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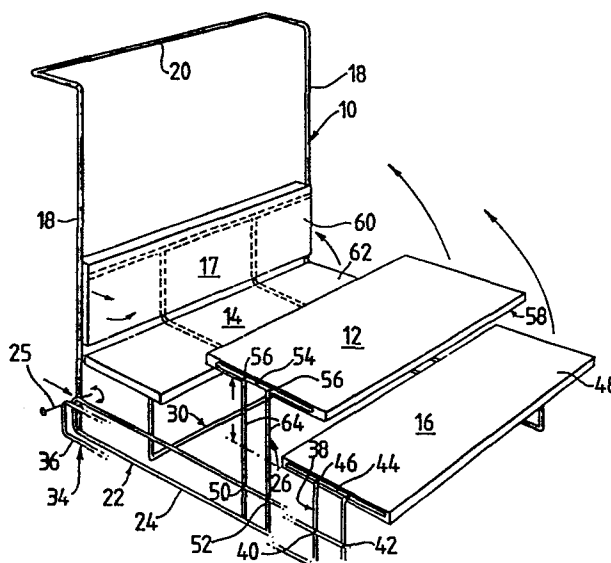
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54 **Convertible furniture.**

57 A frame 10 has connected thereto a table 12 and a pair or benches 14 and 16 on either side thereof. The table 12 is mounted on telescopic tubes 64 and may be lowered so that the surfaces of the table and benches are generally coextensive to provide a double bed. Prior to lowering the table into the double bed configuration the bench 16 is slid away from the frame 10, and the table 12 pivoted through 180° so that its reverse upholstered side faces upwardly.

The bench 14 may be pivoted downwardly to lie flat with the frame. The table 12 and bench 16 may be pivoted about 25 to lie in the region of the frame, either to be flat therewith or to provide upwardly facing surfaces, for instance for bunk beds.



see front page

FURNITURE ARRANGEMENTS

The present invention relates to furniture arrangements, and in particular, although not exclusively, to furniture arrangements for use in locations where space is limited.

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According to one aspect of the present invention, a furniture arrangement comprises a base or fixed portion, a furniture portion and a linkage connecting said portions such that, when the fixed portion is
10 disposed adjacent a wall, the furniture portion is moveable between a first position in which it provides an upwardly facing surface spaced from the wall and a second position in which it is adjacent the wall. Such an arrangement may provide a furniture arrangement which,
15 in the first position of the furniture portion, allows an upwardly facing surface to be located away from a wall and yet, in the second position of the furniture portion, allows the furniture portion to be put out of the way of the room adjacent to the wall. When the furniture
20 portion is in the first position, the surface may comprise a table surface or, alternatively or additionally, the whole or part of a bed. Thus the furniture arrangement may provide more than one function. The base or fixed portion may be secured to a wall or may
25 be mobile, for instance by being mounted on wheels, or may be free standing.

When the furniture portion is in the first position, one side of the furniture portion may comprise
30 the table surface and the other side may comprise the whole, or part of a bed. Thus the required side of the furniture portion may be selected depending on the function required. When the furniture portion is in the first position, the furniture portion may be pivotally

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moveable between positions in which one side or the other thereof faces upwardly to provide a quick and convenient way of altering the function of the furniture portion.

5 The height of the surface may be adjustable when the furniture portion is in the first position. This is of particular use where a table is generally required to have a surface at a higher level than that at which a bed is normally required.

10 The surface of the furniture portion may extend upwardly when the furniture portion is in the second position. This allows the furniture portion to lie adjacent to the wall in a storage position. Alternatively or additionally, the surface of the
15 furniture portion may face upwardly when the furniture portion is in the second position, either for storage or more particularly to provide a bed. When the furniture portion is in the second position, the furniture portion may be pivotally moveable between the position in which
20 the surface thereof extends upwardly and the position in which the surface is faces upwards to provide a quick and convenient way of folding the furniture portion flat or converting it to a bed in the second position. The furniture portion may be held in the second position by
25 retaining means which co-operate between the furniture portion and the fixed portion. The surface of the furniture portion, in the second position, may be held so that it faces the required direction by holding means which co-operate between the furniture portion and the
30 fixed portion.

The furniture arrangement may include a support portion arranged to occupy a first position in which it provides an upwardly facing support surface and extends
35 outwardly from the wall towards the furniture portion when the furniture portion is in the first position. The

support portion may be moveable between the first position and a second position in which the surface thereof extends upwardly, this being a convenient storage position. When the support portion is in the first position, the support surface thereof may provide a seat for the table surface of the furniture portion, when the furniture portion is in the first position. Alternatively or additionally, when the support portion is in the first position, the support surface may provide a bed either on its own or together with the surface of the furniture portion, when the furniture portion is in the first position. One advantage of the support surface being able to provide a bed on its own is that, when the furniture portion is in the second position and the surface thereof provides another bed, the furniture arrangement may provide a pair of bunk beds.

The furniture arrangement may include a rest portion which extends upwardly and provides a rest for a user of the support portion, when the support portion is in the first position. The rest portion may be connected to the fixed portion and may be tilted.

The furniture arrangement may include a further support portion which is connected to the fixed portion and which may be moved between a first position in which it provides an upwardly facing support surface and is spaced further away from the wall than is the furniture portion in the first position, and a second position in which the further support portion lies adjacent to the wall. When the further support portion is in the first position, its support surface may provide a seat for the table surface of the furniture portion or, alternatively or additionally, its support surface may provide part of a bed together with the surface of the furniture portion. When the further support portion is in the second position, its support surface may extend in generally the

same direction as the surface of the wall in order to provide a compact and convenient storage configuration.

The rest portion and the further support portion
5 may be comprised by a single portion.

The invention may be carried into practice in various ways but two embodiments thereof will now be described by way of example and with reference to the
10 accompanying drawings in which:-

Figure 1 is a schematic perspective view of a first embodiment of a furniture arrangement which is set up as a table having a pair of bench seats on either
15 side;

Figure 2A to 2E are schematic illustrations of various alternative functions which the furniture arrangement shown in Figure 1 may have;
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Figure 3 is a schematic perspective view of a second embodiment of a furniture arrangement which is set up as a table having a single bench seat;

25 Figure 4A to 4F are schematic illustrations of various alternative functions which the furniture arrangement shown in Figure 3 may have;

Figures 5, 6 and 7 are schematic views which show
30 three different positions which a modified furniture may have; and

Figure 8 is a schematic view of a modified frame support which may be free standing, the furniture
35 components being omitted for clarity.

Referring first to Figure 1, there is shown a frame 10 which may be secured to the wall of a room. Connected to the frame are a table 12 and a pair of benches 14 and 16 on either side thereof. A backrest 17 is provided for the bench 14 adjacent to the frame 10.

The frame 10 comprises a pair of uprights 18, spaced slightly from the wall but adjacent to the wall, connected together at their upper ends by a horizontally extending member 20 which extends rearwardly to the wall and which may be connected to the wall. In an alternative embodiment (not shown) the horizontally extending member may extend between the uprights at a location intermediate their ends. The embodiment shown in Figure 2 may have a similar alternative.

The table 12 is connected to the bottom of each upright by a linkage 22, each linkage comprising a first elongate frame 24 pivotally connected to the upright 18 at 25 and a second elongate frame 26 connected between the first frame 24 and the table 12.

The bench 14 is supported from below by a support bar 30 which rests on the floor. The bench 14 is connected to the back rest 17, and the bench and back rest are connected to the frame 10.

The bench 16 is connected to the frame 10 by a linkage 34 comprising a first elongate portion 36 pivotally connected to the frame 10 at 25 and a second elongate portion 38 extending between the first portion 36 and the bench 16.

The arrangement of the furniture shown in Figure 1 corresponds with the schematic illustration of a table having a pair of benches shown in Figure 2D.

In order to retract the bench 16 into the storage configuration, as shown in Figure 2E, the following sequence of operations is required.

5 The bench 16 is the first position to be moved. Its linkage 34 includes a fixed pivot 40 and a locking pin 42 between the first and second elongate portions. The pin 42 is removed and the bench 16 is then lifted upwardly and rearwardly, as seen in Figure 1, in the
10 anti-clockwise direction. The second elongate portion is also pivoted in an anti-clockwise direction about the fixed pivot 40 until the two portions lie alongside each other. The bench 16 is connected to the second elongate portion by fixed pivot 44 and locking pin 46, and the
15 bench is rotated about the fixed pivot 44 until its upholstered side 48 faces the room. The bench is retained in this position by fixings (not shown) which co-operate between the frame 10 and the linkage 34 or the bench.

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In the configuration shown in Figure 2E, a table with a single wall bench is provided

In order to move the configuration from that of
25 Figure 2E to that of Figure 2B, in which the table and the bench 16 are in storage position, the table 12 has to be moved.

The linkage 22 of the table 12 also includes a
30 fixed pivot 50, 54 and a locking pin 52, 56 between the first and second elongate portions and the second elongate portion and the table respectively. By removal of the locking pins 52 and 56, the table can be moved to the position shown in Figure 2E, with the underside of
35 the table facing the room and the first and second elongate portions lying alongside each other. The table is retained in this position by fixings (not shown) which

co-operate between the frame 10 and the linkage or the table. The underside 58 of the table is upholstered and presents a generally planar surface in order to provide a bed, and this will be discussed in greater detail below, 5 but in the position shown in Figure 2B, the underside presents a pleasing appearance.

All that remains to be done in order to arrive at the configuration shown in Figure 2B is to move the 10 bottom of the backrest 17 away from the wall slightly in order that its upholstered surface 60 inclines rearwardly slightly. The connection of the backrest to the frame 10 which allows for this movement is not shown.

15 To move from the configuration shown in Figure 2B to the fully retracted position shown in Figure 2A, the backrest 17 is returned to the upright position and the support bar 30 for the bench 14 is swung up under the bench. The bench 14 can then be lowered so that its 20 upholstered surface 62 faces the room.

In the fully retracted position the benches, backrest and table all extend generally parallel to the wall to present a compact configuration which takes up 25 little space in the room. Furthermore, each of the benches, backrest and table present an upholstered surface to the room which affords a pleasing appearance.

In order to move the furniture arrangement from the 30 configuration shown in Figure 2D (and in Figure 1) to the configuration shown in Figure 2C, where a double bed is provided by the benches and the underside of the table, the following sequence is observed. The locking pins 56 are removed from second elongate portions and the table. 35 The table is then rotated about the fixed pivots 54 until its reverse upholstered side is uppermost. The locking pins 56 are then reinserted to hold the upholstered side

in this position.

The second elongate portions 26 each comprise a pair of spaced parallel telescopic tubes 64 which can be collapsed so that their effective length allows the upholstered surface to be brought into line with the two benches.

The double bed provided in Figure 2C may run away from the wall, or parallel to the wall. When the bed runs away from the wall the backrest 17 can serve as a headboard for the bed and, if desired, can be upwardly and rearwardly inclined.

15 The embodiment shown in Figure 3 will now be described with like parts to those shown in Figure 1 designated with the same numeral prefixed by the number 1.

20 In Figure 3, the frame 110 includes a table 112, a bench 114 and a back rest 117. This configuration is also shown in Figure 4C. Unlike the embodiment described in Figure 1, there is no separate further bench 116 in addition to the backrest 117. Instead, the backrest 117
25 is connected to projections 166 extending from the base of the frame 110 by a pair of right angled supports 168. The backrest 117 can be moved to the position shown in phantom in Figure 3 (and in Figure 4F) by rotating the supports 168 clockwise about pivots 170 located at their
30 connection with the projections 166.

In the position shown in Figure 4F, the reverse side of the backrest 117 is uppermost. This side can be upholstered, if desired, or the backrest may be pivotally
35 mounted on the supports 168 to allow it to be reversed so that the side which forms the backrest also affords the seat.

The table 110 can be rotated and lowered into the position shown in Figure 4D in which it comprises a double bed in a similar manner to that already described in relation to Figure 1. In the configuration shown in 5 Figure 4D, the double bed extends parallel to the wall.

The table 110 can be moved to the retracted position and held there in a similar manner to that previously described in relation to Figure 1. This 10 arrangement is shown in Figure 4B where the bench 114 may provide a seat or a single bed.

The bench 114 can be moved into the retracted position by first removing the support 130 and then 15 lowering the bench, as described in Figure 1, or by removing the support and raising the bench 114. The furniture arrangement is then in the fully retracted position shown in Figure 4A.

20 The furniture arrangement may be moved from the configuration shown in Figure 4B, where a single bed or seat is provided by the bench 114, to the position shown in Figure 4E where the table 112 provides an upper bunk bed as follows. The telescopic tubes 164 are extended so 25 that the fixed pivot 154 is raised. The locking pins 156 are then removed and the table rotated so that its upholstered side faces upwardly. The table is held in this position by locking means (not shown) co-operating between the frame 110 and the table.

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Although in each of Figures 1 and 3 the table is described as being connected to second elongate portion of the linkage by a fixed pivot and removable locking pins it will be appreciated that any of the pins may be a 35 fixed pivot, either permanently or selectively.

Each of the upholstered portions shown in the figures may be removable to allow them to be periodically cleaned.

5 In alternative embodiments (not shown), the linkage which is used to extend or retract the tables 12 and 112 and the benches 16 and 116 may also be used to extend or fold the benches 14 and 114.

10 The embodiment shown in Figures 5 to 7 will now be described in greater detail with like parts to those shown in Figure 1 being designated with the same reference numeral prefixed by the number 2.

15 In Figures 5 to 7, only the frame 210, the table 212 and their connecting parts have been shown for the sake of clarity, but it will be appreciated that any of the features shown in Figures 1 to 4 may also be included.

20 The table 212 is pivotally mounted at 256 on one corner of a rectangular support frame 264, the opposed corner being pivotally mounted at 252, which mounting 252 is also slidably mounted on a rail 224.

25 In the position shown in Figure 5, the table 212 rests on the longer side of the support frame 264 and the upwardly facing surface of the table may be that of a table top, or upholstered to provide a bed (that is
30 either a single bed on its own or a double bed in conjunction with another fitting (not shown).

35 In order to move the table from the position shown in Figure 5 to the position shown in Figure 6, the frame is rotated clockwise about pivot 252 through 90° and the table is rotated anticlockwise about pivot 256, also through 90° until it rests along, and overhangs the

shorter side of the rectangular frame. In that position, a table remote from the wall at a greater height than the table shown in Figure 5 is provided.

5 In order to move the table from the position shown in Figure 6 to that shown in Figure 7, the pivot 252 is slid along the rail 224 towards the frame 210.

10 The rail 224 is pivotally connected to the frame to allow the table 212 to be swung to a higher position than that shown in Figure 7 in the vicinity of the frame.

15 Figure 8 shows an end view of a frame 310 which may be used, which frame may either be self supporting, it having a broad base 370, or secured to an adjacent wall (not shown).

20 The furniture shown described in the specification is particularly well suited to locations where space is limited such as in small rooms, caravans, dormobiles, prisons or oil rigs.

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CLAIMS

1. A furniture arrangement comprising a fixed portion (10, 110, 210, 310) and a furniture portion (12, 16, 112, 212) and a linkage connecting said portions, the furniture portion being movable between a first position
5 in which the furniture portion provides an upwardly facing surface spaced from the fixed portion, and a second position in which the furniture portion is located adjacent to the fixed portion.
- 10 2. A furniture arrangement as claimed in Claim 1 in which the furniture portion includes two opposed sides, either one of which may be selected to be upwardly facing in the first position.
- 15 3. A furniture arrangement as claimed in Claim 1 or 2 in which the height of the upwardly facing surface of the furniture portion, in the first position, may be altered.
- 20 4. A furniture arrangement as claimed in any of Claims 1 to 3 in which the spacing of the furniture portion from the fixed portion, in the first position, may be altered.
5. A furniture arrangement as claimed in any preceding
25 claim in which the surface of the furniture portion may extend upwardly when the furniture portion is in the second position.
6. A furniture arrangement as claimed in any preceding
30 claim in which the furniture portion may provide an upwardly facing surface when the furniture portion is in the second position.

7. A furniture arrangement as claimed in any of Claims 1 to 6 including a support portion (16) connected to the fixed portion by a linkage and movable between a first position in which the support portion provides an upwardly facing surface spaced from the fixed portion and a second position in which the support portion is located adjacent to the fixed portion.

8. A furniture arrangement as claimed in Claim 7 in which the support portion includes any of the features of the furniture portion defined in any of Claims 1 to 6.

9. A furniture arrangement as claimed in any of Claims 1 to 8 including a further support portion (14, 114) capable of providing an upwardly facing surface extending from the fixed portion towards the furniture portion when the furniture portion is in the first position.

10. A furniture arrangement as claimed in Claim 9 and any of Claims 1 to 8 in which the upwardly facing surface of the further support portion and the upwardly facing surface of the furniture portion, when in the first position, are capable of being in generally the same plane.

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FIG. 2A.



FIG. 2B.

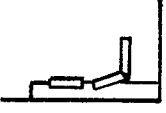


FIG. 2C.

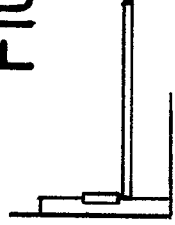


FIG. 2D.

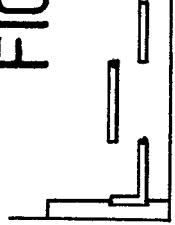


FIG. 2E.

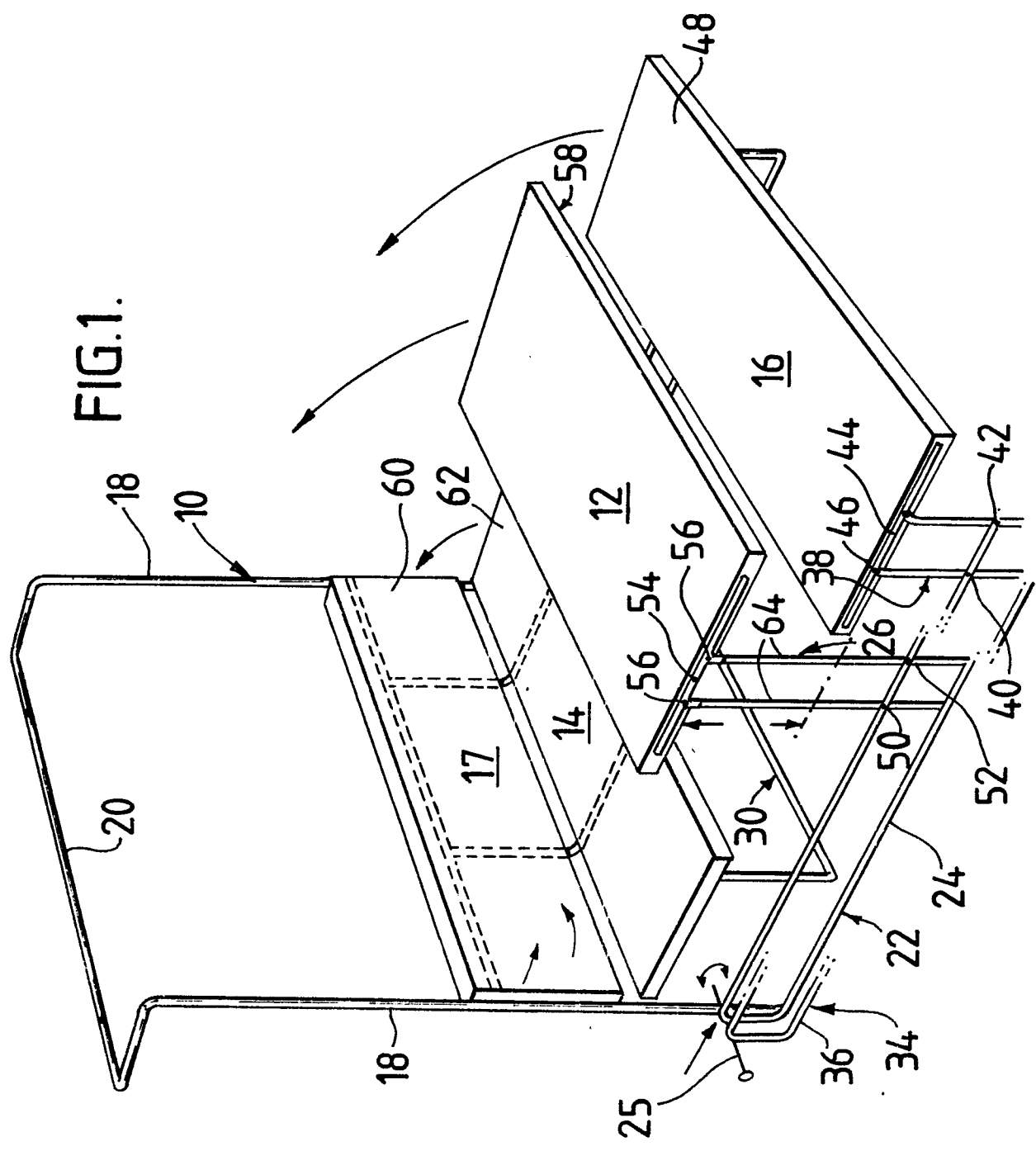
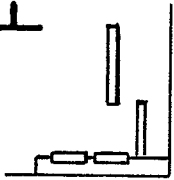


FIG. 1.

FIG. 4A.

FIG. 4B.

FIG. 4C.

FIG. 4D.

FIG. 4E.

FIG. 4F.

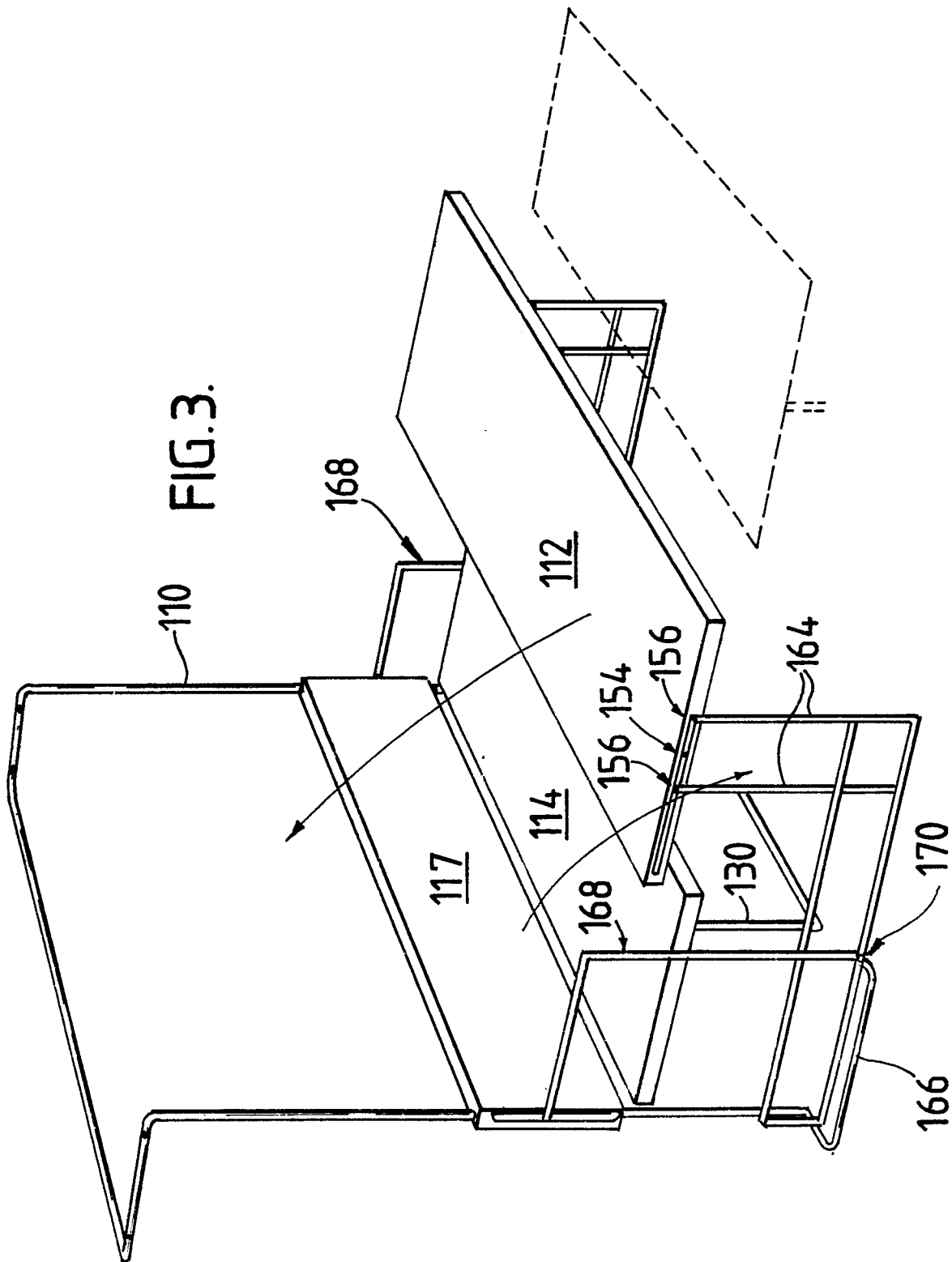


FIG. 3.

110

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112

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114

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164

130

170

166

168

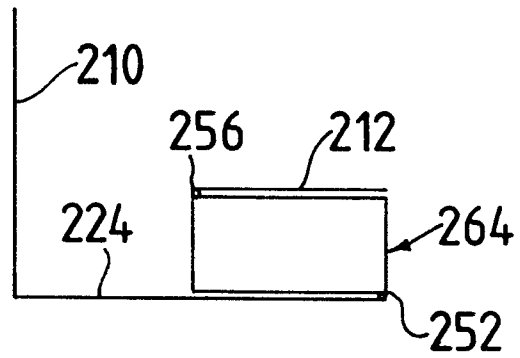


FIG. 5.

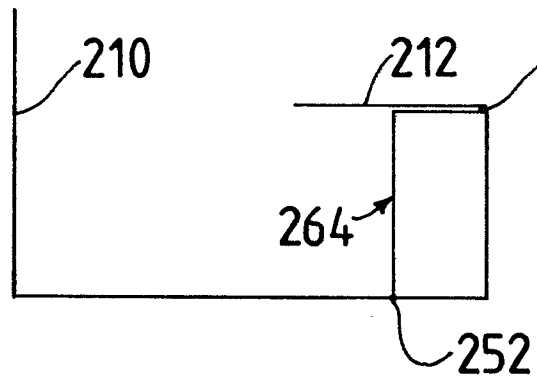


FIG. 6.

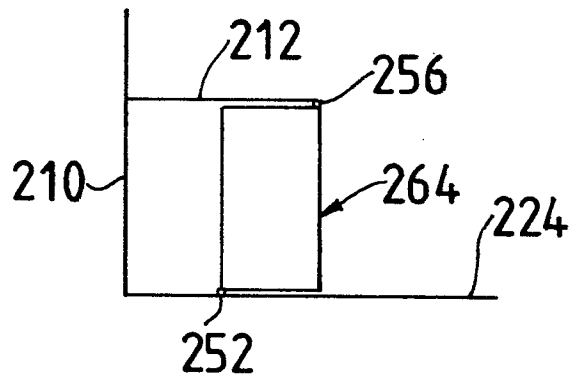


FIG. 7.

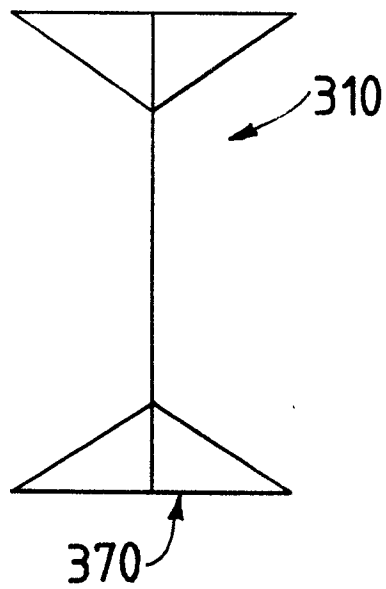


FIG. 8.