

M. W. RUNDEL.

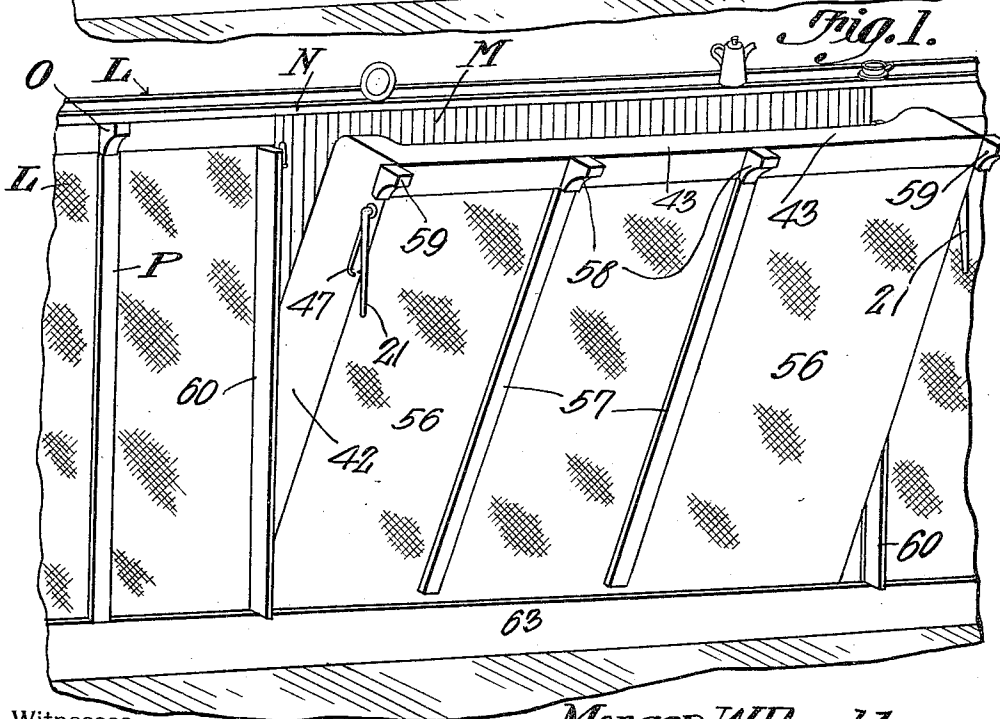
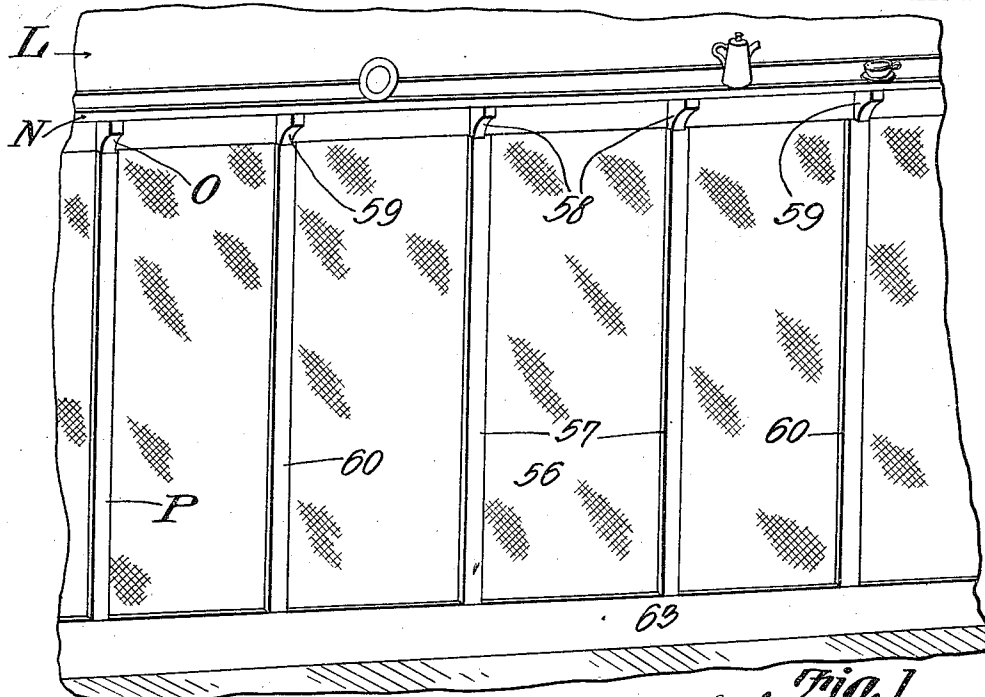
BED.

APPLICATION FILED FEB. 12, 1912.

1,064,858.

Patented June 17, 1913.

4 SHEETS—SHEET 1.



Witnesses

J. P. Tomlin
L. H. Wilson

Fig. 2.

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BED.

Patented June 17, 1913.

4 SHEETS—SHEET 2.

Fig. II.

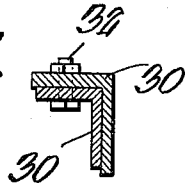


Fig. 3.

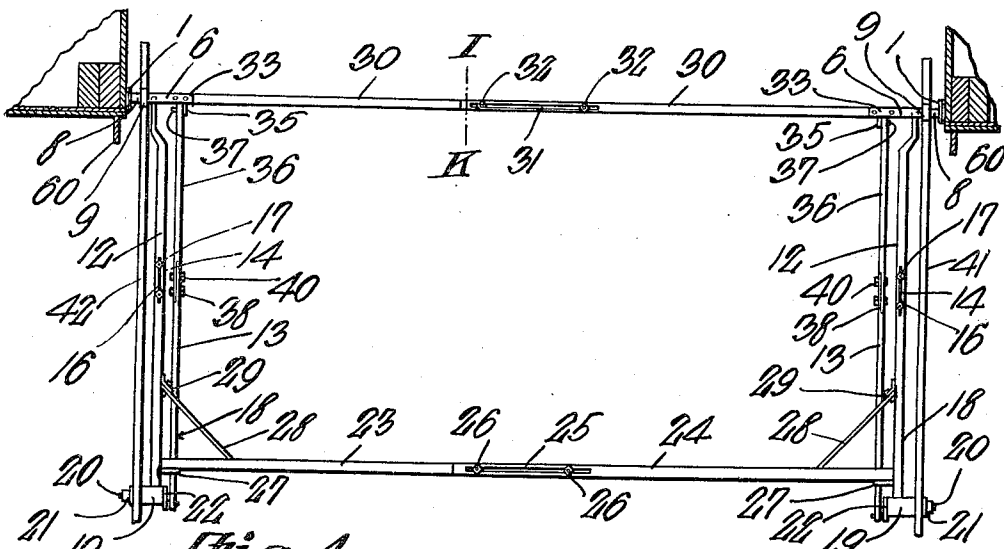
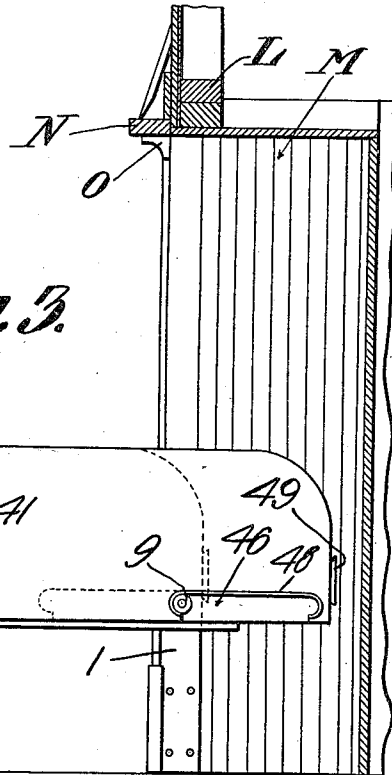


Fig. 4.

Witnesses

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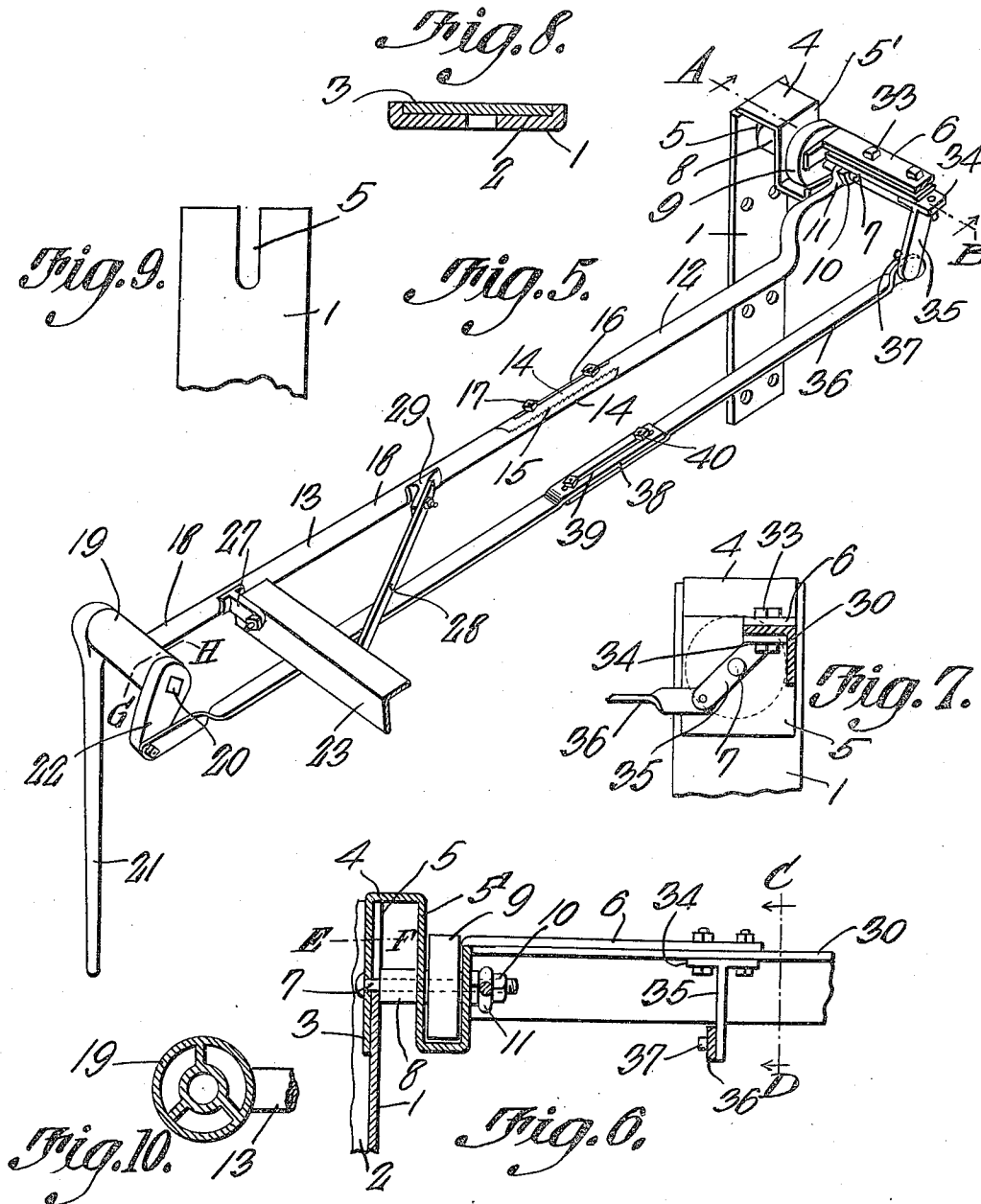
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Patented June 17, 1913.

4 SHEETS—SHEET 3.



Witnesses

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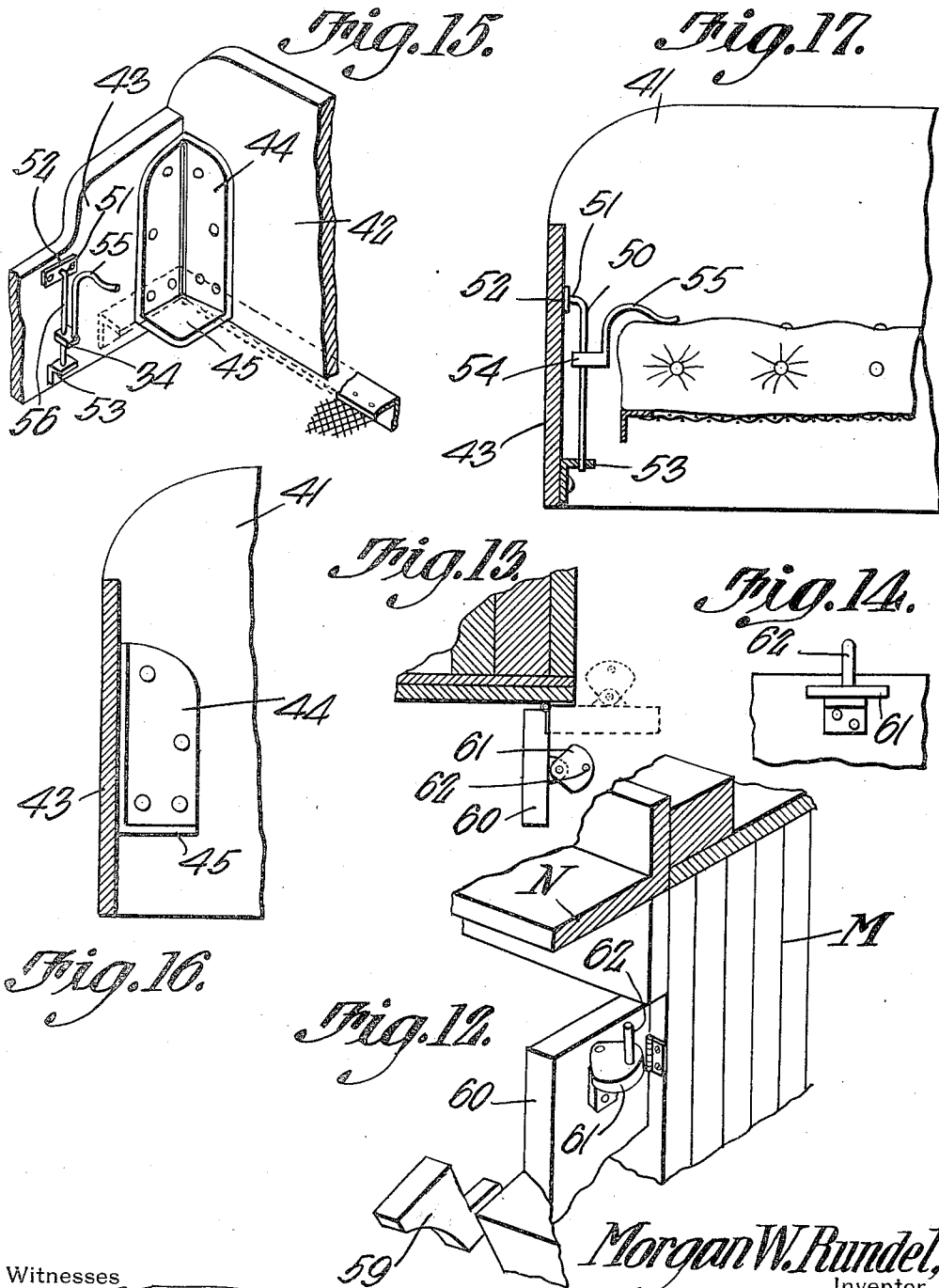
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Witnesses

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UNITED STATES PATENT OFFICE.

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BED.

1,064,853.

Specification of Letters Patent.

Patented June 17, 1913.

Application filed February 12, 1912. Serial No. 676,968.

To all whom it may concern:

Be it known that I, MORGAN W. RUNDEL, a citizen of the United States, residing at Birmingham, in the county of Oakland and State of Michigan, have invented a new and useful Bed, of which the following is a specification.

This invention relates to beds, one of its objects being to provide a structure of this character adapted to be set up as a fixture in a building and which, when not in use, can be caused to disappear within a wall recess provided therefor, the bottom of the bed, when thus housed, presenting a surface corresponding with the adjacent surfaces of the wall in which the bed is concealed.

Another object is to provide a bed which can be adjusted readily so as to fit within recesses of different proportions whereby a bed of a standard size can be adjusted to meet the requirements of different specifications.

A further object is to provide a bed mounted to swing into and out of the recess, said bed being provided at its outer or upper side with supporting legs having means whereby they are maintained constantly vertical, thus automatically assuming supporting positions when the bed is lowered for use and automatically moving back into the recess in the wall when the bed is housed, so as thus to be completely concealed.

Another object is to provide a bed structure which is simple and durable in construction, cheap to manufacture, and which can be readily installed either during or subsequent to the construction of a building.

Another object is to provide a bed structure which can be easily disconnected from its fixed supports and thus readily removed from the wall or other structure to which it is connected. By thus making the bed detachable it can be easily cleaned or repaired.

A still further object is to provide improved means for concealing the bed when moved into its recess or housing, said means including battens or the like having means cooperating with the bed for shifting them into or out of position to conceal the meeting edges of the bed structure and the walls of the recess in which the bed is housed.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the

details of construction hereinafter described and claimed it being understood that changes in the precise embodiment of the invention herein disclosed can be made within the scope of what is claimed, without departing from the spirit of the invention.

In the accompanying drawings the preferred form of the invention has been shown.

In said drawings: Figure 1 is a perspective view of a portion of a wall as it may be made to appear while a bed, such as constitutes the present invention, is housed therein. Fig. 2 is a similar view showing the bed partly removed from the wall. Fig. 3 is an end elevation of the bed, its housing being shown in section and the position of the bed when fully extended from the housing, being indicated by dotted lines. Fig. 4 is a plan view of the bed, portions of the housing being shown in section. Fig. 5 is an enlarged perspective view of one end portion of the bed frame, a portion of the roller carrying bracket extension 5' being broken away. Fig. 6 is an enlarged section through one end portion of the structure, said section being taken on the line A—B Fig. 5. Fig. 7 is a section on line C—D Fig. 6. Fig. 8 is a section on line E—F Fig. 6. Fig. 9 is an enlarged elevation of the upper end portion of one of the supporting brackets. Fig. 10 is an enlarged section through the head at one end of the frame, said section being taken on the line G—H Fig. 5. Fig. 11 is an enlarged transverse section through one of the side rails and showing the lapped relation of the two members constituting the rail, said section being taken on line I—K Fig. 4. Fig. 12 is a perspective view of a portion of the housing and a portion of one of the concealing or finishing battens, together with a portion of the bed structure cooperating therewith for shifting the battens to closed position. Fig. 13 is a horizontal section through a portion of the housing and showing one of the battens in plan, the position of the batten when closed, being indicated by dotted lines. Fig. 14 is an elevation of a portion of the upper end of said batten. Fig. 15 is a perspective view of one corner portion of the superstructure or body of the bed and showing one of the combined corner braces and mattress supports. Fig. 16 is a transverse section through one of the side rails of the bed body or superstructure and showing the

corner brace in elevation. Fig. 17 is a vertical transverse section through a portion of the superstructure of the bed and showing, in elevation the means employed for fastening the bedding thereto.

Referring to the figures by characters of reference L designates a portion of a building, such as the wall of a room, the wall of a sleeping porch or the like and within this wall is formed a recess M so proportioned as to receive, readily, the bed constituting the present invention.

Plates 1 are to be secured in any preferred manner to the sides of the recess adjacent the bottom thereof and are preferably channeled longitudinally, as shown at 2 in Figs. 5, 6 and 8, the channeled faces being arranged against the walls of the recess so as to form passages adapted to receive tongues 3 extending downwardly from brackets 4. A slot 5 extends into each plate 1 from its upper end, as shown in Fig. 9. Each bracket 4 includes a laterally extending portion merging into a depending substantially U-shaped extension 5' from which extends an attaching arm 6 which is parallel with the laterally extending portion of the bracket 4 and is perpendicular to the tongue 3.

A bolt 7 extends transversely through the extension 5' and the tongue 3, this bolt carrying a spacing sleeve 8 between the extension 5' and the tongue 3, there being a sufficient distance between the spacing sleeve and the tongue 3 on the bolt, to receive the slotted portion of the plate 1, the bolt 7 being adapted to rest within the slot 5, as clearly shown in Fig. 6. A roller 9 is mounted on the bolt 7 within the extension 5' and that portion of the bolt projecting beyond the extension and under the attaching arm 6, has spaced nuts 10 thereon for holding in engagement with the bolt, an eye 11 formed at one end of a frame section 12, that end portion of the section carrying the eye 11 being offset. Another frame section 13 is disposed in alinement with the section 12 and both of said sections have their meeting ends reduced longitudinally so as to form tongues 14 adapted to lap, the meeting faces of the tongues being toothed, as shown at 15 and said tongues being formed with registering longitudinal slots 16 through which clamping bolts 17 are preferably extended. Thus it will be seen that the sections 12 and 13 can be adjusted longitudinally relative to each other so as to vary the length of the end rail indicated generally at 18 and which is made up of the two sections 12 and 13. A tubular head 19 is formed at one end of the section 13 and constitutes the bearing of a spindle 20 one end of which is connected fixedly to a supporting leg 21 while its other end has a crank arm 22 fixedly connected thereto.

It is to be understood that the parts thus far described are duplicated at both sides of the recess M and they constitute the end portions of the frame for supporting the bed body. One of the side portions of the frame is made up of angle strips 23 and 24 the meeting end portions of which lap, as shown in Fig. 4. These lapping portions are slotted longitudinally as at 25 so as to receive clamping bolts 26. The sections 23 and 24 are bolted or otherwise fastened to ears 27 extending from the sections 13 of the end rails and diagonal braces 28 may be employed for connecting the sections 23 and 24 to ears 29 extending from the respective end rail sections 13.

The other side member or rail of the bed frame is also made up of angle strips 30 similar to the strips 23 and 24, these angle strips having their meeting portions in lapped relation and provided with longitudinal slots 31 adapted to receive clamping bolts 32. The outer ends of the sections 30 are lapped by the attaching arms 6 and are fastened thereto in any suitable manner, as by means of bolts 33.

A bracket 34 is attached to the lower face of each side rail section 30 at a point under the attaching arm 6 and this bracket includes a depending arm 35. A connecting rod 36 is pivotally attached at one end to the arm 35, said arm being preferably provided with a laterally extending stud 37 engaging the rod. The other end of the rod is pivotally connected to the crank arm 22. Rod 36 is preferably made up of separate sections lapping, as at 38, said lapping portions having registering longitudinal slots 39 for the reception of clamping bolts 40. Rod 36 serves to hold the crank arm 22 parallel with the bracket arm 35 at all times and the parts are so positioned that, when the bed frame is extended horizontally, the leg 21 will extend vertically into contact with the floor.

It will be apparent that by constructing a bed frame in the manner herein described the same can be adjusted both longitudinally and laterally so as to fit properly within recesses M of different sizes.

The parts thus far described are designed to be sold to the hardware trade and can be readily set up within recesses constructed to receive a wall, or disappearing, bed.

Any desired form of bed body or superstructure can be used in connection with the frame hereinbefore described and this superstructure can be placed on the market with the frame or can be added thereto after the frame has been installed.

The preferred form of bed body or superstructure has been illustrated in certain of the figures of the accompanying drawings said superstructure including a head board 41, a foot board 42 and side rails 43, the

ends of the side rails being connected to the head and foot boards by corner brackets 44 each of which is preferably formed in a single casting having a bottom ledge or supporting plate 45 formed integral therewith and adapted to project under and support one of the corner portions of a mattress frame. The head and foot boards 41 and 42 are adapted to bear downwardly on the rollers 9 and the heads 19, these head and foot boards thus being located above the end rails 18. The lower edges of the head board and foot board are each formed with spaced longitudinally extending recesses 46 and 47, the rollers 9 being located in the recess 46 while the heads 19 are located in the recesses 47. Wear strips 48 are preferably secured to the walls of the recesses 46 and 47 and are adapted to contact with the rollers 9 and the heads 19. Thus it will be seen that the superstructure of the bed is capable of being moved bodily transversely of the bed frame, this movement being limited by the ends of the recesses 46 and 47 coming into contact with the parts located within said recesses. A weight such as indicated generally at 49, is preferably connected to the inner side portion of the superstructure so as to facilitate the upward swinging of the bed to its housed position.

In order to prevent displacement of the mattress and bed clothing while the bed is in raised or housed position, fastening means may be attached to the two side rails 43 of the superstructure. As shown in Fig. 17, this fastening means may be in the form of a guide rod 50 having one end offset, as at 51 and terminating in a head 52 secured in any preferred manner to the side rail 43. The rod is preferably extended parallel with the inner surface of the side rail and its lower end is projected into a bracket 53 secured to the side rail. A block 54 is slidably mounted on the rod and carries a gripping arm 55. Thus it will be seen that when the gripping arm is pressed downwardly against the bed clothes, the block 54 will be slid along rod 50 and the up pressure exerted by the compressed bed clothes upon the arm 55 will cause block 54 to bind on the rod 50 and thus be held against sliding movement. These fasteners can be located at any desired distances apart, one or more of them being used at each side of the superstructure. It will be apparent that by employing them the mattress and bed clothes will always be properly held within the superstructure. When the bed is in use the arms 55 can be swung laterally against the side rails 43.

As heretofore stated the bed constituting the present invention can be housed within the wall of a room, or in the exterior wall of a building so as to be accessible from a sleeping porch or the like, or can be located

at any other points desired. In Figs. 1 and 2 the bed has been shown constructed for use in a room. In Fig. 1 it will be seen that the wall or structure L is provided with a plate rail N which extends along the upper end of the recess M. Dentils O are arranged along the bottom of the plate rail preferably at the upper ends of battens P which serve to outline the wall in panels. These panels can be made of burlap or any other suitable finishing material. In order that the bed, when housed within the recess M may be unnoticed, the bottom of the superstructure of the bed is provided with a covering 56 corresponding with the burlap or other material of which the panels on the wall are formed, this covering completely concealing the frame of the bed. Battens 57 corresponding with the battens P may be secured to the bottom of the superstructure so as to outline panels corresponding with the wall panels and dentils 58 are secured to the upper end of the superstructure at the ends of the battens 57 and are adapted, when the bed is completely housed, to aline with the dentils O. End dentils 59 are preferably secured to the upper or outer corner portions of the superstructure of the bed and project laterally therebeyond. It is to be understood that spaces are provided between the bed and the walls of the recess M to receive the legs 21. Obviously, therefore, it is necessary, in order to fully conceal the bed, to provide some means for covering these spaces. For this purpose battens 60 are hingedly connected to the wall L at the sides of the recess M and extend parallel with the battens P. Each of these battens 60 has a segmental plate 61 pivotally connected to the upper end portion thereof and provided with an upstanding lug 62. When the batten is swung outwardly, as in Figs. 2, 12 and 13, this upstanding lug 62 projects into the path of the adjacent corner dentil 59 so that, as the bed moves back into the recess M, with the legs 21 housed between the walls of the recess and the sides of the bed, the batten 60 at each side of the bed will be swung back so as to lap the sides of the bed and thus conceal the spaces adjacent thereto. The wall will thus have the appearance shown in Fig. 1.

It is to be understood of course that the finish of the bottom of the bed should always conform with the finish of the adjacent portions of the wall in which the bed is mounted provided it is desired to render the bed invisible when housed. Thus, when the bed is housed in the outer wall of a building so as to open out on a porch, the bottom of the bed will be provided with clapboards, shingles or any other structure like that used for finishing the wall.

By providing the weight 49 the bed can be easily swung up into the recess. After

the bed has been lowered its superstructure can be pulled outwardly until limited by the rollers 9 and heads 19 or, if preferred, a portion of the bed can be left in the recess so that the bed will not occupy as much floor space as when drawn outwardly. The walls of the recess M can be finished in any manner desired, preferably to agree with the finish of the wall L so that, when the bed is in use, the recess will have the appearance of a small alcove.

In order that the inner or lower end of the bed may be properly concealed, a surbase such as illustrated at 63 is preferably extended under the battens P and 60 and is adapted to be contacted by the lower ends of the battens 57 when the bed is housed.

Should it be desired at any time to remove the bed from the recess so as to clean or repair it, it is merely necessary to loosen the bolts 7 whereupon the brackets 4 can be slid upwardly out of engagement with the plates 1.

What is claimed is:—

1. A bed body supporting structure having longitudinally adjustable side and end rails, means for supporting one of the side rails within a housing, pivotal connections between the end rails and said side rail, and supporting means carried by said end rails.

2. A bed body supporting structure including a side rail, means for supporting the same within a housing, end rails pivotally connected to said side rails, legs pivotally connected to the end rails, a side rail connected to and movable with the end rails, said side and end rails constituting a frame, and a bed body mounted on the frame.

3. A bed body supporting structure including a side rail, means for supporting the same within a housing, end rails pivotally connected to the side rail, a side rail connecting and movable with the end rails, said side and end rails constituting a frame, a leg carried by and mounted to swing relative to each end rail, and means for maintaining the leg vertical at all times during the swinging movement of the end rails, and a bed body mounted on the frame, said legs being supported beyond the ends of the bed body.

4. A bed body supporting structure for use in a housing and including longitudinally adjustable side rails, an end rail, pivotally connected to each end portion of one side rail, means for supporting said side rail at its ends within the housing, legs carried by and adapted to swing relative to the end rails, and cooperating means connected to one of the side rails and to the legs for maintaining said legs constantly vertical during the swinging of the frame.

5. A bed body supporting structure including supporting members fixedly mounted, brackets detachably engaging the same,

a side rail connecting the brackets, end rails pivotally connected to the brackets, a side rail connecting and movable with the end rails, a bed body supported by the frame, means located beyond the ends of the bed body for supporting the end rails at points remote from the pivots, and means between the ends of the bed body for maintaining said supporting means vertical.

6. A bed body supporting structure including supporting elements fixedly mounted, brackets detachably engaging the same and liftable therefrom, side rails, one of said rails being fixedly secured to the brackets, end rails fixedly connected to the other side rail and pivotally connected to the brackets, legs pivotally connected to the end rails, and means for maintaining the legs vertical at all times during the swinging movement of the end rails.

7. A bed frame including a side rail, means for supporting the same, end rails movably connected and adapted to swing relative to said side rail, a leg movable with and adapted to swing relative to each end rail, an arm movable with each leg, an arm depending from and fixed upon the side rail, and a connection between the arms and pivoted to them, said arms being parallel.

8. A bed body supporting structure including a longitudinally adjustable side rail, means for supporting the same, longitudinally adjustable end rails connected and adapted to swing relative to said side rail, a second side rail connected to and movable with the end rails and adjustable longitudinally, supports movable with the end rails at points remote from their pivots, and means for maintaining said supports at predetermined angles to the horizontal at all times during the movement of the end rails.

9. A bed body supporting structure including a side rail, means for supporting the same, end rails movably connected and adapted to swing relative to said side rail, supports movable with and adapted to swing relative to each end rail, and connections between the supports and the side rail for positively maintaining said supports at the same angle to the horizontal during the movement of the end rails.

10. A bed body supporting structure including supporting elements, brackets detachably engaging the same, a side rail connected to the brackets, end rails connected and adapted to swing relative to the side rail, an anti-friction bearing element within each bracket, a bearing element upon each end rail, a bed body movable upon said bearing elements and having a portion extending under the rails when in position for use, and a leg carried by each end rail and arranged beyond the ends of the bed body.

11. A bed body supporting structure including a side rail, brackets at the ends

thereof, bearing elements within the brackets, end rails connected and adapted to swing relative to the side rail, means for supporting the end rails at points remote from said side rail, and bearing elements carried by the end rails, and a bed body movably supported by the bearing elements and having a portion extending under the rails when in position for use.

12. A bed body supporting structure including a side rail, brackets at the ends thereof, bearing elements carried by the brackets, end rails mounted to swing relative to said side rail, bearing elements carried thereby, spindles mounted for rotation within the last mentioned bearing elements, legs connected to and movable with the spindles, arms secured to and depending from the spindles and side rails respectively, and a connection between the arms, and pivoted to them.

13. A bed body supporting structure including a side rail, end rails mounted to swing relative thereto, a spindle mounted for rotation and carried by each end rail, a leg secured to and movable with each spindle, arms fixedly connected to the spindles and side rail respectively, and connections between the arms on the side rail and spindles and pivoted to them.

14. A bed body supporting structure including a side rail, end rails mounted to swing relative thereto, a spindle mounted for rotation and carried by each end rail, a leg secured to and movable with each spindle, arms fixedly connected to the spindles and side rail respectively, and connections between the arms on the side rail and spindles, the connections being pivoted and said end rails and connections being extensible.

15. A bed body supporting structure including a side rail, end rails connected thereto and movable about an axis extending transversely of the end rails, bearing elements connected to the side rail, bearing elements connected to the end rails, and a bed body above the rails and bearing down upon and supported by said elements.

16. A bed body supporting structure including a side rail, end rails adapted to swing relative thereto, bearing elements carried by said side rail and the end rails, a superstructure above the frame and shiftable relative thereto, said superstructure bearing down upon and having recesses for the reception of the bearing elements.

17. The combination with a bed body supporting structure including a side rail, end rails mounted to swing relative thereto, and means for supporting the end rails at points remote from said side rail, of a bed body above and movable relative to said structure, and bearing elements on the structure, said bed body bearing down upon the elements and there being recesses within the

bed body for the reception of the bearing elements.

18. The combination with a bed body supporting structure including a side rail, end rails mounted to swing relative thereto, and means for supporting the end rails at points remote from the side rail, of a bed body above and movable relative to said structure, said bed body having recesses therein, and bearing elements upon the structure and projecting into the recesses to support the bed body above the supporting structure, said elements and the end walls of the recesses cooperating to limit the movement of the bed body relative to the supporting structure.

19. The combination with a bed body supporting structure including end rails mounted for swinging movement, and supports for the rails, of a bed body above and slidably mounted on the supporting structure, cooperating means upon the body supporting structure and bed body for limiting the movement of said bed body relative to the structure, and means carried by said bed body for securing bedding thereto.

20. The combination with a bed body supporting structure including connected end rails mounted for swinging movement, and supports for the rails, of a bed body supported by the supporting structure and adapted to shift thereon and having a portion extending under the supporting structure when in use, said bed body including head and foot boards, side rails, corner braces connecting said rails to the head and foot boards and having mattress supporting ledges.

21. The combination with a structure having a recess, of supporting members within the recess, and a bed detachably connected to said supporting members and adapted to swing upwardly within the recess, said bed including a body supporting structure, a bed body bearing downwardly on the supporting structure and extending thereunder to partly house the supporting structure.

22. The combination with a structure having a recess, of supporting members within the recess, and a bed detachably connected to said supporting members and adapted to swing upwardly within the recess, said bed including a body supporting structure, a bed body bearing downwardly on the supporting structure and extending thereunder to house the supporting structure, said bed body being slidable upon the supporting structure.

23. The combination with a structure having a recess, of supporting members within the recess, and a bed detachably connected to said supporting members and adapted to swing upwardly into the recess, said bed including a body supporting structure, a bed

body bearing downwardly on the supporting structure and extending thereunder to partly house the supporting structure, and supporting legs connected to the supporting structure and mounted to swing relative thereto, said legs being arranged beyond the ends of the bed body.

24. The combination with a structure having a recess, of supporting members within the recess, and a bed detachably connected to said supporting members and adapted to swing upwardly into the recess, said bed including a body supporting structure, a bed body bearing downwardly on the frame and extending thereunder to house the supporting structure, supporting legs connected to the supporting structure and mounted to swing relative thereto, said legs being arranged beyond the ends of the bed body, and means housed within the bed body for maintaining the legs positively at a predetermined angle to the horizontal during the swinging movement of the bed.

25. The combination with a structure having a recess, of supporting members within the recess, a bed connected to said members and adapted to swing upwardly into the recess, said bed including a body supporting structure, bearing elements carried by the

supporting structure, a bed body bearing downwardly upon and adapted to travel on the bearing elements, the bottom of said bed body extending under the supporting structure to house the same.

26. The combination with a structure having a recess, of supporting members within the recess, a bed connected to said members and adapted to swing upwardly into the recess, said bed including a body supporting structure, bearing elements carried by the supporting structure, a bed body bearing downwardly upon and adapted to travel on the bearing elements, said bed body extending under the supporting structure to house the same, legs depending from the supporting structure and arranged beyond and normally lapping the ends of the bed body, and means housed within the bed body for maintaining the legs at a predetermined angle to the horizontal during the swinging movement of the bed.

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

MORGAN W. RUNDEL.

Witnesses:

SELINA WILLSON,
HERBERT D. LAWSON.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."