

April 10, 1962

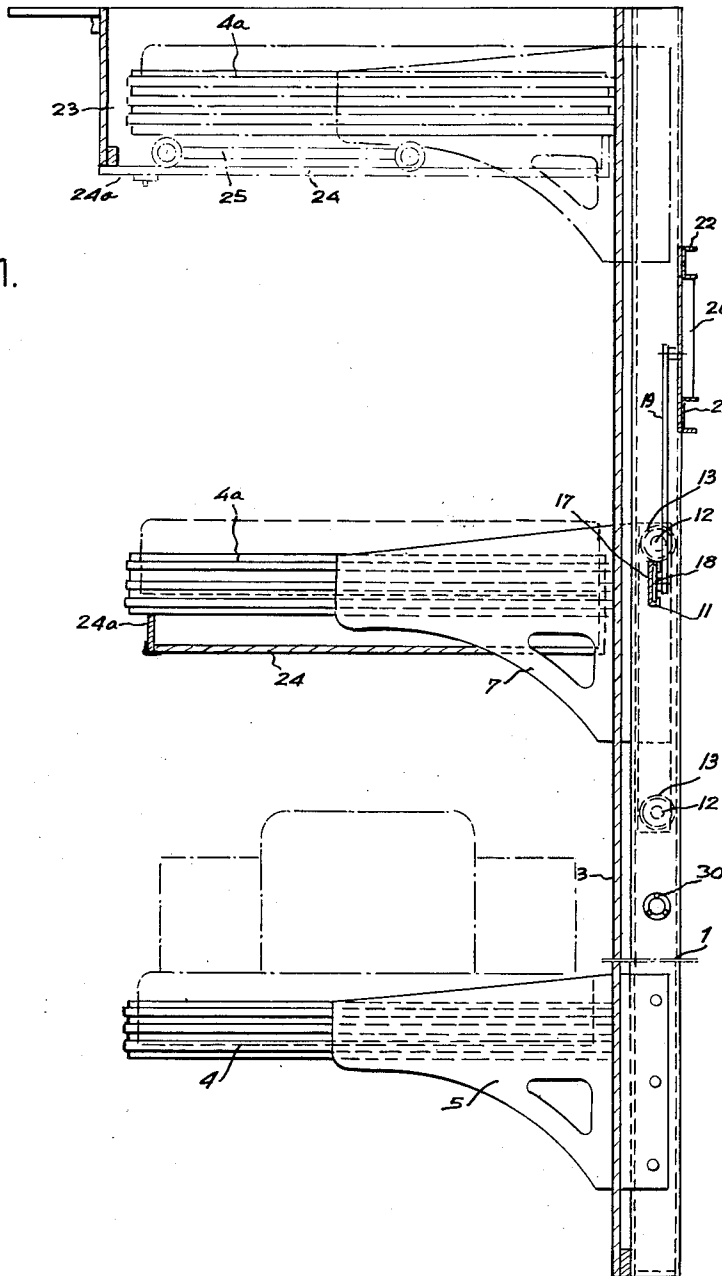
P. BOUTET
SLEEPING BERTH

3,028,606

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Fig. 1.



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Fig. 2.

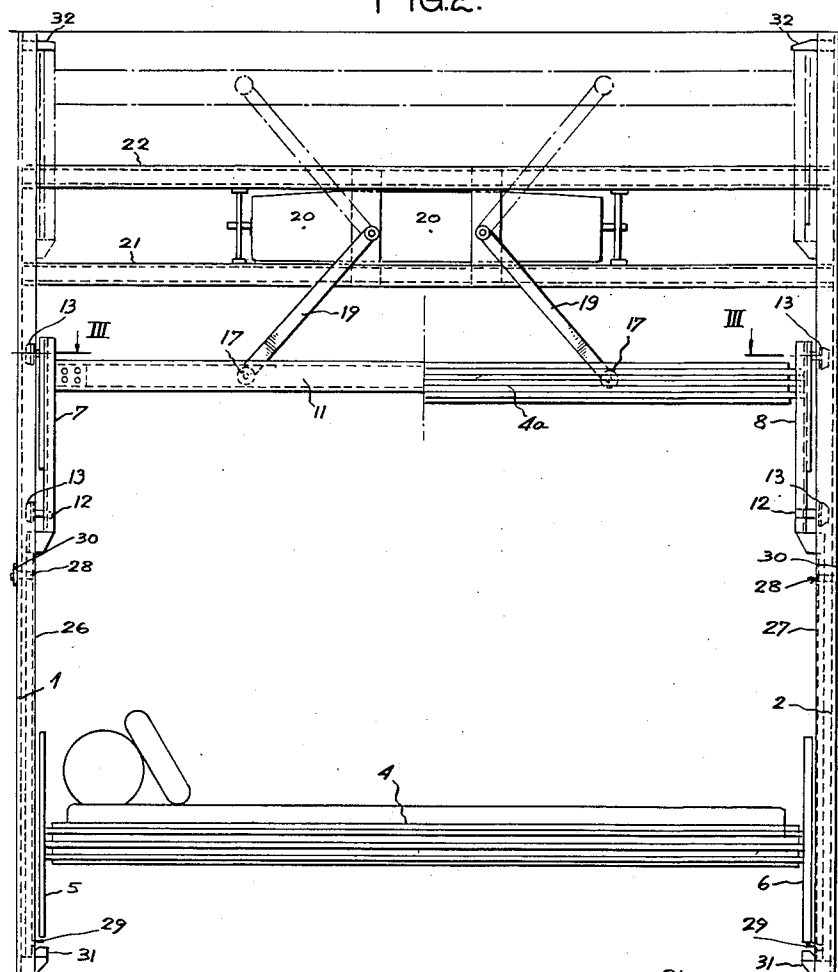
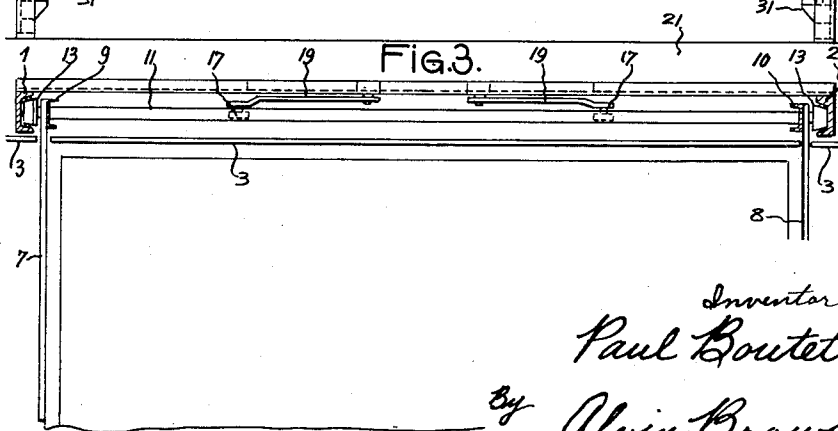


FIG. 3.



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Fig. 5.

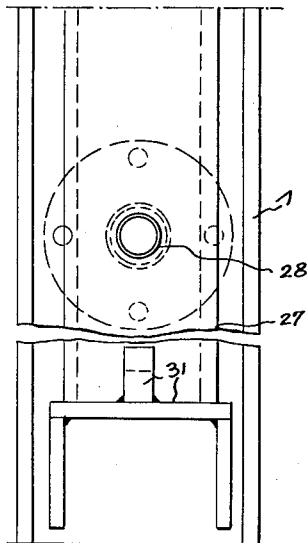


Fig. 6.

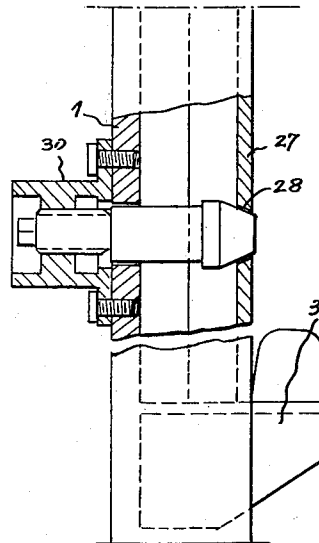
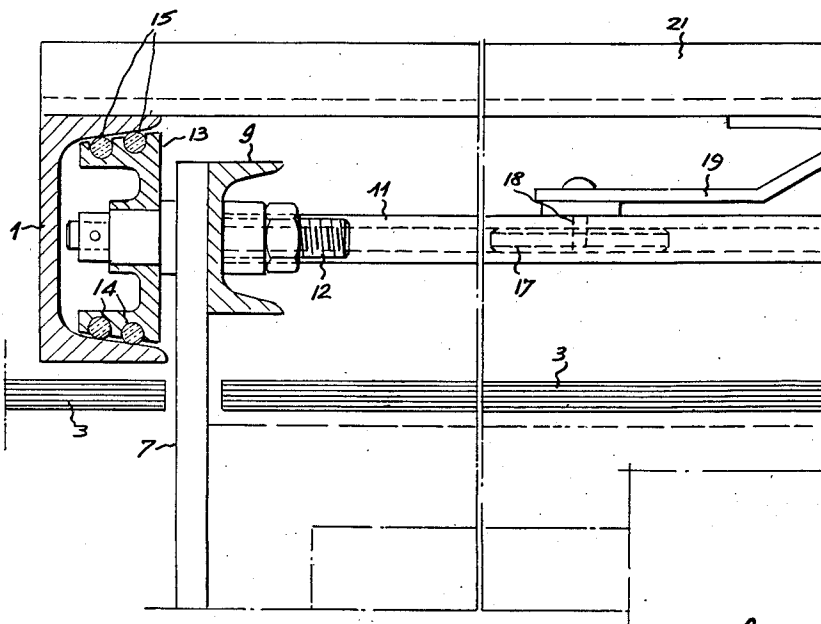


Fig. 4.

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SLEEPING BERTH

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5 Claims. (Cl. 5-9)

The present invention relates to sleeping-berths, particularly intended for ships, but which can also be used for land vehicles or aircraft.

According to the invention, the double sleeping-berth consists of a frame made of two vertical rails maintaining supports at their lower part on which the lower sleeping-berth is attached, and a carriage comprising two supports braced by a cross-bar, which runs by means of rollers, along the rails. This carriage is integral with the upper sleeping-berth and is connected to counter balancing devices enabling the berth to be easily moved from its lower utilization position to its upper non-utilization position in which the berth is inserted in a drawer placed in the ceiling of the cabin.

According to other characteristics of the invention:

The carriage comprises two vertical irons on which two triangular supports are fixed holding the berth, these supports being integral with spindles on which loose rollers are mounted rolling inside the rails;

The rollers have a truncated section and include tires for damping noise and vibration;

The arms connecting the equilibrators to the berth are provided with rollers rolling inside the crossbar bracing the carriage supporting the berth;

Irons, integral with the carriage, cooperate with bolts for retaining the berth either in the high position or the low position;

A box-girder is placed at the lower part of the berth to accommodate the ladder affording access to this berth, this box-girder forming the bottom of the drawer in which the berth is housed.

Various other characteristics will moreover be revealed by the detailed description which follows.

One form of embodiment of the purpose of the invention is shown, by way of example, in the attached drawings.

FIGURE 1 is an elevation cross-section of the superimposed berths.

FIGURE 2 is a front elevation, partly in section, on a smaller scale, of the same sleeping-berths.

FIGURE 3 is a section along the line III—III of FIG. 2.

FIGURE 4 is a large scale view of a part of FIG. 3.

FIGURE 5 is a front elevation of a locking member of the upper berth.

FIGURE 6 is a cross elevation, partly in section, corresponding to FIGURE 5.

The berths are formed by a frame made of two vertical rails 1, 2 of U-section, these rails being fixed behind a partition of a cabin 3. The lower berth 4, which is fixed, is retained at its two ends by two cheeks 5, 6 of appreciably triangular shape, fixed on the lower part of the rails 1 and 2. The supports 5, 6 are connected to the rails 1, 2 so as to leave a lower U-shaped space free of these rails. The upper movable berth 4a is retained between two supports 7, 8 integral with two brackets 9, 10 (or angle-irons) held together by a cross-bar 11. Small spindles 12 are mounted on the external sides of the supports 7, 8 and hold truncated rollers 13 mounted loosely inside the rails 1, 2. The rollers 13 have peripheric flanges 14 inside of which round-section rings or tires 15 are housed. The latter are more generally made of flexible and elastic material so as to prevent the friction of metal against metal, and thus prevent vibration and noise.

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Rollers 17 are placed inside the cross-bar 11 which is of U-section and are connected by spindles 18 to arms 19 pivoting on the mechanical equilibrators 20 supported by cross-bars 21, 22 bracing the rails 1, 2 at their upper part. The mechanical equilibrators 20 may be of the type that have been patented in U.S. Patent No. 1,639,094. A drawer 23 is provided above the upper berth 4a in the ceiling of the cabin, this drawer being open at its lower part when the berth 4a is in its utilization position. A box-girder 24 is fixed under the berth 4a for housing an access ladder 25 when not in use. The box-girder 24 comprises a movable element 24a which closes the part of the drawer 23 when the upper berth 4a is in the non-utilization position.

Metal parts 26, 27 which are fixed to the lower part of angle irons 9, 10 and move therewith each includes two holes 28, 29 enabling them to be locked by means of bolts 30 attached to rails 1, 2 and which penetrate into the holes 28, 29 when they are screwed as shown in FIGURE 6. Lower abutment 31 and upper abutment 32 limit the displacement movement of the berth 4a. When the latter occupies the lower position (shown by solid lines in FIG. 1), the bolts 30 cooperate with the holes 28 of the parts 26, 27. The latter rests on the lower abutments 31. The berth is thus locked in the low position and the user can lie on it without risk.

When the berth 4a is in the non-utilization position, it occupies the position shown by the dotted lines in FIGURE 1. In this case, after releasing the bolts 30, the berth is raised, which is very easy on account of the equilibrators 20. When the berth has penetrated into the drawer 23, the bolts 30 are again locked and then cooperate with the lower holes 29. Before raising the berth, the ladder 25 has been placed in the box-girder 24 as shown in FIGURE 1. The rising movement of the berth is limited by the upper abutments 32. The rolling of the rollers 13 in the rails 1, 2 is smooth and the movable berth which is in a permanent state of balance, can, with a slight effort, travel the distance between the low point and high point. The operation can be easily carried out by a single person without any risk.

These various arrangements enable, on the one hand, that there should be no link between the lower fixed berth and the movable upper berth, and on the other hand, to leave the space between the lower berth and the floor completely usable.

These sleeping-berths, which are more especially used in ships, can also be employed for various land vehicles or aircraft.

In certain cases, the walls of the drawer 23 are removable or pivoting so that when the upper berth 4a is in the utilization position, the cabin ceiling is totally free.

Various modifications can moreover be applied to the form of embodiment shown and described in detail without going outside of the scope of the invention; in particular, the mechanical equilibrators can be replaced by elastic recoil devices of the Sandow developer type.

I claim:

1. In a berth structure mounted adjacent to a partition, a fixed lower berth, a vertically adjustable upper berth, a frame comprising two vertical rails located behind said partition, maintaining supports at the lower ends of said rails on which the lower berth is fixed, a carriage for supporting said upper berth comprising two supports extending outwardly from said partition braced by a cross bar, rollers attached to said carriage adapted to travel along said vertical rails, said cross bar and rollers being located behind said partition, a counter balance device attached to said vertical rails and extending therebetween, said counter balance device enabling the easy movement

of said upper berth from its upper non-utilized position to its lower utilized position.

2. In a berth structure according to claim 1 characterized in that said counter balance device is connected to the upper berth by arms provided with rollers adapted to roll inside said cross bar bracing the carriage.

3. In a berth structure, according to claim 1, characterized in that the rollers have a truncated section and include flexible outer rings for damping noise and vibration.

4. In a berth structure, according to claim 1, characterized in that the carriage includes two vertical brackets located behind the partition to which said supports are fixed holding the berth, said supports being integral with spindles on which said rollers are mounted for rolling along said rails.

5. In a berth structure in accordance with claim 4 characterized in that said brackets cooperate with fixed bolts for retaining said upper berth in its upper or lower position.

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