April 13, 1943. P. H. FERRIER 2,316,681

COLLAPSIBLE BED

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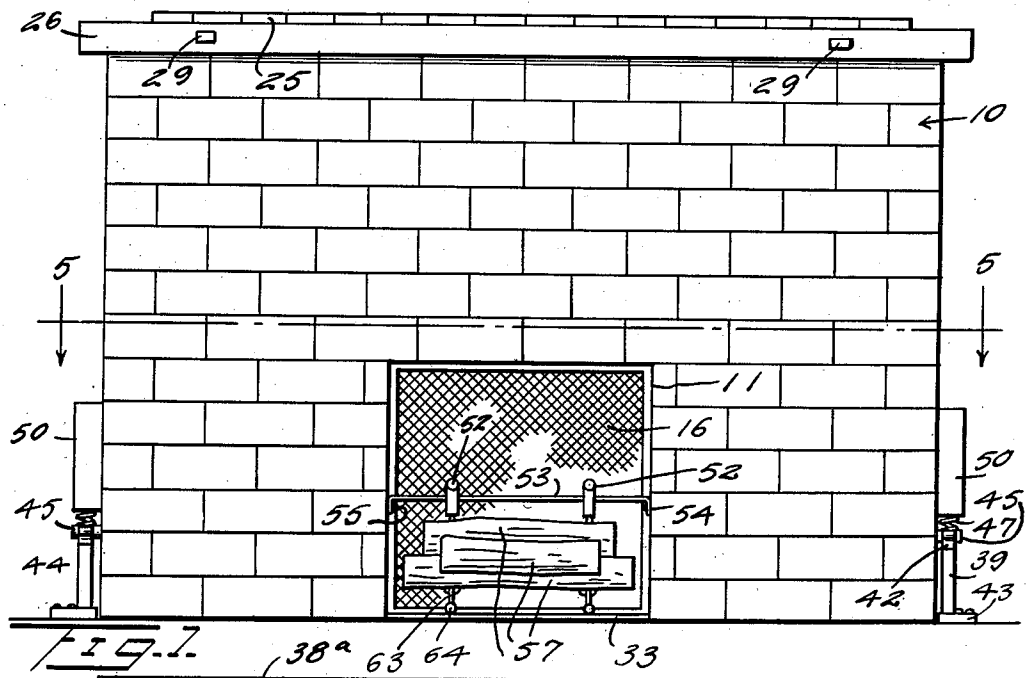


Fig. 1.

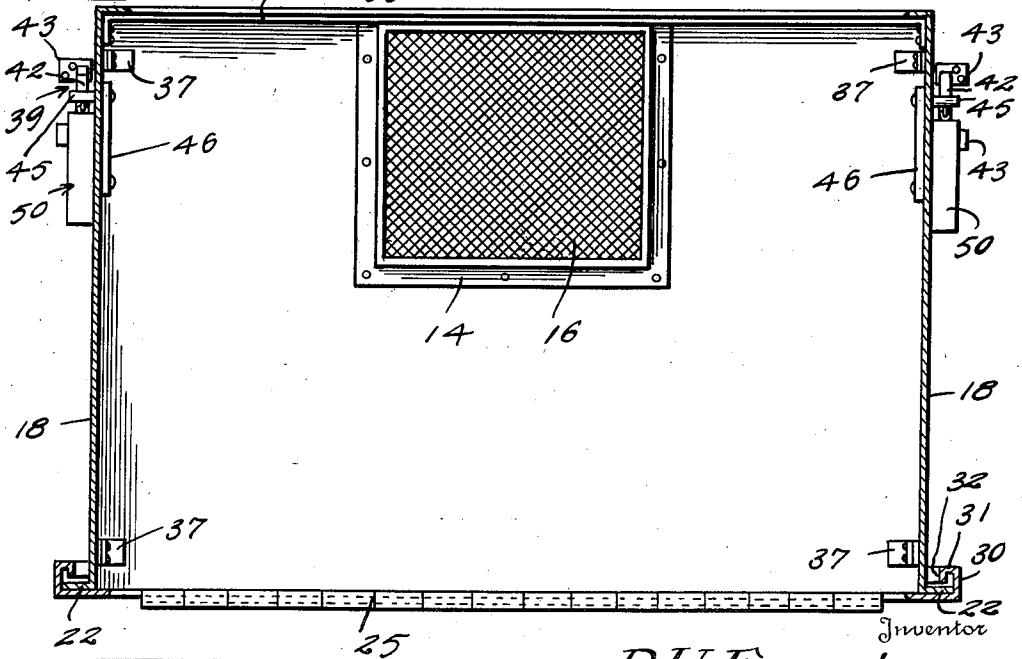


Fig. 2.

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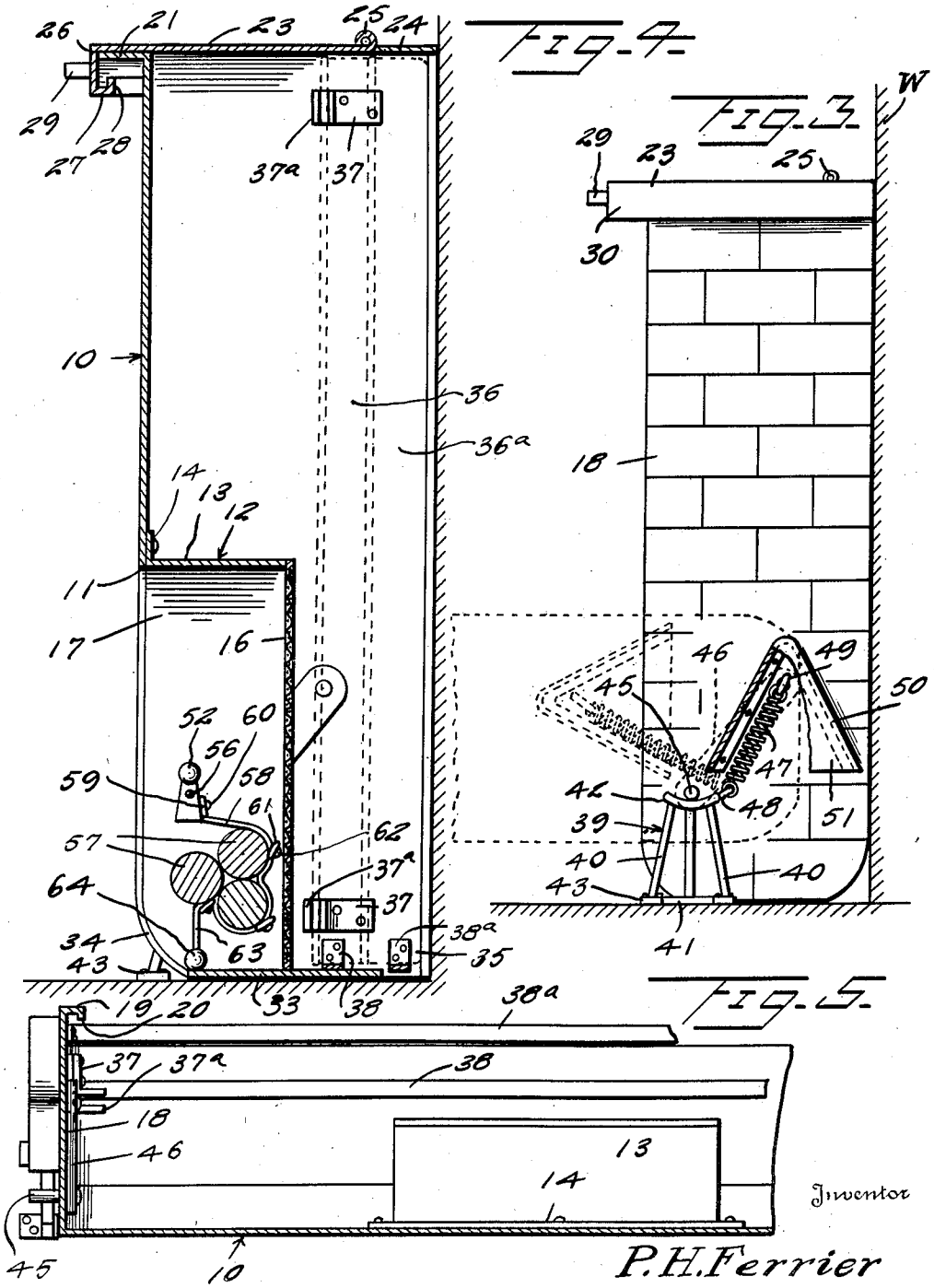
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2,316,681

COLLAPSIBLE BED

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2 Claims. (Cl. 5—2)

This invention relates to a collapsible bed.

An object of this invention is to provide a collapsible bed which is constructed to simulate a fireplace and a fireplace mantel when in collapsed position.

Another object of this invention is to provide a bed structure which may be formed out of sheet metal and, when in inoperative position, will be disposed in a vertical position against a wall, the bed structure being swingable downwardly from the wall to a horizontal operative position.

Another object of this invention is to provide a collapsible bed of this kind and an improved mounting means for the bed so that the bed may be readily shifted from its mounting, the mounting including a counter-balancing structure connected with the bed for holding the bed in inoperative position and relieving the weight of the bed when it is swung to an operative position.

To the above and to others which may hereinafter appear, the invention consists of the novel construction, combination and arrangement of parts as will be more specifically described and illustrated in the accompanying drawings, wherein is shown an embodiment of the invention, but it is to be understood that changes, variations and modifications may be resorted to which fall within the scope of the invention, as claimed.

In the drawings:

Figure 1 is a detail front elevation of a collapsible bed constructed according to an embodiment of this invention, showing the bed in collapsed position;

Figure 2 is a detail top plan of the bed structure in operative position;

Figure 3 is a detail end elevation, partly broken away, and in section, of the bed structure;

Figure 4 is a vertical section taken through substantially the center of the bed structure, and in collapsed position; and

Figure 5 is a fragmentary sectional view taken on the line 5—5 of Figure 1.

Referring to the drawings numeral 10 designates generally the bottom wall of a collapsible bed structure which is formed at a point adjacent the lower portion thereof with an opening 11 in which a forwardly opening housing 12 engages. The housing 12 includes a top wall 13 formed with an upwardly extending flange 14 engaging against the inner face of the bottom wall 10 and adapted to be secured thereto as by welding or other suitable fastening means. The housing 12 also includes side walls 15 and a perforate rear wall 16 which is inwardly offset from the bottom wall 10 so as to form, with the top wall 13 and the side or end walls 15, a fireplace opening 17.

The bed frame structure also includes a pair of end walls 18 which may be formed integral with the bottom wall 10 and which, at their free edges, may be formed with a right angularly and inwardly extending flange 19 terminating in a downwardly extending flange 20. The flanges 19 and 20 form a protecting flange for the free edges of the end walls 18 so that when the bed structure is in an operative or horizontal position the flanges 19 and 20 will act as a reinforcing means to prevent bending of the end walls 19 and provide a smooth edge which will not injure a person on contact therewith. The bottom wall 10 and the end walls 18 are formed at their upper edges with outwardly extending flanges 21 and 22 which are adapted to be secured to the under face of a top wall 23, as by welding or other suitable fastening means. The top wall 23 constitutes the shelf for the mantel when the bed structure is in a collapsed or vertical position and, preferably, the top wall 23 is formed with a relatively short hinged plate 24 hinged to the remainder of the wall 23 by a hinge structure 25 so that when the bed is in an operative horizontal position the plate 24 may be dropped downwardly so as to provide an entrance for the outer side of the bed. The top plate 23 constitutes the outer side of the bed when the bed structure is in a horizontal position and the end walls 18 constitute the head and foot of the bed structure.

The top wall 23 is provided along the outer longitudinal edge thereof, with a downwardly extending flange 26 which is formed with a rearwardly extending flange 27 and an upwardly extending flange 28 extends upwardly from the inner edge of the flange 27 and is disposed in a parallel position with respect to the depending flange 26. A pair of upwardly extending legs 29 are fixed to the outer side of the depending flange 26 and are adapted to engage the floor when the bed is in an operative horizontal position for supporting the outer edge of the bed structure. These legs 29 also provide a means whereby the bed structure may be easily raised to a collapsed position by grasping the outer edge portion of the flange structure 26. The top 23 is also extended downwardly to form a flange 30 at each end thereof, and the flange 30 is bent inwardly at a right angle, as at 31, and then bent upwardly to form a second flange 32. The flanges 30, 31, and 32 may be formed as continuations of the flanges 26, 27 and 28 respectively.

The bed structure also includes a side wall 33 which is secured between the end walls 18, in parallel relation with respect to the top wall 23 and, preferably, the side wall 33 is substantially smaller in width than the top wall 23, as shown in Figure 4. The end walls 18, at their lower or inner end portions, are formed with arcuate portions 34 and 35 so as to permit the free rocking of the bed structure from a vertical collapsed position to a horizontal operative position. The side wall 33 constitutes the bottom of the bed structure when the bed is in a collapsed position and

this bottom wall 33 also forms the bottom wall for the fireplace opening 17, as shown in Figure 4. A bed spring 36 may be supported in the frame structure by engaging between pairs of L-shaped spring supporting clamps 37 and 37a, secured to the end walls 18 and the lower edges of the spring 36 and the mattress 36a are supported by means of a pair of U-shaped straps 38 and 38a, respectively, which have their parallel legs secured to the inner sides of the end walls 18.

The bed structure hereinbefore described is rockably mounted on a pair of standards, generally designated as 39, which are disposed, one at each end of the bed structure. The standards 39 include a pair of upwardly convergent supporting bars 40 which are secured at their lower ends to a lower connecting bar 41, and are secured at their upper ends to an arcuate cradle 42. A pair of base or foot members 43 are also secured to the lower ends of the supporting members 40, and are adapted to be secured by fastening devices 44 to the upper surface of a floor or the like. The bed structure is provided at each end thereof with a pair of outwardly extending trunnions or pivot members 45 which rockably engage the concave upper surfaces of the cradles 42. The trunnions 45 are secured to a reinforcing bar or plate 46 which is secured to the inner face of an end wall 18, the plates 46 being disposed at an angle to the length of the end members 18, as shown in Figure 3.

In order to provide a means whereby the bed structure may be held in a vertically disposed inoperative position with the upper edge thereof contacting with the outer face of a wall W, I have provided a spring 47 which has one end thereof secured to an eye 48, carried by the standard 39 and the other end thereof engaged with an eye 49 extending outwardly from the reinforcing member 46. An inverted V-shaped spring housing 50 is secured to each end wall 18, and includes an outer plate 51. The spring 47 is adapted to loosely engage within the housing 50, as shown in Figure 3. The spring 47 is adapted to be tensioned by lowering of the bed structure to a horizontal operative position which is the position shown fragmentarily in dotted lines in Figure 3, and when the bed structure is in a vertical position the springs 47 are adapted to yieldingly hold the bed structure in a vertical inoperative position.

The fireplace opening 17 is adapted to have positioned therein, a pair of imitation andirons 52 which are supported by means of a horizontally disposed supporting bar 53. The supporting bar 53 is formed, at the opposite ends thereof, with downwardly turned end portions 54, which may be secured, as by fastening devices 55, to the side or end walls 15. The andirons 52 are preferably formed with openings 56 through which the supporting bar 53 engages. A plurality of imitation logs 57 are adapted to be disposed below the andiron members 52 and are supported from the andiron members 52 by a pair of wires 58. The wires 58 are formed with eyes 59 secured by fastening devices 60 to the rear sides of the andirons 52 and the wire 58 extends rearwardly from the andirons 52 and is formed with eyes 61 which may be secured by fastening devices 62 to the logs 57. The wires 58 may be extended vertically downwardly from one of the logs 57, as at 63 and then secured to a base andiron member 64.

In the use and operation of this bed structure the outer surface of the bed frame may be painted or otherwise formed to simulate bricks or the like so that when the bed is in a collapsed vertical position the bed will simulate a fireplace mantel. When it is desired to lower the bed structure the bed frame is grasped from the top and pulled forwardly and downwardly until the feet 29 engage the floor. Downward swinging of the bed structure will tension the springs 47 so that the weight of the bed in swinging downwardly will be at least partially counter-balanced by the springs 47. When the bed is in a horizontal position the plate 24 may be swung downwardly to a position confronting the main body of the top 23 so that a person may readily enter the outer side of the bed. When the bed is in a horizontal operative position the fireplace structure will be in the lower portion of the bed supported above the surface of the floor.

This bed structure may be constructed substantially entirely out of sheet metal which may be bent to the configuration shown in the drawings so that the bed structure will not be unduly heavy but at the same time will be sufficiently rigid to support one or more persons thereupon in addition to the normal springs and mattress. It will be understood that the springs and mattress engaging on the supporting ledge 37 may be clamped or otherwise securely fastened with respect to the ledge 37 so that the springs and mattress will not be loosened from the bed structure when the bed is in a vertical collapsed position.

What I claim is:

1. A collapsible bed comprising a sheet metal frame including a pair of end walls, a bottom wall and a pair of side walls, inturned upper edge portions carried by said end walls, an angle-shaped bed spring support in said frame spaced apart from said bottom wall, a hinged cover plate carried by one of said walls and extending longitudinally thereof and constituting a means for facilitating entrance into the bed frame beneath said spring support, a pair of reinforcing bars fixed to said end walls on the inner sides thereof, a trunnion fixed to each bar and extending outwardly of a side wall, a pair of upstanding members each including a concave trunnion saddle on which a trunnion rockably engages, an eye fixed to each bar and extending outwardly to an end wall and a spring fixed to said eye and to one end of said trunnion saddle of said supporting member for normally holding the frame in a vertical inoperative position.

2. A collapsible bed comprising a sheet metal frame including a pair of end walls, a bottom wall and a pair of side walls, inturned upper edge portions carried by said end walls, an angle-shaped bed spring support in said frame spaced apart from said bottom wall, a hinged cover plate carried by one of said walls and extending longitudinally thereof and constituting a means for facilitating entrance into the bed frame beneath said spring support, a pair of reinforcing bars fixed to said end walls on the inner sides thereof, a trunnion fixed to each bar and extending outwardly of a side wall, a pair of upstanding members each including a concave trunnion saddle on which a trunnion rockably engages, an eye fixed to each bar and extending outwardly to an end wall, a spring fixed to said eye and to one end of said trunnion saddle of said supporting member for normally holding the frame in a vertical inoperative position, and a substantially triangular cover for said spring secured to said end wall and positioned to overlie said spring.

PETER H. FERRIER.