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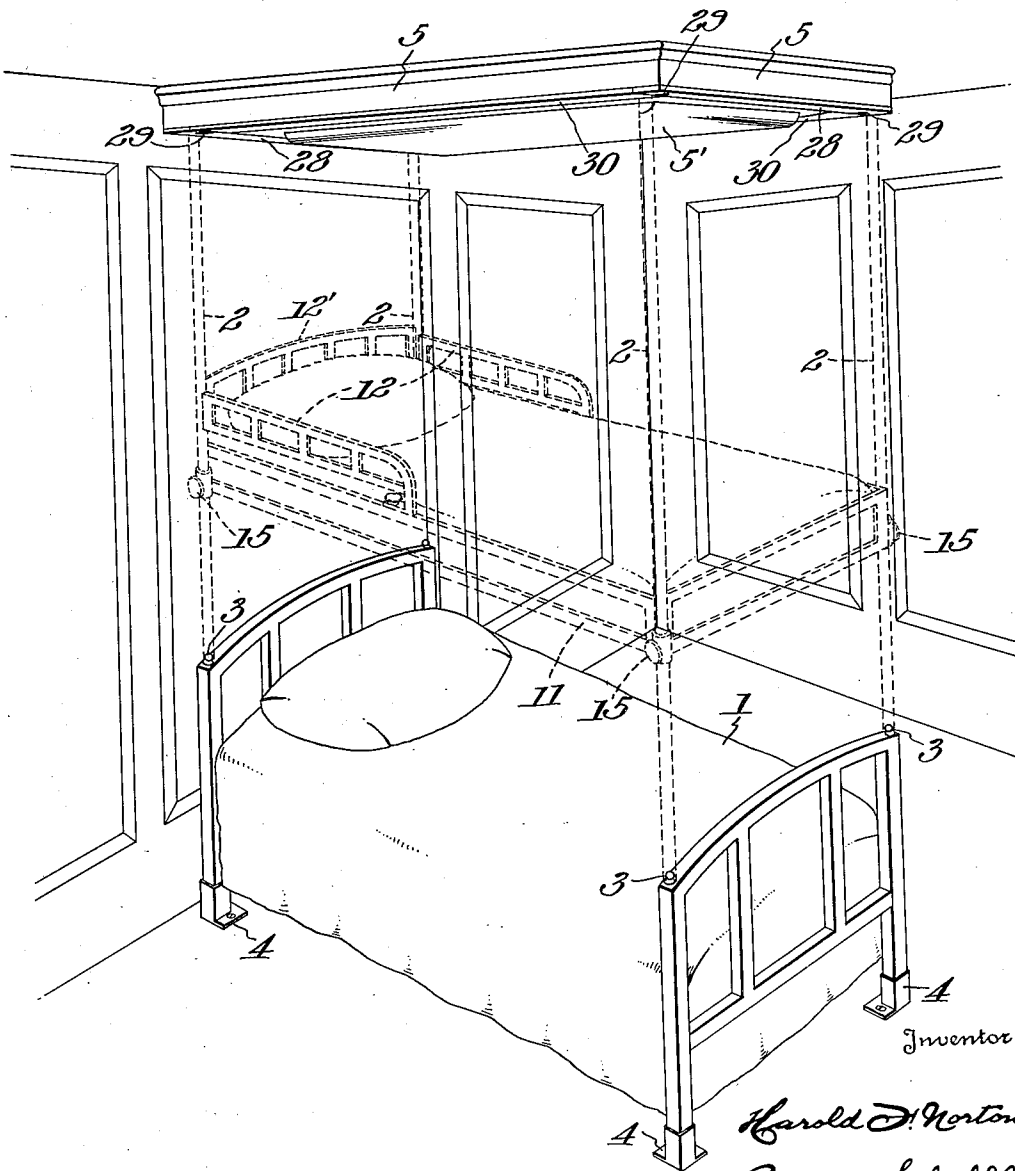
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CEILING STOWING BERTH

2,052,790

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Fig. 1.



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Fig. 2.

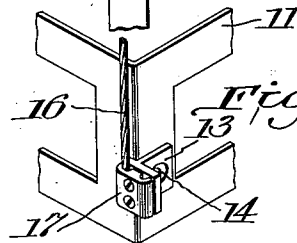
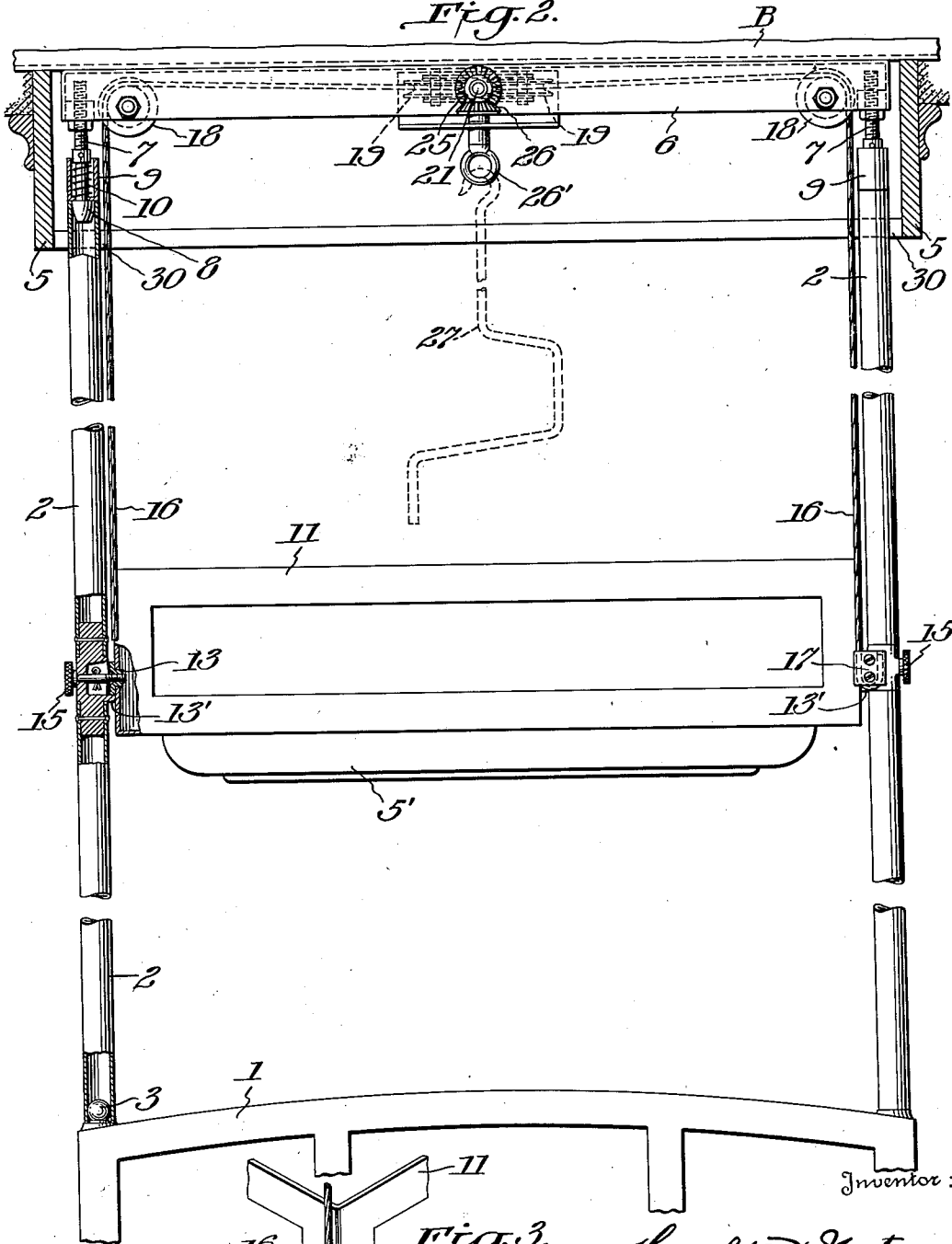


Fig. 3.

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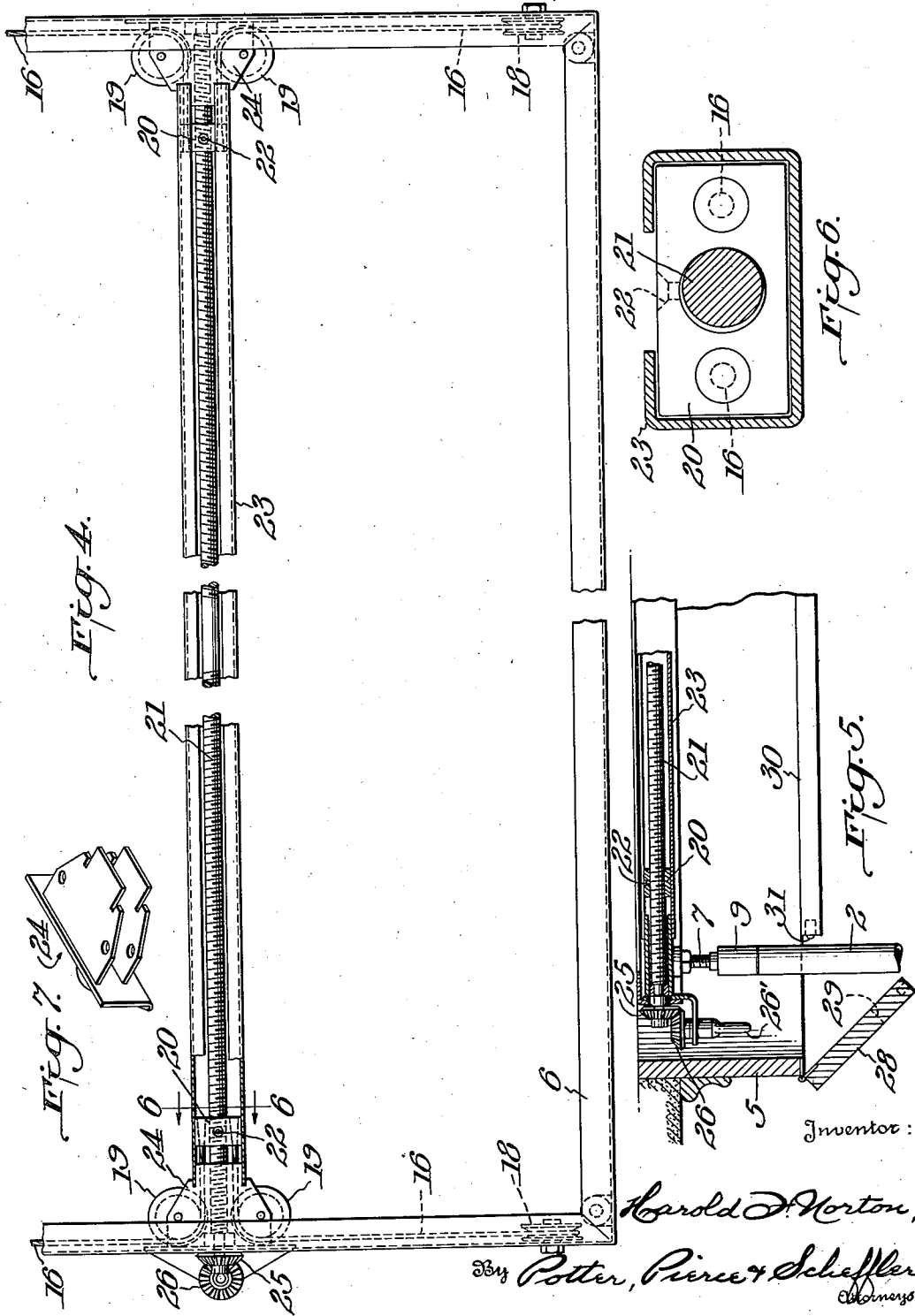
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# UNITED STATES PATENT OFFICE

2,052,790

## CEILING STOWING BERTH

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6 Claims. (Cl. 5—10)

This invention relates to ceiling stowing berths which are adapted for use in houses and hotels, but which are particularly useful on ships.

An object of the invention is to provide a ceiling stowing berth which includes removable guides or stanchions on which the berth is rigidly supported when in use. An object is to provide a ceiling stowing berth which is supported solely from the floor and the ceiling of the room, and which may therefore be arranged adjacent to or away from the walls. A further object is to provide a multiple bed or berth construction which includes a bed of conventional design, a berth which is normally concealed in the ceiling in vertical alinement with the bed, and removable stanchions which may be detachably secured between the bed and the ceiling when the berth is to be lowered for use, the construction being such that no parts of the ceiling berth equipment are in sight when the berth is stowed.

These and other objects and advantages of the invention will be apparent from the following specification when taken with the accompanying drawings in which:

Fig. 1 is a perspective view of an installation embodying the invention, the berth and associated stanchions being shown in dotted lines;

Fig. 2 is a fragmentary end elevation of the ceiling stowing berth in position for use;

Fig. 3 is a fragmentary perspective view of one of the corner brackets on the berth;

Fig. 4 is a fragmentary plan view of the apparatus for lowering and raising the berth;

Fig. 5 is a fragmentary vertical section of the same;

Fig. 6 is a vertical section on line 6—6 of Fig. 4; and

Fig. 7 is a perspective view of one of the blocks by which the lifting equipment is secured to the upper frame.

In the drawings, the reference numeral 1 identifies a bed which may be of a desired or usual construction, the only requirement being that it be provided with suitable means to which the removable stanchions 2 may be secured. The head and foot frames of beds are frequently provided with ornamental knobs or projections 3 and the tubular stanchions 2 may be designed to fit over such projections or otherwise to engage and mechanically interlock with projections or recesses carried by the end boards or frames of the bed. The legs of the bed are secured to the floor by brackets 4 to retain the bed in vertical alinement with the panel 5 in which the berth is normally concealed. As illustrated, the head of

the bed is adjacent one wall but the bed may be spaced from all of the walls since no part of the equipment is attached to any wall.

The panel 5 encloses a rectangular frame 6 which is secured to the framing or beams B of the ceiling structure and the frame carries stanchion supports or bolts 7 in alinement with the knobs 3 of the bed, the lower ends 8 of the bolts being enlarged and somewhat rounded to facilitate the slipping of a tubular stanchion 2 over the end of the bolt. The stanchion is pushed upwardly over the head 8 a distance sufficient to permit the lower end of the stanchion to be fitted over the corresponding projection 3 on the bed, and the stanchion is then yieldingly held in lowered position by the sliding collar 9 which is pressed downwardly by spring 10.

The frame 11 of the berth may be of appropriate design and is illustrated as a rectangular metal frame with portions cut out of the side and end panels to reduce the weight, the bottom 5' of the frame being appropriately shaped and decorated to form the center of the ceiling panel 5 when the berth is stowed. As indicated in Fig. 1, the usual detachable or hinged lee rails 12 and head rail 12' may be stored in the stowed berth and secured to frame 11 when the berth is to be used. Brackets 13 are welded to each corner of the frame 11 and are provided with threaded openings 14 for receiving the locking thumb screws 15 which are carried by the stanchions 2. Each of the stanchions is provided with a shelf or projection 13' on which a bracket 13 rests when the berth is in fully lowered position, and the sides of the fittings immediately above the shelves preferably slope towards each other to wedge the parts in close engagement before the screws 15 are threaded into the brackets. The locking screws may be omitted in some installations but are usually desirable to secure greater rigidity. When the weight of the berth is transferred to the stanchions, gravity assists the springs 10 in preventing any inadvertent movement of the stanchions.

The ends of cables 16 for lifting the berth are preferably secured to the brackets 13 by clamp plates 17 which are grooved at their inner surfaces to receive the cable ends. A separate cable is provided at each corner of the berth, the cables passing upwardly to idler pulleys 18 at the corners of frame 6, then inwardly over idlers 19 near the center of the end bars of frame 6, and then inwardly to the pair of blocks 20 which are threaded in opposite directions and mounted on a double threaded screw 21. The ends of the

cables are secured to the respective blocks and each block may be provided with a lubricating opening 22. A channel guide 23 for the blocks 20 is supported by end brackets 24 which are secured to the frame 5 and which include upper and lower plates in which the pulleys 19 are mounted. The screw is journaled on the frame 5 and one end projects beyond the same and carries a bevel gear 25 meshing with a corresponding gear 26 which is on a shaft terminating in an eye 26' for receiving the hooked end of an operating crank 27.

Rotation of the screw 21 moves the blocks simultaneously in opposite directions to raise and lower the berth. Any slack or inequality in the length of the cables 16 may be taken up at the ends which are clamped to brackets 13 by the plates 17.

As shown in Fig. 5, the narrow end portions 28 of the lower face of the panel 5 are hinged and notched, as indicated at 29, to permit the introduction of the stanchions, and one end portion 28 is of proper width, as shown in Fig. 5, to permit the introduction of the crank. The side rails 30 which span the space between the sides of the panel 5 and the bottom 5' of the berth are rigidly secured to the sides of the panel and yielding catches 31 may be provided at the meeting edges of the hinged rails 28 and rails 30 to retain the hinged portions in closed position.

When the berth has nearly reached its stowage position, the stanchions may be removed and stowed in the berth before it is raised into final position. In the same way, the berth may be lowered a short distance, the stanchions removed from the berth and put in place, and the berth then lowered the rest of the way guided by the stanchions.

The construction has decided advantages over previous designs in appearance, convenience of operation and freedom from restrictions as to installation. The invention does not call for a special location of the bed with respect to the walls or bulkhead, nor for any change in the construction or appearance of the normal bed structure which forms a permanent piece of furniture in the cabin or room. The passenger carrying space of certain cabins on ships may therefore be doubled without detracting from the appearance of the room when the berth is not in use.

It will be apparent that the invention is not limited to the particular construction shown in the drawings, as there is considerable latitude in the design and construction of the several parts of the apparatus.

I claim:

1. The combination with a bed adapted to be secured to a floor, and vertical projections at the upper corners of the bed, of a panel adapted to be secured to a ceiling in alinement with said bed, a berth normally stowed within said panel, means for lowering said berth into position for use above said bed, stanchion-receiving means within said panel in vertical alinement with the several projections on said bed, removable stanchions having hollow ends adapted to be placed over the several projections and the corresponding stanchion-receiving means, and means on each stanchion for securing the same to said berth when the latter is lowered.

2. The invention as claimed in claim 1, where-

in the bottom of said berth forms the central portion of said panel when the berth is raised, and said panel has hinged end flaps for closing the space between said berth bottom and the ends of the panel, the said stanchion-receiving means being accessible for placing of said stanchions when the end flaps are lowered.

3. The invention as claimed in claim 1, wherein said means for raising and lowering said berth comprises a screw extending longitudinally of said panel and having the ends thereof threaded in opposite directions, a threaded block on each end section of said screw, means for rotating said screw, a cable extending upwardly from each corner of the berth, the opposite ends of the cables at each end of the berth being secured to the respective blocks, and idler pulleys mounted within said panel for changing the direction of travel of said cables from a horizontal to a vertical direction.

4. The combination with a permanent bed structure having end frames adapted to be secured to a floor, and stanchion-receiving means carried by said end frames of the bed structure, of a panel adapted to be secured to a ceiling in vertical alinement with said bed structure, a berth normally stowed within said panel, means for lowering said berth into position for use with and above said bed structure, stanchion-receiving means within said panel in vertical alinement with the stanchion-receiving means on said end frames, removable stanchions having ends adapted to be received by the vertically alined pairs of stanchion-receiving means, and means on each stanchion for securing the same to the said berth when the latter is lowered.

5. In a disappearing berth construction, the combination with a permanent bed structure having head and foot frames, and means for securing the bed structure to a floor, of a panel adapted to be secured to the ceiling in vertical alinement with said bed, a berth normally stowed within said panel, means for lowering said berth into position for use above said bed, and means for rigidly supporting said berth in lowered position; said supporting means comprising removable stanchions adapted to be erected at the corners of the bed structure, stanchion-receiving means at the upper portions of said head and foot frames of the bed, stanchion-receiving means within said panel and in vertical alinement with the stanchion-receiving means of said bed, and means on each stanchion for securing the berth thereto when the berth is in lowered position.

6. In a disappearing berth construction, the combination with a bed having end frames adapted to be secured to a floor, and stanchion-receiving means at the upper portions of the end frames, of a panel adapted to be secured to a ceiling in alinement with the bed, a berth normally stowed within said panel, means for lowering said berth into position for use above said bed, stanchion-receiving means within said panel in vertical alinement with the several stanchion-receiving means on said bed, removable stanchions having ends adapted to interengage mechanically with the pairs of vertically alined stanchion-receiving means, and means on each stanchion for securing the same to said berth when the latter is lowered.

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