D. PARKS.

Suspended Ships' Berths.

No. 209,582. Patented Nov. 5, 1878.

Fig. 3.

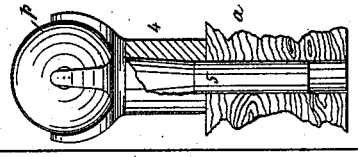


Fig. 2.

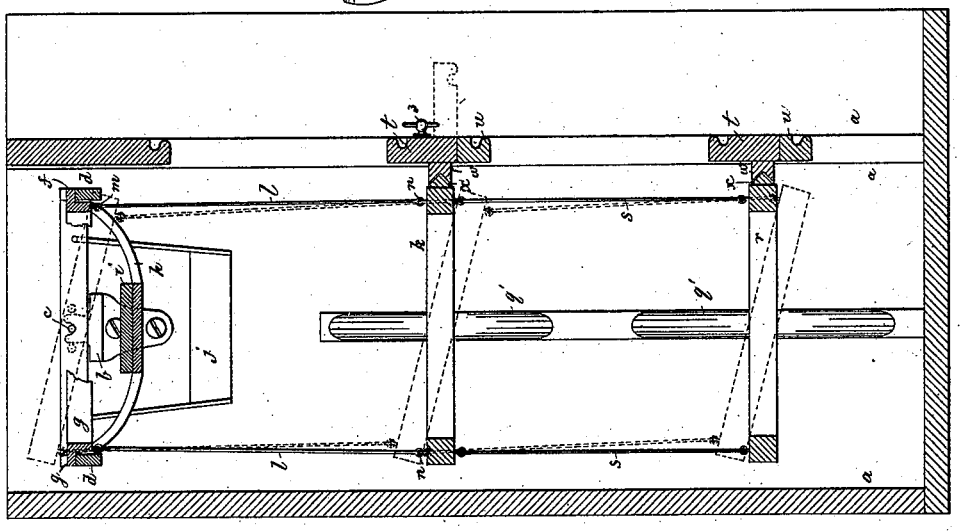
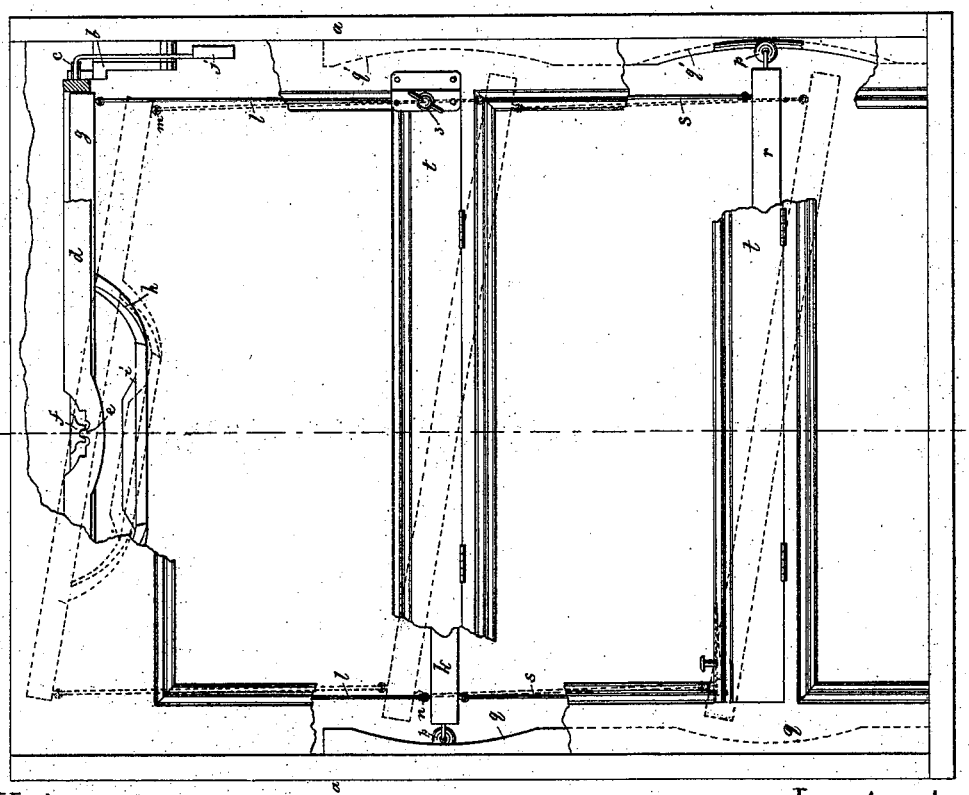


Fig. 1.



Witnesses.

L. F. Connor

N. E. Whitney

Inventor.

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by Crosby & Gregory Attys

UNITED STATES PATENT OFFICE.

DANA PARKS, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO HENRY SMITH, OF SAME PLACE.

IMPROVEMENT IN SUSPENDED SHIPS' BERTHS.

Specification forming part of Letters Patent No. **209,582,** dated November 5, 1878; application filed September 19, 1878.

To all whom it may concern:

Be it known that I, DANA PARKS, of Boston, county of Suffolk, State of Massachusetts, have invented an Improvement in Ships' Berths for Vessels, of which the following description, in connection with the accompanying drawings, forming a part thereof, is a specification.

This invention relates to improvements in ships' berths, and has for its object to so support one or more berths from a pivoted compound frame that they may freely assume and maintain a proper position of horizontality as the ship rolls or pitches without swinging out into the state-room.

The invention consists in the combination, with a compound pivoted frame, of one or more suspended berths, the connecting-rods suspending the berths being provided with loose joints, to permit the compound frame and berth or berths to remain parallel and in the same vertical plane with relation to a line perpendicular to the floor of the state-room, within the sides of the berth-frame, during their motions; also, in the combination, with the compound frame and a loosely-connected suspended berth provided with end projections or friction-rollers, of berth-guides fixed with relation to the sides of the berth-frame to retain the berths within the berth-frame.

Figure 1 of the drawings represents in front view a berth-frame with two suspended berths; Fig. 2, a cross-section thereof on the line *x x*, Fig. 1; and Fig. 3, a view of the end projections of the berths as they will be made in practice.

The berth-frame *a* is and may be of usual construction. At the top of the said frame are bearings *b* to receive the end journals, *c*, of the outer one of the compound frames, *d*, to permit the frame to oscillate or move freely thereon. The frame *d* is provided with a projection or point, *e*, or equivalent, nearer its head than its foot, to receive the notched journal *f* of the inner frame, *g*, of the compound frame, the said inner frame being so supported as to oscillate freely in the direction of its length.

The location of the journal *e* nearer the head than the foot of the frame provides for the unequal distribution of the weight of the body of the person occupying the berth.

Attached to the under side of the inner frame, *g*, is a bracket, *h*, provided with a weight, *i*, preferably just heavy enough to properly balance the berth. To the outer frame, *d*, is added one or more steadying-weights, *j*, to maintain it in horizontal position. The inner frame and the berth *k* are connected at their four corners by means of connecting-rods *l*, the attachment of the rods to the frame *g* and berth being by joints or loops, as at *m n*, so constructed as to permit the rods to move freely with reference to the frame and berth at their points of connection. The berth is provided at its ends with friction-rollers or projections *p*, which are fitted to travel within curved guideways *q q'*, the arcs of which are described from a perpendicular line coincident with the bearing *e* at the level of the berth. As the ship pitches, the friction-rollers travel in the guideways, and the frame *g* turns on the frame *d*, and as it rolls the frame *d* works on its bearings, and the joints between the connecting-rods of the frame *g* and berth permit the rotation and free movement of the berth within the berth-frame.

The second berth, *r*, is suspended from the berth *k* by jointed connecting-rods *s*, and it, as in the case of berth *k*, is provided with like means to guide it.

The berth-boards *t*, hinged to the cross-bars *u*, are provided with berth-holders *w*, which engage projections *x* at the edges of the berths, and hold them stationary with relation to the berth-frames, as may be desired—as, for instance, when getting in or out of the berths. These berth-boards have fastening devices 3, to lock them in upright position. When turned down during the day the boards may be used for tables or shelves. If desired, sliding weights may be connected with the berth-frames to act as counter-balances for the person.

If the connecting-rods were not jointed to the compound frame and with the berths, the suspended berths would not remain horizontal except by moving the bearings *b* out horizontally from the berth-frame, so as to afford room for vibration.

In this my plan it is possible to employ two oscillating berths in one berth-frame.

If desired, I may employ a guideway, like

the guideway *q*, at the back side of the berth, to co-operate with a friction-roller on the berth, and prevent the head or foot of the berth from bearing too heavily against the berth-frame.

To avoid shock as the berth is moved longitudinally in the frame, a block, 4, of rubber, may be placed upon the spindles 5, which hold the friction-rollers, Fig. 3.

I claim—

1. The compound movable supporting-frame, combined with a berth suspended therefrom by means of jointed connecting-rods attached to each corner of the inner frame of the compound frame, to operate substantially as described.

2. The compound movable supporting-frame, and the berth suspended therefrom by means of jointed connections extending from each corner of the inner frame, as described, and provided with projections *p*, combined with the curved guideways, fixed with relation to the berth-frame, to operate substantially as described.

3. The berth provided at its ends with friction-rollers, combined with the curved guideways, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

DANA PARKS.

Witnesses:

L. F. CONNOR,

N. E. WHITNEY.