.

2. The wall bed construction of claim 1 and a reinforcing rail on said wall beneath said beam.

3. The wall bed construction of claim 1, said wall beneath said beam having a facing flange extending upwardly over and masking said beam.

4. The wall bed construction of claim 1, there being L-shaped brackets extending from the inner face of the beam to which the hinges are pivoted.

5. The wall bed construction of claim 1, there being a channel bar secured to the bed side facing said recess when the bed is lowered, the ends of said hinges being fast in the channel of said bar.

6. The wall bed construction of claim 1, there being a channel bar secured to the bed side facing said recess when the bed is lowered, the ends of said hinges being fast in the channel of said bar, said bar being slightly offset with respect to the outer surface of said beam, and said bottom member of the bed having an extension overlying said bar and with its lower edge abutting said beam to limit the movement of the bed into said recess.

7. Wall construction comprising a back panel, side panels, top and bottom panels, said panels forming a wall recess, a wall terminating beneath said recess, a beam supported on said wall, a recess closing panel, hinges secured at one end to said closing panel and at their opposite end pivotally connected to the inside of said beam, said hinges overlying said beam and said panel being supported by said hinges when in open position, said hinges lying within said recess when said closing panel is in closed position.

8. Wall construction comprising a back panel, side panels, top and bottom panels, said panels forming a wall recess, a wall terminating beneath said recess and a beam supported on said wall and closing the lower portion of said recess, a recess closing panel, hinges secured at one end to said closing panel and at their opposite end pivotally connected to the inside of said beam, said hinges overlying said beam and said panel being supported by said hinges when in open position, said hinges lying within said recess and hidden by said panel when said closing panel is in closed position.

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