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2,528,307

BERTH INSTALLATION

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2 Sheets-Sheet 1

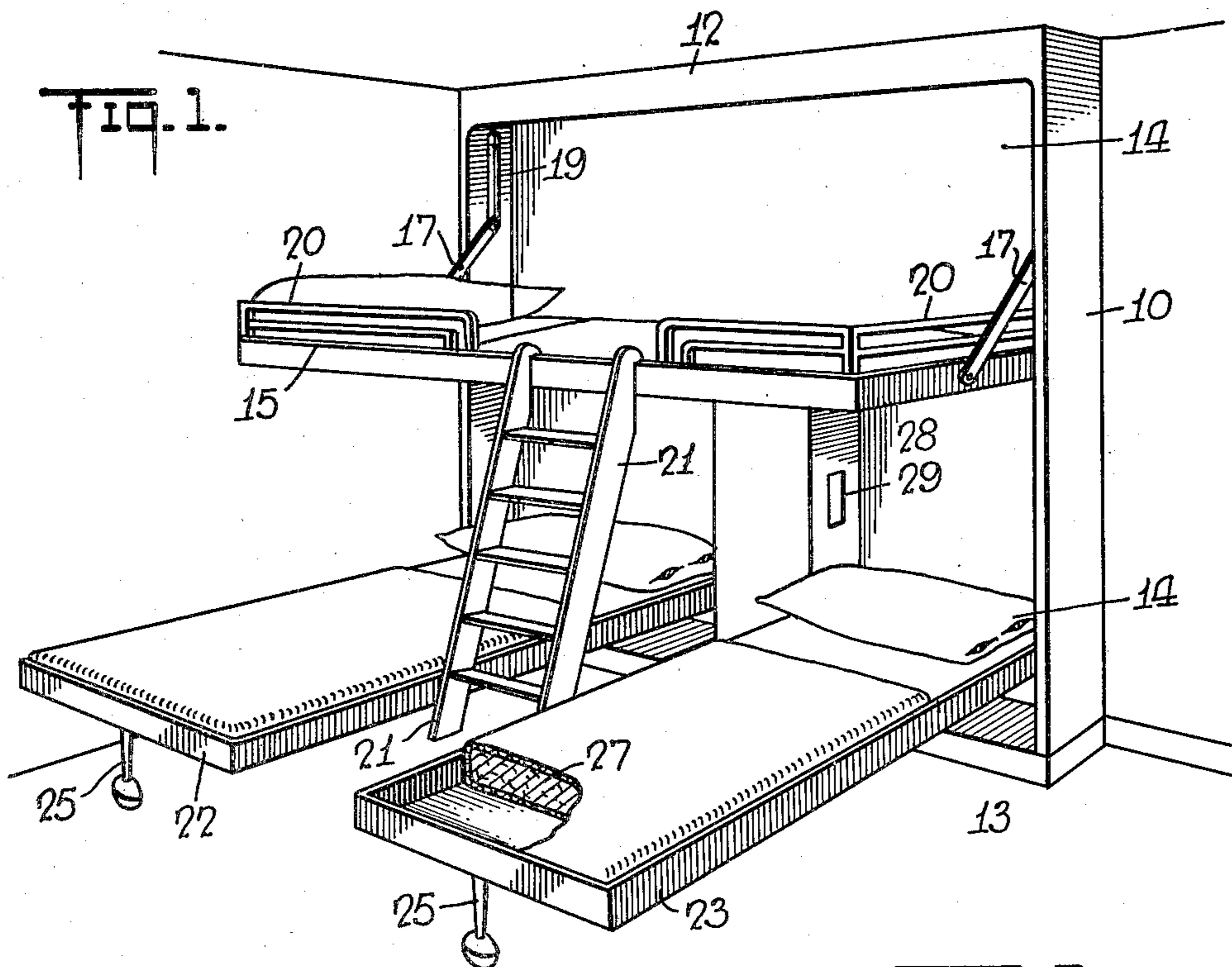
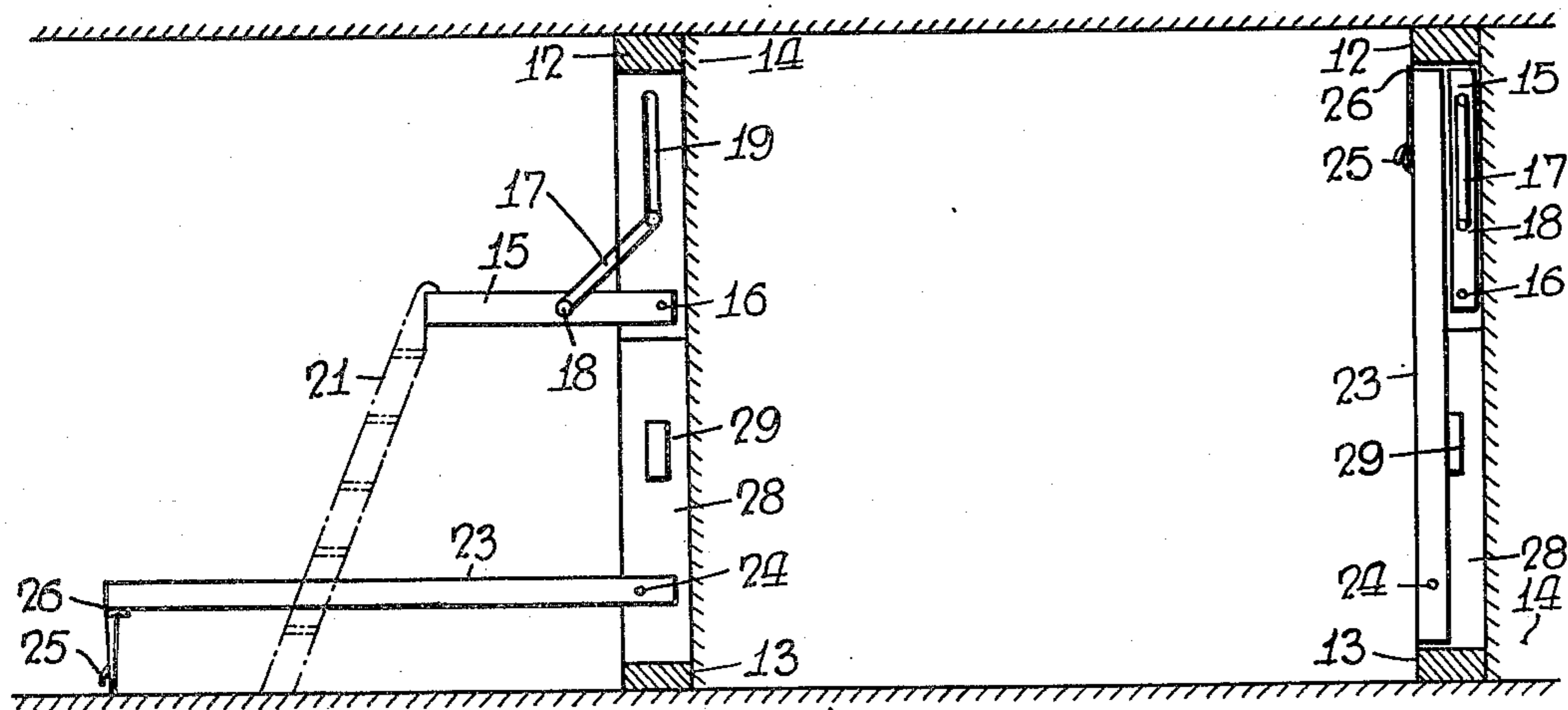


Fig. 2.

Fig. 3.



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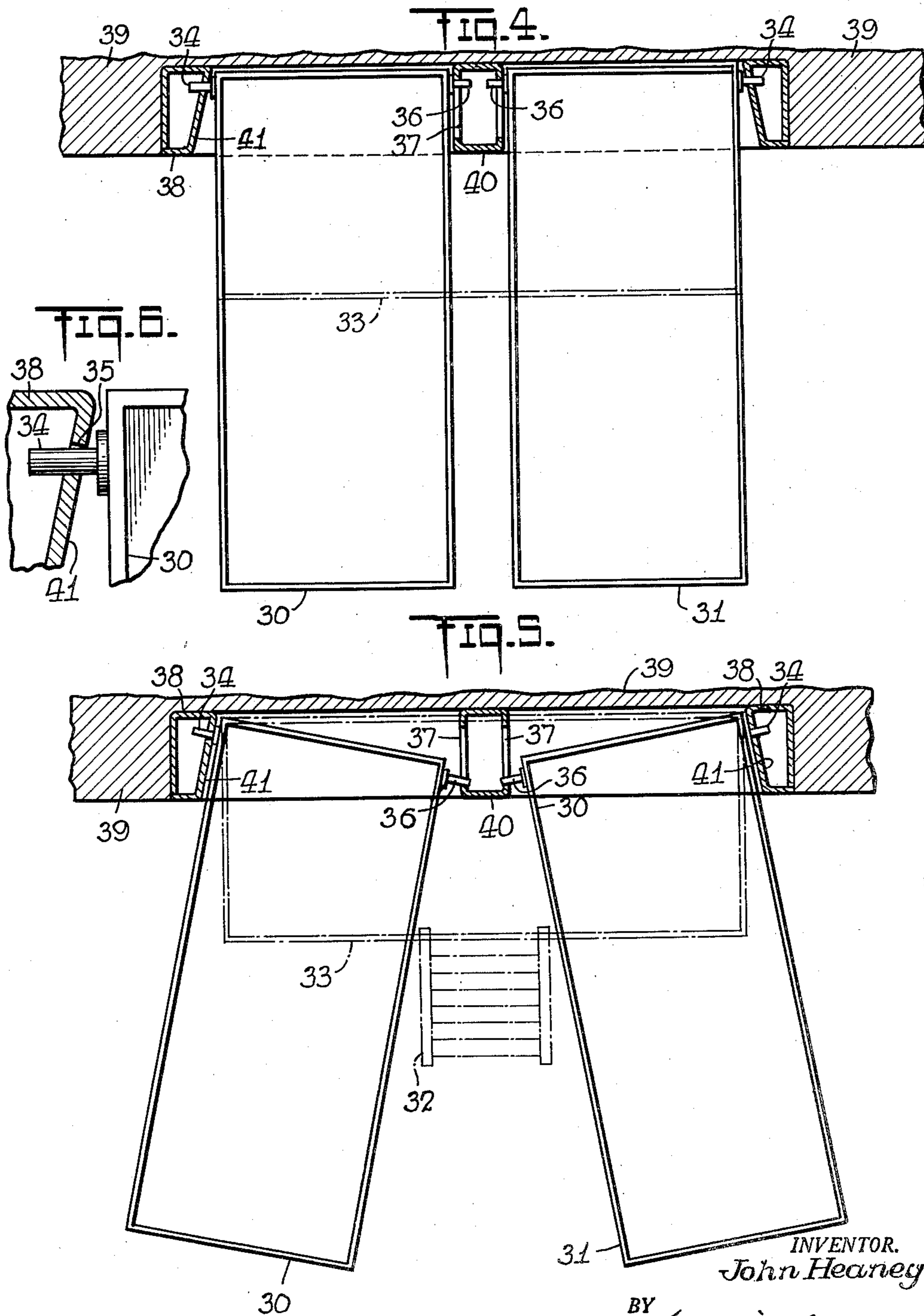
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2 Sheets-Sheet 2



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BERTH INSTALLATION

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5 Claims. (Cl. 5—9)

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My present invention relates generally to berth installations, and has particular reference to improvements in a folding or collapsible bed assembly for use on ships and the like.

It is a primary object of the invention to provide an installation which will afford comfortable and individual sleeping accommodations for three persons within a relatively compact space.

It is a further object of the invention to provide a construction which may be readily adjusted between operative and inoperative positions, the three beds being uniquely nested in an unusually compact manner when they are in their inoperative positions.

It is a characterizing feature of the invention to provide two lower beds in side-by-side relation, and a third bed at an elevated level arranged crosswise with respect to the lower beds. Each bed is adapted to be adjusted into a vertical position when it is not in use, and the beds are so associated with a supporting wall or receiver that the upper bed lies behind the lower beds when they are all in their vertical inoperative positions.

A further object of the invention is to provide a construction or installation which is relatively simple and inexpensive, easy to manipulate, affording comfort and roominess when in use, and occupying a minimum amount of space, when collapsed.

I achieve the foregoing general objects and advantages, and such other objects and advantages as may hereinafter appear or be pointed out, in the manner illustratively exemplified in the accompanying drawings, in which:

Figure 1 is a perspective view of a berth installation of the present improved character with the beds shown in their operative positions;

Figures 2 and 3 are diagrammatic cross-sectional views taken substantially along the line 2—2 of Figure 1, showing the parts, respectively, in their operative and inoperative positions;

Figure 4 is a cross-sectional plan view of the lower beds of a modified installation;

Figure 5 is a view similar to Figure 4 showing the additional adjustment which this construction affords; and

Figure 6 is a fragmentary detail view of one of the pivots.

In the construction shown for illustrative purposes in Figures 1, 2 and 3, there is a supporting structure or receiver consisting of opposed side walls 10 and 11, a top wall 12, and a bottom wall 13, this receiver being installed or secured against a bulkhead or wall 14. Obviously, if desired, this receiver may be built directly into the wall 14.

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Thus, the receiver may be said to constitute a vertical supporting wall having a bed-receiving recess therein.

In the upper part of the recess a bed 15 is pivotally supported. The bed has a longitudinal axis which remains horizontal and parallel to the wall 14 at all times. The bed is suitably articulated, as at 16 (Figures 2, 3) to the wall or receiver so as to permit pivotal movement about a horizontal axis.

When the bed is in its inoperative position, as shown in Figure 3, it lies in a vertical plane in the rear upper part of the bed-receiving recess. When the bed is swung into its operative position, as shown in Figures 1 and 2, it defines an upper berth whose longitudinal axis is parallel to the wall.

Suitable suspension supports may be provided. I have illustratively shown two such supports 17. One end of each support is pivoted as at 18 to the corresponding end of the bed 15; the other end of the support 17 rides in a vertical slot 19 in the corresponding end wall 10 or 11 of the receiver.

The bed 15 may be of any suitable or desired character, and it is contemplated that removable guard rails 20 may be associated with it. Access to the bed may be facilitated by means of a removable ladder 21, of well-known character per se.

Two additional beds 22 and 23 are pivotally mounted in the lower part of the receiver or wall recess. Each bed may be pivoted as at 24 (Figures 2, 3), and the pivots 24 are preferably aligned, whereby both beds 22 and 23 are adapted to pivot about a common horizontal axis.

When the beds 22 and 23 are in their operative positions, as shown in Figures 1 and 2, their longitudinal axes extend outwardly at substantially right angles to the supporting wall 14. The free end portions of the beds may be provided with supporting legs 25 hingedly connected to the beds as at 26 (Figures 2, 3).

The beds 22 and 23 are spaced from each other, thereby affording access to the upper bed, as indicated. Each of these beds may be of any suitable or desired construction. I have illustratively shown each bed in the form of a tray, the mattress 27 and other bedding material being snugly accommodated within the tray as indicated in Figure 1.

In the space between the beds 22 and 23, the wall portion 28 enhances the appearance of the installation. It is preferably hollow and provided with a suitable closure or door (not shown), affording convenient storage space for the upper-

berth's ladder, which may be of the folding type. The wall portion 28 is also preferably provided with electric lights such as that indicated at 29.

In their inoperative positions, the beds 22 and 23 assume the vertical dispositions indicated in Figure 3, their longitudinal axes being arranged vertically. It is to be observed that the lower beds 22 and 23 stand in front of the upper bed 15 when all three beds are in the collapsed condition shown in Figure 3. It may also be noted that the depth of the recess or receiver is substantially uniform throughout its extent. This affords convenient stowage space behind the lower beds, i. e., alongside the wall portion 28, when the beds are in the collapsed condition.

Suitable counterweights or springs may be provided in association with the beds to facilitate their pivotal movements into and out of their inoperative collapsed positions. I have not shown the details of these mechanisms, since they are well-known per se. Suffice it to point out that the adjustment of the installation from the condition of Figure 3 to that of Figures 1 and 2 involves nothing more than grasping the legs 25, pulling the lower beds forwardly and downwardly, then grasping the upper bed 15 and pulling it downwardly. The parts are returned to their inoperative positions with equal facility.

Under certain circumstances, it may be desirable to arrange the front or lower beds in closer proximity to each other when the parts are collapsed, thereby providing an installation of even greater compactness. Such a construction is shown in Figures 4 and 5. In this case, the lower beds 30 and 31 are first pulled down into the parallel relationship shown in Figure 4, and their free ends are then separated as indicated in Figure 5. This affords a convenient space between them for access, by means of a ladder 32, to the upper bed 33 (indicated in dot-and-dash lines in its operative position).

In order to permit the lower beds to be adjusted in the manner shown and described, suitable pivot mountings are employed. For illustrative purposes, I have shown a relatively simple construction in which each of the lower beds has one pivot 34 mounted in a tapered bearing 35 and an opposite pivot 36 mounted in a horizontal slot 37. The bearing 35 is provided in one of the side walls 38 of the vertical supporting wall 39; the slot 37 is provided in the corresponding side wall of a central supporting post 40 or the like. In the lower region of the wall 38, it may be tapered as indicated at 41, to permit the bed to be swung as indicated in Figure 5.

The pivots 34 and 36 are aligned and permit the bed to swing about a horizontal axis into and out of its inoperative vertical position within the receiver. After the bed has been swung down into a horizontal plane, the tapered bearing 35 and the slot 37 permit a swinging movement about a vertical axis to bring the bed into the angular disposition shown in Figure 5.

In their final operative relationships, the beds 30 and 31 have their rear ends in relatively close proximity, and the longitudinal axes of the beds diverge from the supporting wall 39. To restore the beds into their compacted condition, the upper berth 33 is first swung rearwardly and upwardly, the lower beds are then swung together into parallel relation, and each of the latter is then swung upwardly so that its upper end lies over and in front of the upper bed.

It will be noted that I have omitted a showing of structural details which have no bearing upon the basic features of the invention. These details

are well-known to those skilled in the art. Obviously, the simplified details shown herein may be modified in a number of respects by those skilled in the art without necessarily departing from the spirit and scope of the invention as expressed in the appended claims.

Having thus described my invention and illustrated its use, what I claim as new and desire to secure by Letters Patent is:

1. A berth installation comprising a supporting structure including a vertical supporting wall, a bed, means pivotally mounting the bed on the structure adjacent the upper part of the wall for movement about a horizontal axis into and out of an inoperative vertical position in which the longitudinal axis of the bed is horizontal, a pair of beds and means pivotally mounting the pair of beds on the structure adjacent the lower part of the wall for movements about aligned horizontal axes into and out of inoperative vertical positions in which their longitudinal axes are vertical, the upper end portions of said last-named beds overlying said first-named bed when all three beds are in said inoperative positions.

2. A berth installation as set forth in claim 1, said wall being provided with a recess to receive said beds in said inoperative positions, said recess being of substantially uniform depth throughout its extent so that stowage space is afforded behind the lower portions of said lower-pivoted beds.

3. A berth installation as set forth in claim 1, said lower-pivoted beds being spaced from each other, said wall being provided with an upper recess shaped to receive said upper bed when it is in its inoperative position, and said wall being provided with downwardly extending recess extensions to receive said lower-pivoted beds when they are in their inoperative positions.

4. A berth installation as set forth in claim 1, said lower-pivoted beds being closely adjacent to each other when they are in their inoperative positions, the pivotal mounting means of said last-named beds comprising a shiftable pivot element for each bed so that the free end portions of said beds may be spread apart to dispose said beds in diverging relation when they are moved into operative horizontal positions.

5. A collapsible multiple berth construction comprising a wall with a bed-receiving recess, an upper inside bed pivoted on the wall in the upper part of said recess and extending parallel to the wall when it is pivoted to operative position, two outside beds pivoted on the wall in the lower part of said recess and extending transversely away from said wall when they are pivoted to operative positions, suspension supports between said wall and said upper bed, and leg members on said lower beds.

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