(No Model.)

H. T. MORSE.

SELF LEVELING BERTH.

No. 464,625. Patented Dec. 8, 1891.

Fig. 1.

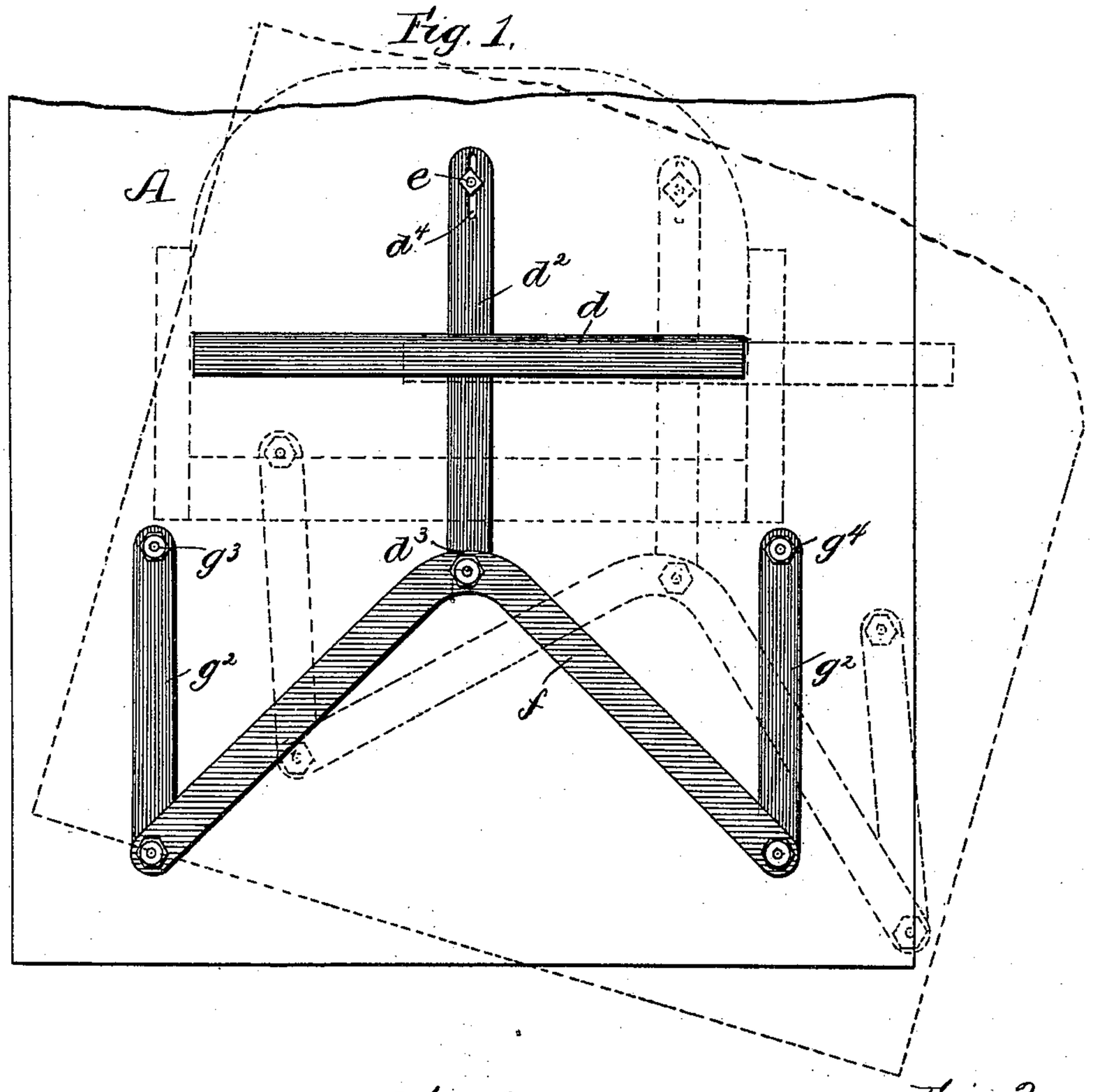


Fig. 2.

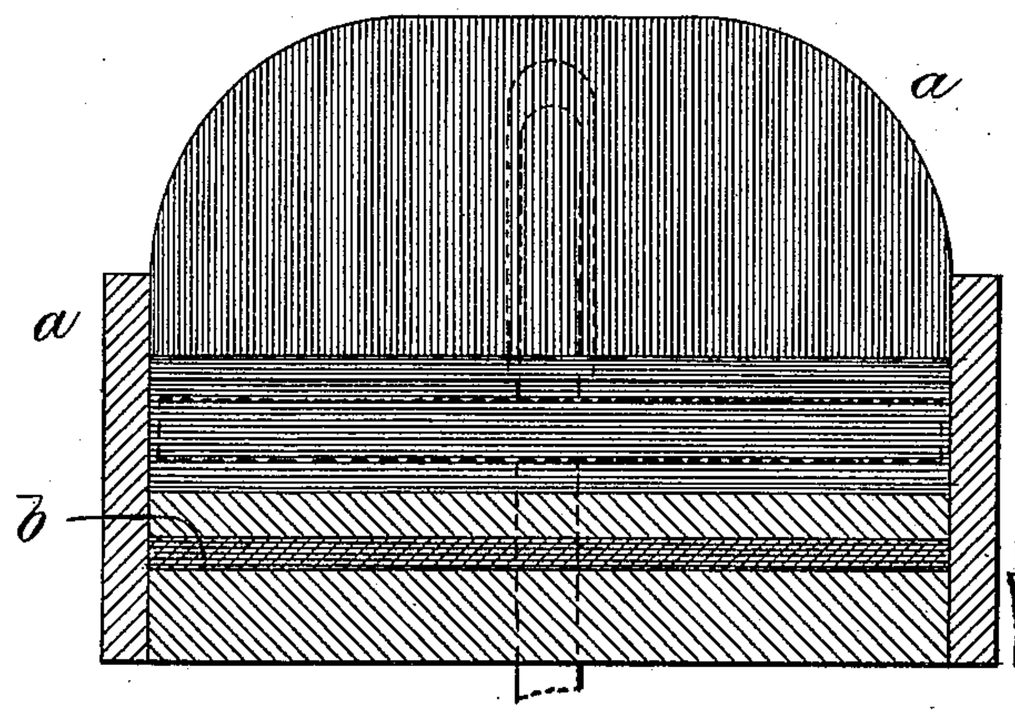
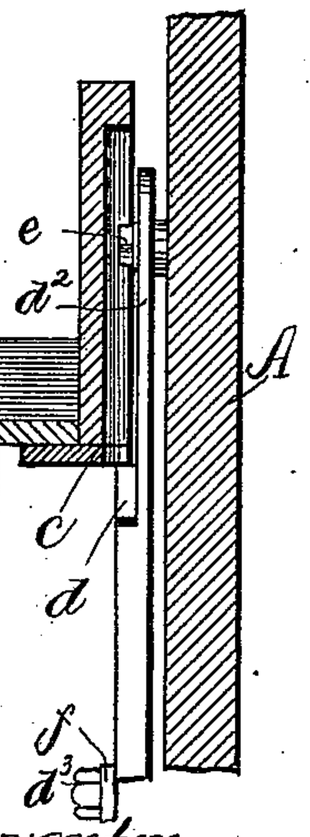


Fig. 3.



Witnesses
Jas. J. McInerney.
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Inventor,
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Att'y.

UNITED STATES PATENT OFFICE.

HENRY T. MORSE, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO WILLIAM F. ALDRICH, OF PROVIDENCE, RHODE ISLAND.

SELF-LEVELING BERTH.

SPECIFICATION forming part of Letters Patent No. 464,625, dated December 8, 1891.

Application filed May 18, 1891. Serial No. 393,126. (No model.)

To all whom it may concern:

Be it known that I, HENRY T. MORSE, of Boston, county of Suffolk, State of Massachusetts, have invented an Improvement in Self-Leveling Berths, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

My invention relates to a berth for use in vessels and supporting mechanism for said berth, whereby the latter maintains its level as the vessel in which it is supported rolls.

The berth is supported directly upon a controlling-frame, which is pivotally engaged with the frame-work of the vessel or wall of the state-room at a point above the berth, but is supported at a point below the berth on a supporting-frame itself sustained by hangers pivotally connected with the wall of the state-room or frame-work of the vessel at two points, one at each side of the longitudinal axis of the berth. The result of this construction is that when the vessel rolls the berth has a lateral movement, but remains in substantially level position.

Figure 1 shows a side elevation of the supporting mechanism for a berth embodying this invention, showing the supporting frame-work or end of the state-room in elevation, the parts being represented in full lines in the position occupied when the vessel is on an even keel and in dotted lines in the position occupied when the vessel has rolled to a considerable angle from the normal vertical position; Fig. 2, a transverse vertical section of the berth, showing a portion of the supporting mechanism in dotted lines; and Fig. 3, a detail showing a portion of the end of the berth and its supporting mechanism and frame-work in longitudinal section.

The berth *a*, Fig. 2, which may be of usual shape and dimensions, and is shown as provided with a weight *b* distributed over its bottom, has at its ends transverse shoulders *c*, (best shown in Fig. 3,) which rest upon a cross-bar *d*, Figs. 1 and 3, of a controlling frame-piece composed of said cross-bars *d* and a vertical member d^2, the upper part of which is engaged at a point *e* with the stationary frame-work of the vessel, (shown as the end A of the state-room in which the berth is used,) and is pivotally connected at its lower end d^3 with a supporting-frame *f*. The engagement at the point *e* between the berth-controlling frame $d\ d^2$ and the stationary frame-work A is merely such as to confine the said point of the frame $d\ d^2$ from lateral movement relative to the wall A of the state-room, the portion of the frame d^2 being slotted at d^4, where it engages with the bolt or pin *e*, so that the latter does not sustain the frame $d\ d^2$, but merely keeps its upper end in definite relation to the wall A and in upright position over the lower point of support at d^3. The said supporting-frame *f* is itself supported upon two hangers $g\ g^2$, pivotally connected at $g^3\ g^4$ with the wall A of the state-room, so that said frame hangs upon the lower ends of the suspended links $g\ g^2$, and moves bodily as the said links $g\ g^2$ turn on their pivots, so that each point in the frame describes an arc parallel with the arc described by the lower end of each link about its supporting pivot g^3 or g^4 as a center. The said frame and weight supported upon it tend to come by the action of gravity to such a position as to cause the supporting-links $g\ g^2$ to hang vertically down below their points or supports $g^3\ g^4$. The result of this construction is that when the vessel rolls, causing a movement of the frame-work or end of the state-room A from the full to the dotted line position, Fig. 1, the points $g^3\ g^4$ and *e* all move together from the full to the dotted line position; but the links $g\ g^2$ remain substantially vertical in such movement, and the point d^3 has a motion which is due partly to the bodily motion of the supporting-points $g^3\ g^4$, and is further due to the movement of the links $g\ g^2$ about the said supporting-points, owing to the fact that the said links remain about vertical under the action of gravity. The result of these two movements of the point d^3 is such that the latter receives mainly lateral movement, keeping the said point *d* substantially vertically beneath the point *e*, at which the upper part of the berth-supporting frame $d\ d^2$ is engaged with the wall of the state-room, so that the said berth-controlling frame remains, with the berth-supporting arm *d*, substantially horizontal during the entire movement, as shown by the full and dotted lines, Fig. 1. By this construction the berth[3]

partakes only slightly of the rolling motion of the vessel, remaining in substantially horizontal position and having only a lateral movement without rocking about a longitudinal axis, as is the case when the berth is built into the vessel, so as to partake of all its movements. The pivot-pin *e* serves to sustain the end-thrust of the berth as the vessel pitches.

I claim—

The combination of a berth-controlling frame *d*, pivotally engaged with the frame-work of the vessel at its upper part, and the berth supported on said controlling-frame, with a supporting-frame *f*, pivotally connected with the said berth-controlling frame at its lower part, and hangers g^2 g^2 for the supporting-frame, pivotally connected with the frame-work of the vessel at their upper ends and with said supporting-frame at their lower ends, substantially as and for the purpose described.

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

HENRY T. MORSE.

Witnesses:

JOS. P. LIVERMORE,

M. E. HILL.