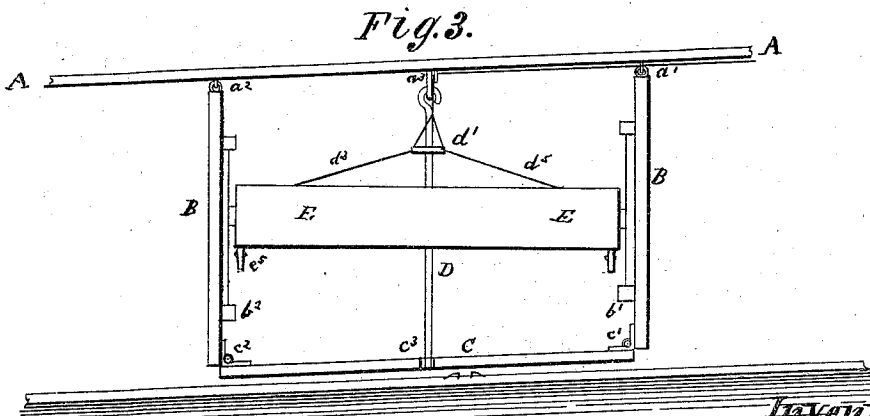
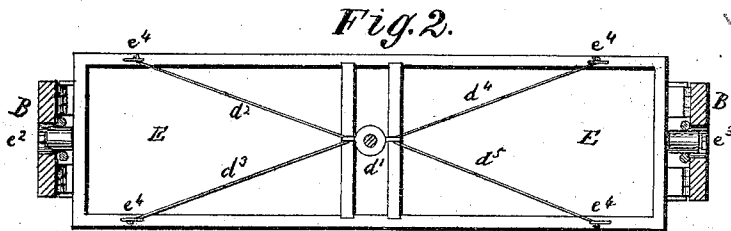
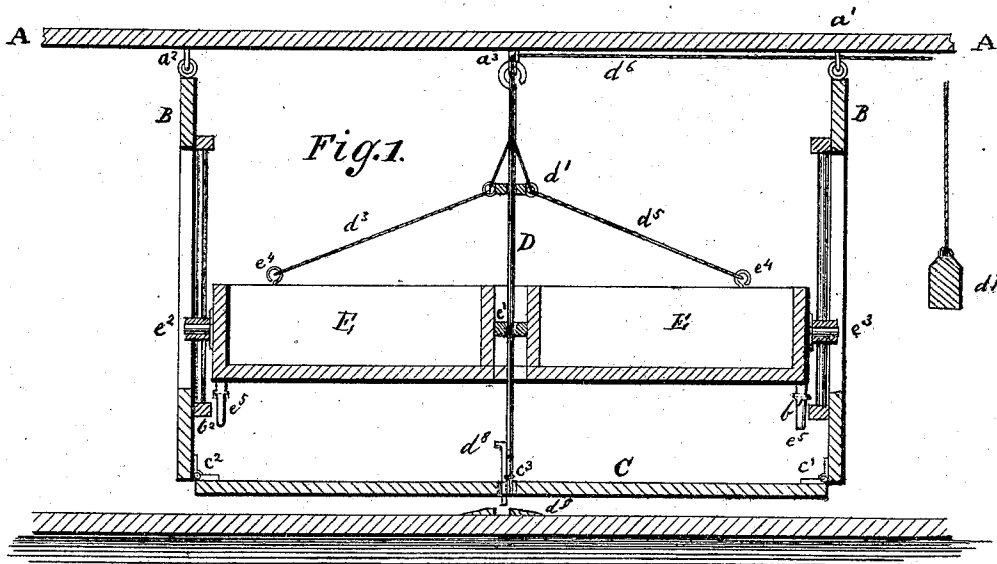


I. A. CHOMEL.  
Improvement in Ships' Berths.

No. 130,792.

Patented Aug. 27, 1872.



Witnesses:

Charles Fleisch  
J. G. Douglass

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# UNITED STATES PATENT OFFICE.

ISAAC A. CHOMEL, OF NEW YORK, N. Y.

## IMPROVEMENT IN SHIPS' BERTHS.

Specification forming part of Letters Patent No. 130,792, dated August 27, 1872.

Specification describing certain Improvements in Suspended Ships' Berths, invented by ISAAC ANTOINE CHOMEL, of the city of New York and State of New York.

The first part of my invention relates to the manner of suspending from one center ships' berths or platforms by means of two hanging and oscillating bars suspended from the deck above, and connected at their lower end by a cross-bar, with which they form three sides of an articulated frame, and of a center-guide, also suspended from the deck, and which keeps a vertical position and remains parallel with the two hanging bars, whatever be the motion of the vessel or its position; by which arrangement the berth or set-off berth or platforms attached to each system of suspension remains constantly horizontal, while it may move longitudinally, laterally, or diagonally. The second part of my invention relates to the mode of direct suspension, in combination with the hanging bars and guide-bars, of the berths or platform by means of a rope passing over pulleys and bearing at its other end a weight or counterpoise, enabling the occupants to give, if desired, with little effort, besides its natural horizontal motions, an upward or downward motion, so as to counteract the raising or lowering of the vessel, and thus removing one of the principal acknowledged causes of sea sickness.

Figure 1 is a front view on a vertical section of the apparatus. Fig. 2 is a plan of a set of two berths. Fig. 3 shows the relative position assumed by the different parts when the vessel is in a slanting position longitudinally.

A A, beam or upper deck or roof of the cabin;  $a^1 a^2$ , eyebolts, fixed to the upper beam A, and into which are hooked the upper ends of the hanging upright sides of the articulated frame;  $a^3$ , eyebolt, to which is hooked the center guide-bar. B B, upright hanging bars suspended from the eyebolts  $a^1 a^2$ . They can be made of wood or metal, and have in the direction of their length a slot through which the guide-pins  $e^2 e^3$  of the berths slide. When made of wood they may be provided with two guide-rods of metal, as seen in Fig. 2;  $b^1 b^2$ , two supports or brackets, on which the berths can rest when they are not used; C, lower part of the articulated frame.

It is connected with the hanging bars by means of hinges  $c^1 c^2$ . Through its center at  $c^3$  an aperture is left, through which the lower end of the guide-bar D passes and can move freely; D, center guide-bar. It is a stiff rod of metal suspended from the eyebolt  $a^3$ . The lower end passes through a hole in the middle of the lower bar C, by which it is thus kept in a parallel position with the side hanging bars;  $d^1$ , suspension ring, of metal, moving up and down, and through which passes the center guide-bars D. To that ring the berths are suspended by means of the four guy-rods,  $d^2 d^3 d^4 d^5$ . The suspension-ring is held at a proper height, raised or lowered by a rope,  $d^6$ , passing over pulleys and fastened anywhere within reach of the occupants of the berths. A counterpoise,  $d^7$ , can be fixed to the rope so as to facilitate the raising or lowering of the berths.  $d^8$  is a sliding bolt, which may be lowered into the hole  $d^9$  of a plate fixed to the floor of the cabin, when it is desired to make the apparatus stationary. E E, berths. They are fixed in sets of 1, 2, 4, 6, 8, or more. When single the guide-bar D is placed at one end, and the guide-pin with its anti-friction roller is fixed at the other end. The berths in double sets have between their ends a guide-ring,  $e^1$ , which works around the center guide-bar and keeps the berths constantly in the same relative position with the bar. They are provided with two guide-pins,  $e^2 e^3$ , which slide in the slots of the hanging bars B B. In order to diminish the friction while the ship is canting longitudinally or rolling laterally, rollers are placed around these guide-pins.  $e^4 e^4$ , eyes fixed to the sides of the berths, and to which the guy-rods hook, or from which they can be easily detached when not in use;  $e^5 e^5$ , legs fixed to the corners of the berths, and which rest on the floor when the suspension apparatus is dispensed with.

The apparatus being constructed substantially as described its operation is simple, and may be very easily understood by referring to Fig. 3. The vessel being supposed to be in the position shown by the beam A A, the weight of the berths and suspending apparatus tends to keep the whole perpendicularly under the points of suspension, and as these offer no obstacle the hanging bars B B and

guide-bar D preserve their vertical position, though they may raise or lower with the beam or deck. The berths being suspended from one point only—viz., the suspension-ring  $d^1$  around the guide-bar—and being kept in a horizontal position by the guy-rods  $d^2$ ,  $d^3$ ,  $d^4$ , and  $d^5$ , and guide-ring  $e^1$ —they can only rise or descend with the vessel. That elevating and descending motion even can be also avoided, if desired, by pulling the rope  $d^6$  so as to raise or lower the berths and thus keep them at nearly the same height.

What I claim as my invention is—

The articulated frame B B C, the guide-bar D, and their connections, in combination with the berths suspended to the ring  $d^1$ , the whole constructed and operated substantially and for the purpose as hereinbefore set forth.

ISAAC ANTOINE CHOMEL.

Witnesses:

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