W. VON AUER.

Swinging Ships' Berths.

No. 163,901. Patented June 1, 1875.

Fig: 1

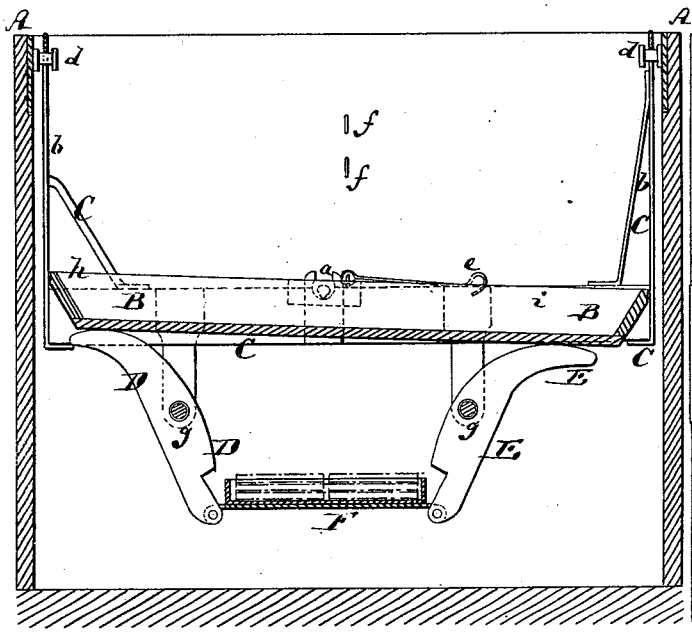


Fig: 2

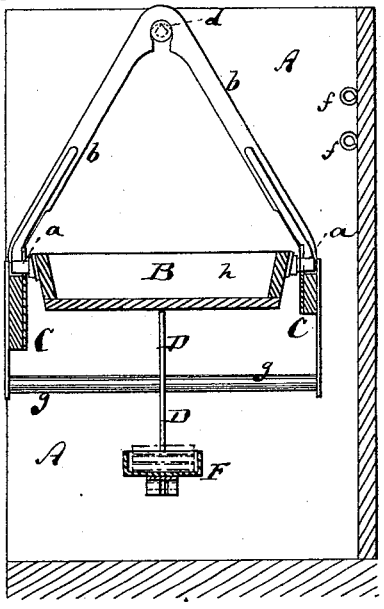
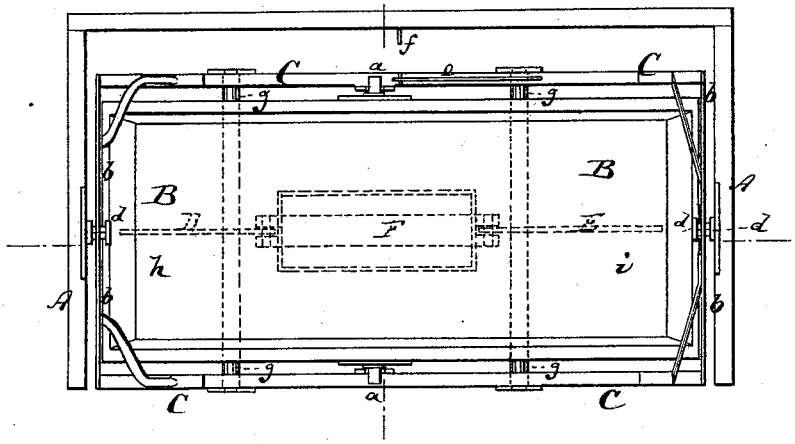


Fig: 3



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UNITED STATES PATENT OFFICE.

WILLIAM VON AUER, OF FLATBUSH, ASSIGNOR TO HIMSELF AND RICHARD T. COOMBS, OF BROOKLYN, NEW YORK.

IMPROVEMENT IN SWINGING SHIPS' BERTHS.

Specification forming part of Letters Patent No. **163,901**, dated June 1, 1875; application filed March 18, 1875.

To all whom it may concern:

Be it known that I, WILLIAM VON AUER, of Flatbush, in the county of Kings and State of New York, have invented a new and Improved Self Balancing and Sustaining Berth for Vessels, of which the following is a specification:

Figure 1 is a vertical longitudinal section of my improved self-balancing berth. Fig. 2 is a vertical transverse section thereof, and Fig. 3 a top view of the same.

Similar letters of reference indicate corresponding parts in all the figures.

The object of this invention is to produce a self-balancing berth in ships, which, though capable of remaining in a horizontal position during the vibrations of vessels, will still be supported in such a way that it cannot be tilted if the weight on it should be greater at one side or end than at the other.

My invention consists in combining with the berth, which is transversely pivoted in a swinging frame, a system of balanced levers, which bear against the under side of the berth for supporting it lengthwise and preventing it from violently tilting on its transverse pivots, though allowing it to swing moderately and slowly on such pivots.

In the accompanying drawing, the letters A A represent the partitions or walls of a ship, between which my berth is hung. B is my improved berth, of suitable length and width, hung in a vibrating frame, C. The connection between the berth B and the frame C is made by pins or trunnions *a a*, that project laterally from the sides of the berth into bearings provided for their reception on the frame C, as clearly shown in Fig. 2, and also in Fig. 3. The berth can thus swing lengthwise on the pivots *a a*. The frame C has at its ends upwardly-projecting yokes *b*, which, at their upper parts, are hung on pins *d*, that are fastened to the opposite partitions A. On the two pins *d*, which are in line with and opposite each other, the frame C is supported, so it can vibrate in a lateral direction, and with it the berth. The distance between the berth and the pins *d* is such that in vibrating on said pins *d* the berth will describe a large circle, and attain, therefore, a gentle motion, whereas, heretofore, when the supporting frame was pivoted about on a horizontal line with the berth, a tilting motion was produced whenever the occupant would sit or lie on one side of the berth, and consequent discomfort experienced. The yokes *b* I prefer to brace to the sides of the frame C, in the manner clearly indicated in the drawings. To one side of the frame C I attach a hook, *e*, by means of which the said frame can be locked to one of a series of eyes, *f f*, that project from the wall of the ship, or vice versa, so that the occupant of the berth may at any suitable time lock the frame C, and prevent it from vibrating on its pivots *d d*. Beneath the berth B are two cross-bars, *g g*, which constitute part of the frame C, in the manner clearly indicated in Figs. 1 and 2. These two cross-bars serve, respectively, as pivots for two levers, D E. The upper ends of both these levers are rounded, and in contact with the bottom of the berth B, while their lower ends are pivoted to a weighted connecting-bar, F. The weight of this bar tends to equalize the position of the levers D E, and to hold the berth in a horizontal position lengthwise; but still, if the ship should rock in the direction of the length of the berth, the weight F, together with that of the berth itself, will tend to retain a horizontal position without regard to the rocking motion of the ship. If, however, the occupant of the berth should apply more weight to one end of the berth than to the other end, and thus attempt to tilt the berth lengthwise, the weight of the bar F will serve to counteract such motion, and to allow it to take place in such a gentle manner as to render it perfectly safe, and, at the same time, the weight F will prevent the tilting motion from becoming as extensive as it otherwise would be, because the displacement of the weight F, by virtue of the tilting motion of the berth, will counteract the weight that tilts the berth, thus arresting the motion. Moreover, the two levers D E, bearing against the under side of the berth, will tend to support and steady the same in its movements.

It will be observed that the pivots *a* are placed nearer one end of the berth than the other—that is, nearer to the head *h* of the berth than to the foot *i* of the same—for the

reason that the upper part of the body is heavier than the lower part, the pivot being now placed so as to balance the body on the vibrating berth.

The pivots *a* and *d* are made, by preference, with knife-edges at their contact or bearing surfaces, as indicated by dotted lines in Figs. 1 and 2, for the purpose of avoiding unnecessary friction.

This invention is applicable to sofas and ships' lounges as well as to berths.

I claim as my invention—

The vibrating berth B, hung, by transverse pivots *a*, in the vibrating frame C, and combined with the levers D and E, which are pivoted to the vibrating frame C and joined by the weighted connection-bar E, so that their upper ends bear against the under side of the berth B, substantially as specified.

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Witnesses:
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