

(No Model.)

E. LAWSON.
SHIP'S BERTH.

3 Sheets—Sheet 1.

No. 513,190.

Patented Jan. 23, 1894.

Fig. 3.

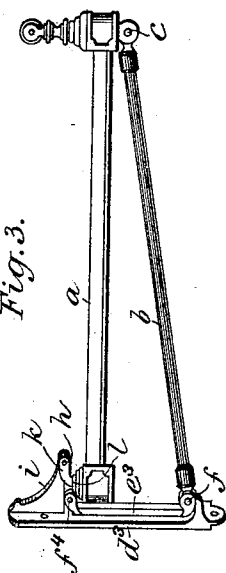


Fig. 4.

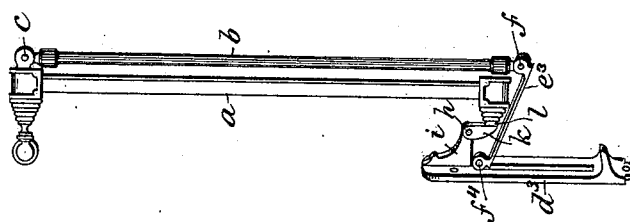


Fig. 1.

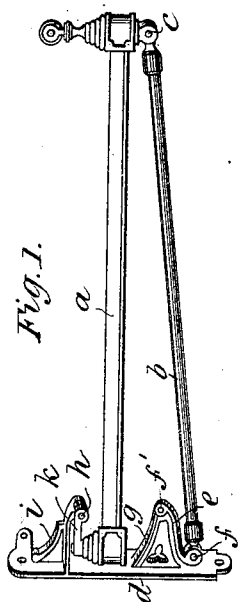
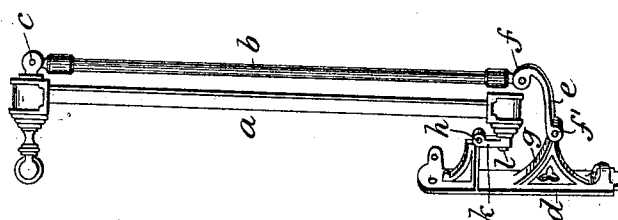


Fig. 2.



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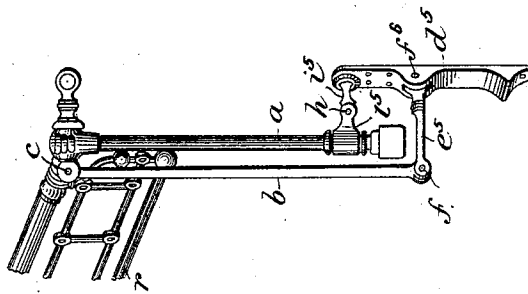
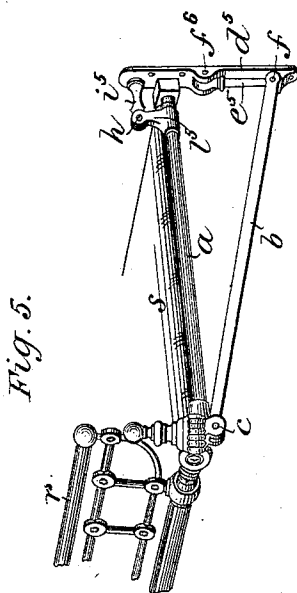
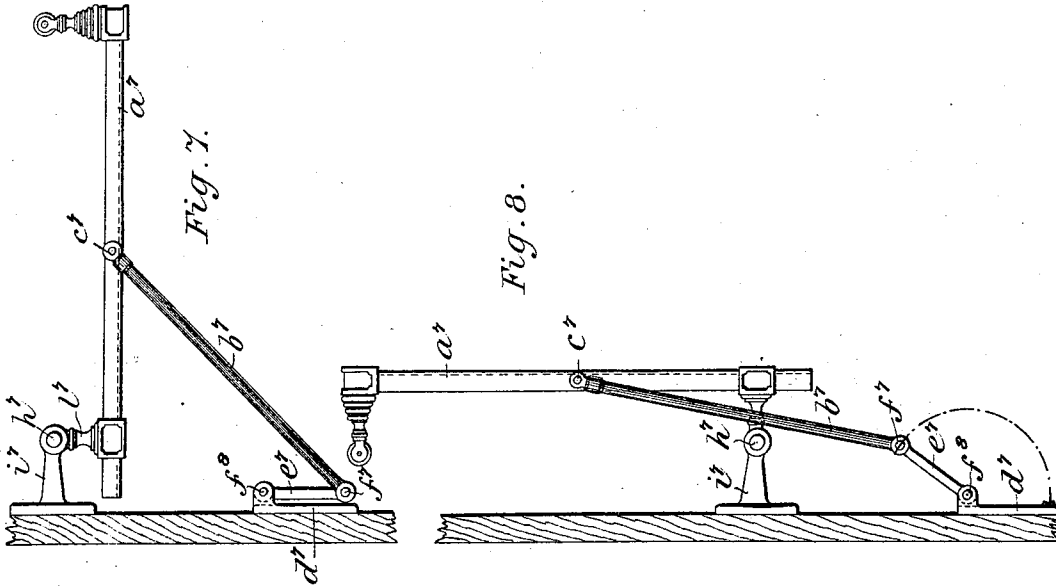
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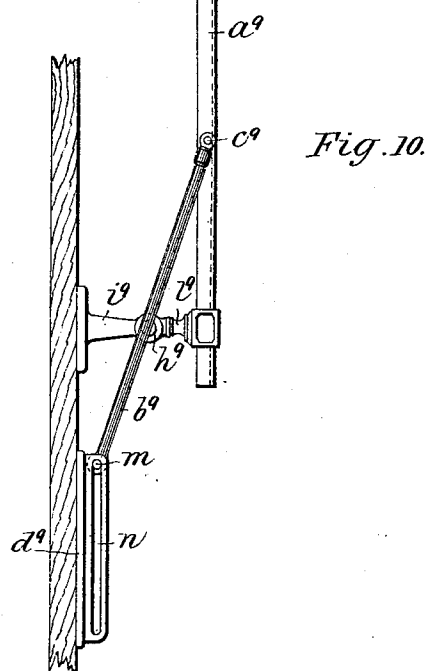
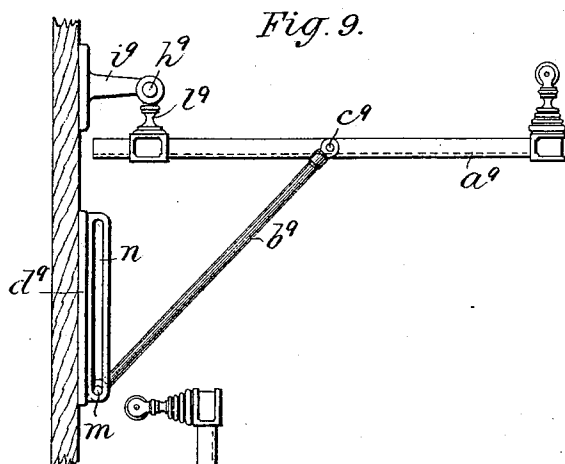
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UNITED STATES PATENT OFFICE.

EDWARD LAWSON, OF BIRMINGHAM, ENGLAND.

SHIP'S BERTH.

SPECIFICATION forming part of Letters Patent No. 513,190, dated January 23, 1894.

Application filed February 9, 1893. Serial No. 461,557. (No model.) Patented in England November 26, 1887, No. 16,288.

To all whom it may concern:

Be it known that I, EDWARD LAWSON, of Birmingham, England, have invented certain new and useful Improvements in or Relating to Ships' and other Berths, (Case A,) (for which I have obtained a patent in Great Britain, No. 16,288, bearing date the 26th of November, 1887,) of which the following is a specification.

10 This invention has reference to berths of the class which are adapted to turn up into a vertical or approximately vertical position when not required for use, and when so turned up to leave a sufficient space, which is about six
15 inches, for the bedding and bedclothes between the berth and the bulkhead or wall of the cabin or other apartment where the berth is fitted, and one object of the invention is to construct berths of this class so that they shall
20 be supported in their turned down or normal position after the manner of a cantilever from the bulkhead or wall, there being no pillars or like supports resting upon the floor, or any other supports attached to the cabin or apartment.
25 ment.

Another object is to provide a better connection between the berth frame and the brackets on the bulkhead or wall, so that the lower edge of the berth when turned up shall
30 occupy a position neither higher nor lower than that of the bottom of the berth when turned down, while allowing sufficient space for the bedding between the turned up berth and the bulkhead or wall.

35 The invention consists in the construction of a berth which is adapted to turn up into a vertical or approximately vertical position with inclined rigid rods or struts one at each end of said berth, the outer end of each of
40 said rods or struts being hinged or jointed to the end bar of the berth frame at the corresponding end of the berth, either at the outer end of the said bar or at a point intermediate between the outer and inner ends of same,
45 and the inner end of each of said rods or struts bearing normally against, without being fixed directly to, a bracket on the bulkhead or wall, being adapted to alter its position relatively to said bracket as the berth is
50 being turned up or down, whereby the rod is enabled to accommodate itself to the changing positions of the berth.

The invention further consists in the combination with a berth adapted to turn up into a vertical or approximately vertical position, 55 and inclined rigid rods or struts hinged at their outer ends to the end bars of the berth frame and normally bearing at their inner ends against, without being fixed directly to brackets on the bulkhead or wall, of links or
60 arms one end of which is hinged to the inner ends of said rods or struts and the other end to said brackets, whereby the rods or struts are enabled to accommodate themselves to the changing positions of said berth as it is
65 being turned up or down.

The invention further consists in the combination in a berth adapted to turn up into a vertical or approximately vertical position, of vertical pins standing up from the inner
70 ends of the end bars of the berth frame to a height above said frame equal to half the space required for the bedding between the berth when turned up and the bulkhead or wall, gudgeons or pins, on which the berth
75 pivots or turns, said gudgeons being at such a distance from the bulkhead or wall as is equal to the height of said vertical pins, that is to say to half the space required for the bedding when the berth is turned up, and
80 arms or links, normally horizontal, connecting said vertical pins with said gudgeons, whereby when the berth is turned up its lower edge occupies a position neither higher nor
85 lower than that of the bottom of the berth when turned down, while sufficient space for the bedding is left between the berth when turned up and the bulkhead or wall.

In the accompanying drawings,—Figure 1 is a view of one end of a berth constructed
90 according to my invention in its preferred form and showing the berth in its normal or turned down position. Fig. 2 is a view similar to Fig. 1 but showing the same berth when turned up. Figs. 3 and 4 are views of one end
95 of a berth of modified construction, and show the berth in its normal and turned up positions respectively. Figs. 5 and 6 are end views illustrating another modified construction, and showing the berth in its normal and
100 turned up positions respectively. Figs. 7 and 8 are end views illustrating another modified construction, and showing the berth in its normal and turned up positions respectively.

Figs. 9 and 10 are end views illustrating another modified construction and showing the berth in its normal and turned up positions respectively.

5 Referring first to Figs. 1 and 2, *a* represents one end bar of the berth frame. *b* is an inclined rigid rod or strut the outer end of which is hinged or jointed at *c* to the bar *a* while the inner and lower end normally bears against a bracket *d* fixed to the bulkhead; this bracket is shown as forming part of the bracket which carries the pin, gudgeon or center on which the berth turns as it is being moved up or down, but it may be a separate bracket if found more convenient. The inner end of the rod or strut *b* is not fixed to the bracket *d*, but is hinged at *f* to the lower end of a link *e* the upper end of which is hinged at *f'* to a lug *g* on the bracket. The distance of the hinge *f'* from the bulkhead is about equal to half the distance of the strut *b* from the bulkhead when the berth is turned up, as in Fig. 2, so that the greatest possible space is given below the turned up berth to receive the berth below when turned up, and the berths can therefore be placed as near together as can be possibly arranged. *h* is the pin or gudgeon upon which the berth turns; it is attached to the bracket at about three inches from the bulkhead, that is to say at the end of a lug or projection *i* about three inches long. The pin or gudgeon *h* is connected by a link or arm *k* which is normally horizontal, to a vertical pin *l*, about three inches high standing up from the end bar *a* of the berth frame.

The figures show the fittings at one end of the berth only; it will of course be understood that there are similar fittings at the other end of the berth.

When the berth is in its normal position as seen in Fig. 1, the rods or struts *b* extend in an inclined direction from the outer part of the berth frame *a* down to the brackets *d* against which their inner ends bear, and the berth is thereby firmly supported in a horizontal position, the brackets receiving the thrust and thereby relieving the links *e*; the brackets may be lined with rubber or other material to receive the shock should the berth be hurriedly lowered. To turn the berth up it is only necessary to lift it by its outer side, when its inner side will turn upon the supporting pins or gudgeons *h* until the vertical position is reached as seen in Fig. 2. During this movement the links *e*, connecting the inner ends of the struts *b* to the brackets will turn upon their upper joints *f'* and will thus allow the struts to participate in the upward movement of the berth and to finally take up a vertical or nearly vertical position in line with the end bars *a* of the berth frame. When the berth is turned up on the pivots *h* into the vertical position the links or arms *k* move down into a vertical position while the vertical pins *l* assume a horizontal position. The length of these pins added to the distance

of the pivots from the bulkhead makes up the width of about six inches required for the bedding, while as the pivots divide these six inches into two equal parts the lower edge of the berth when turned up is on the same level as when the berth is down.

The modification shown in Figs. 3 and 4 differs from that shown in Figs. 1 and 2 in the position of the hinge *f'* of the link or arm *e*³ and in the length of this link and in the shape of the link and the bracket *b*³.

The modification shown in Figs. 5 and 6 differs from that shown in Figs. 1 and 2 in the position of the hinge *f'*⁶ of the link or arm *e*⁵; in the length of this link, in the shape of the bracket *d*⁵ and in the fact that the vertical pin *l*⁵ is pivoted directly to the lug or projection *i*⁵ on the bracket *d*⁵. These figures also show a folding lee rail *r* which, however, forms no part of this invention. *s* represents the wire mattress or sacking constituting the berth bottom.

In the modification shown in Figs. 7 and 8 the inclined rod or strut *b*⁷ is attached to the end bar *a*⁷ of the berth frame at about the middle of the length of the said bar instead of at the outer end of said bars as in the modifications shown in Figs. 1 to 6.

The construction of the parts of the berth shown in Figs. 7 and 8 differs slightly from that shown in the other figures of the drawings. In Figs. 7 and 8 the bars are lettered *a*⁷, the struts *b*⁷, the outer hinged ends thereof *c*⁷, the bracket *d*⁷, the inner hinged ends of the struts *f*⁷, the links *e*⁷, the upper hinged ends thereof *f*⁸, the gudgeon on which the berth turns *h*⁷, the projection carrying this gudgeon *i*⁷ and the vertical pin *l*⁷.

In the modification shown in Figs. 9 and 10 the inclined rod or strut *b*⁹ is attached to the end bar *a*⁹ as in the modification shown in Figs. 7 and 8, and the inner end of said rod or strut is not hinged to links as in the modifications shown in Figs. 1 to 8, but it carries a pin *m* which is normally at the bottom of a slot *n* in the bracket *d*, and as the berth is being turned up moves up said slot and thereby allows the rod or strut to participate in the upward movement.

In Figs. 9 and 10 the outer hinged end of the strut is lettered *c*⁹, the bracket is lettered *d*⁹, the gudgeon is lettered *h*⁹, the projection carrying it is lettered *i*⁹, and the vertical pin is lettered *l*⁹.

What I claim, and desire to secure by Letters Patent, is—

1. In a berth turning up into an approximately vertical position, the combination with the berth frame, of brackets on the wall which carries the berth, and inclined rigid rods, one at each end of the berth, hinged at their outer ends to the berth frame, extending thence inwardly and downwardly, and movably bearing at their inner ends against brackets, the inner ends of said inclined rods moving relatively to said last mentioned brackets to alter the position of said rods as the berth is being

turned up or down, whereby said rods rise with the berth as it is turned up and descend with the berth as it is turned down, substantially as set forth.

5 2. In a berth turning up into an approximately vertical position, the combination with the berth frame, and brackets on the wall which carries said berth, of inclined rigid rods, one at each end of said berth, hinged at
10 their outer ends to the end bars of the berth frame, extending thence inwardly and downwardly, and movably bearing at their inner ends against brackets, and links hinged at one end to the inner ends of said rods, and
15 hinged at the other end to said last mentioned brackets, whereby said rods are enabled to rise with the berth as it is being turned up and descend with it as it is being turned down, substantially as set forth.

20 3. In a berth turning up into an approximately vertical position, the combination with the berth frame and supporting projections therefor, of vertical pins standing up from the inner ends of the berth frame to a height
25 above said frame equal to half the space required for the bedding between the berth

when turned up and the wall against which the berth is disposed, and gudgeons on which the berth turns, carried by said projections at a distance from the wall equal to half the
30 space required for the bedding between the berth when turned up and the wall, and disposed within the inner edge of the berth frame, and rearwardly extending links, horizontal when the berth is turned down, connecting said vertical pins with said gudgeons,
35 whereby when the berth is turned up its lower edge occupies the same vertical position as that of the bottom of the berth when turned down, and sufficient space for the bedding is
40 left between the berth when turned up and the wall, substantially as set forth.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

EDWARD LAWSON.

Witnesses:

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land.

G. A. C. PETTETT,
His Clerk.