

No. 610,421.

Patented Sept. 6, 1898.

T. R. TURNER.
CONVERTIBLE BERTH AND SETTEE FOR SHIPS.

(Application filed May 13, 1898.)

(No Model.)

4 Sheets—Sheet 2.

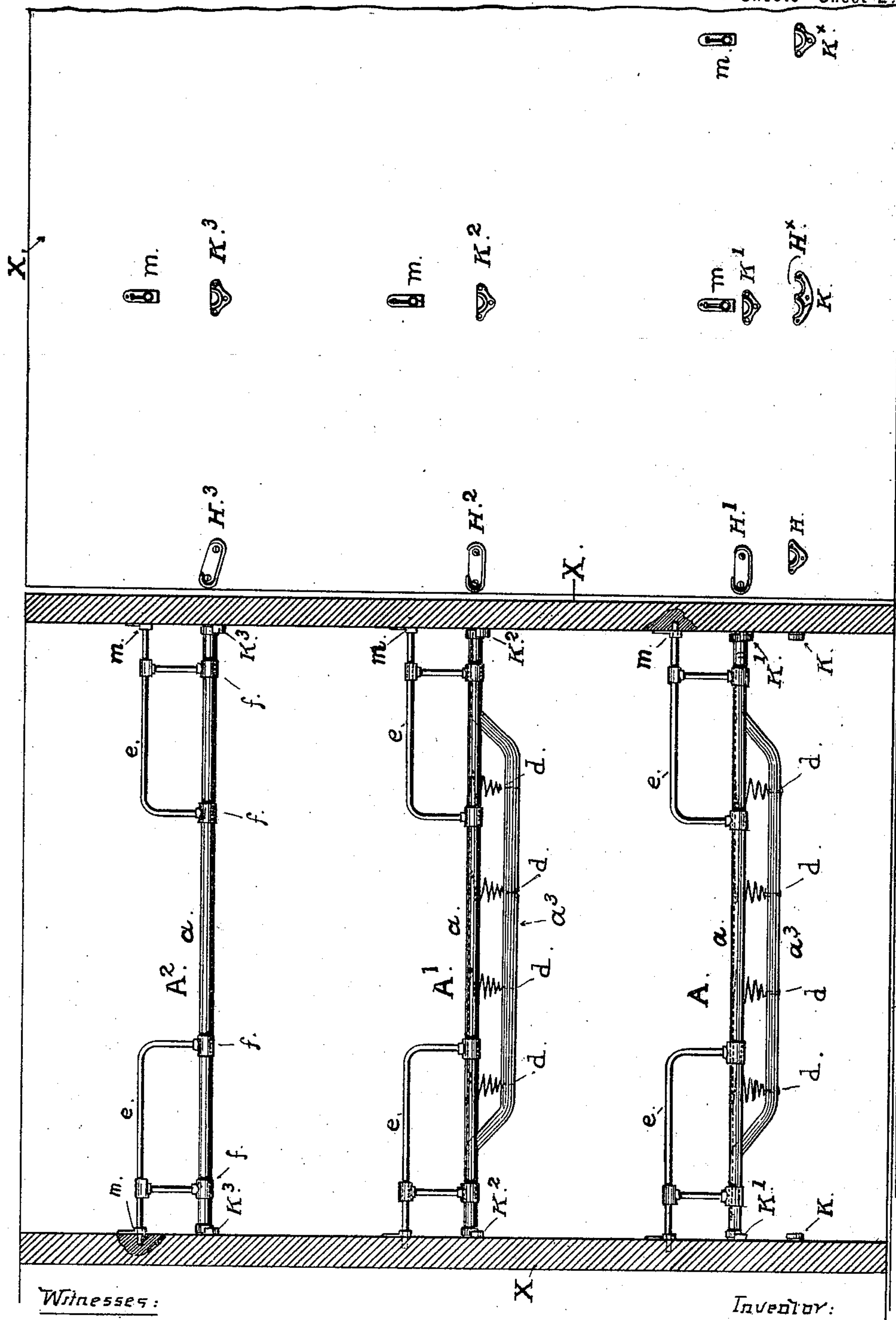


Fig. 5.

Fig. 4.

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Inventor:

Thomas R. Turner.
By Smith Osborn his Atty.

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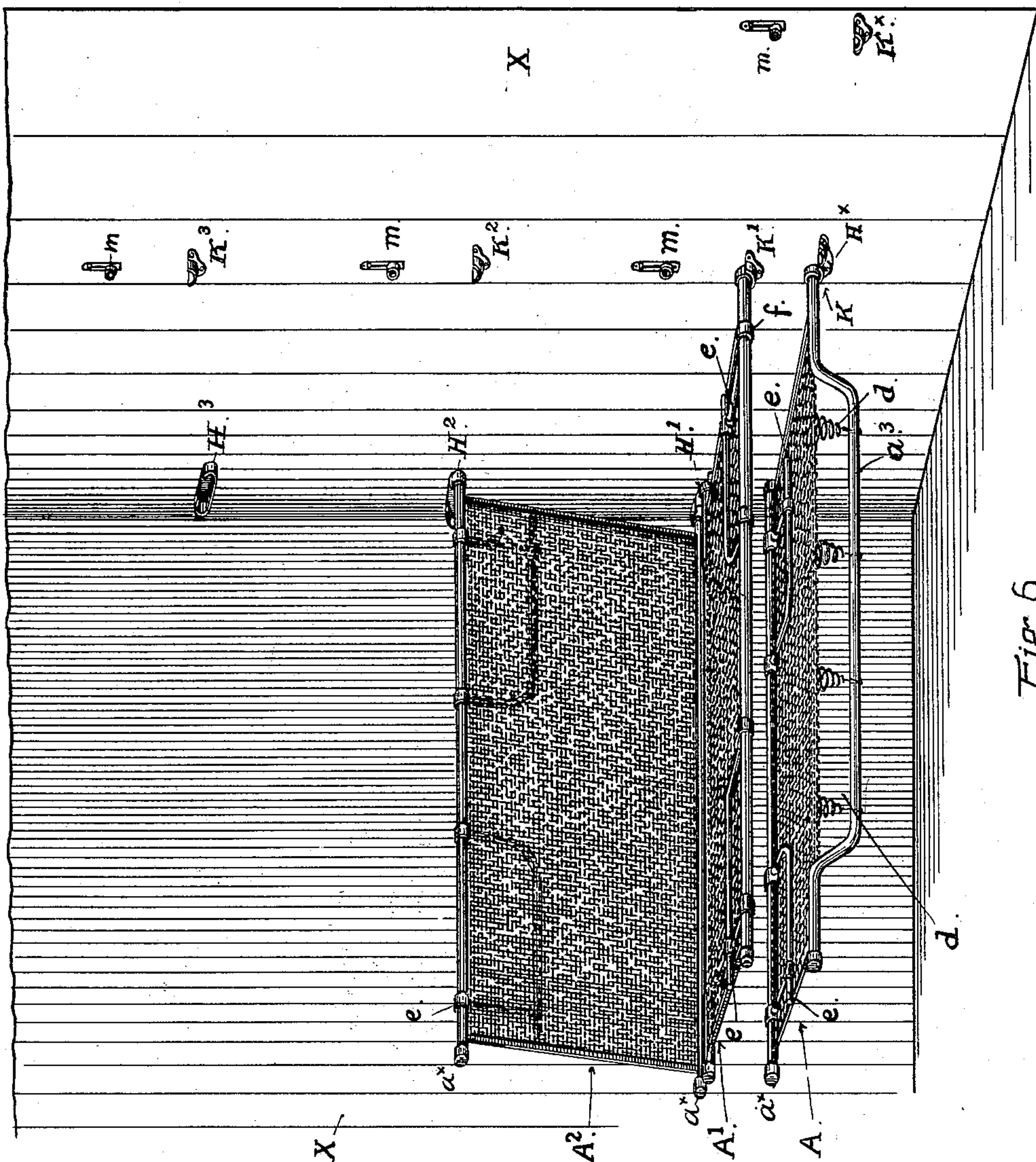
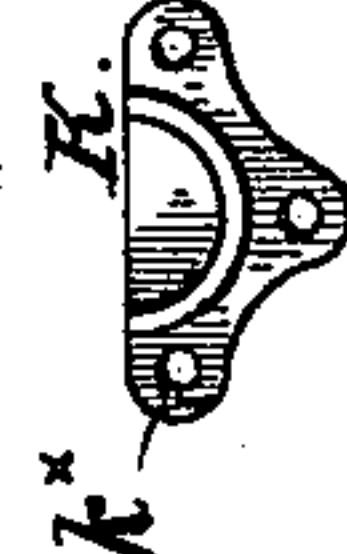
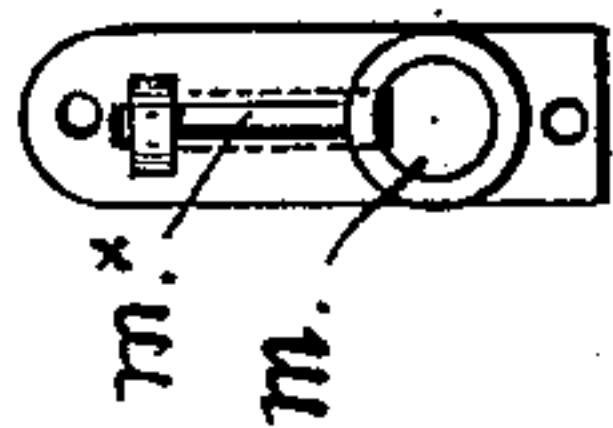
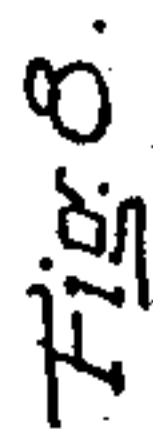
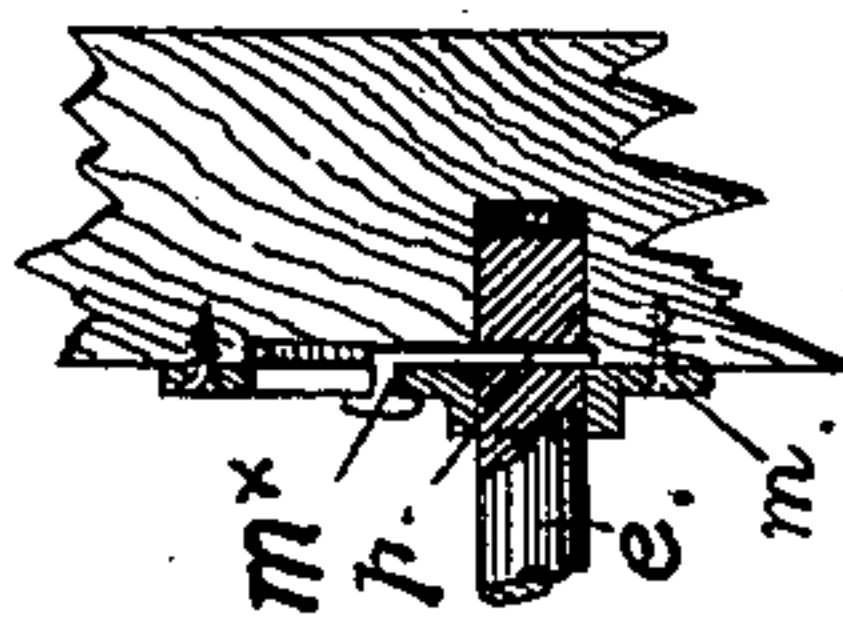
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4 Sheets—Sheet 3.



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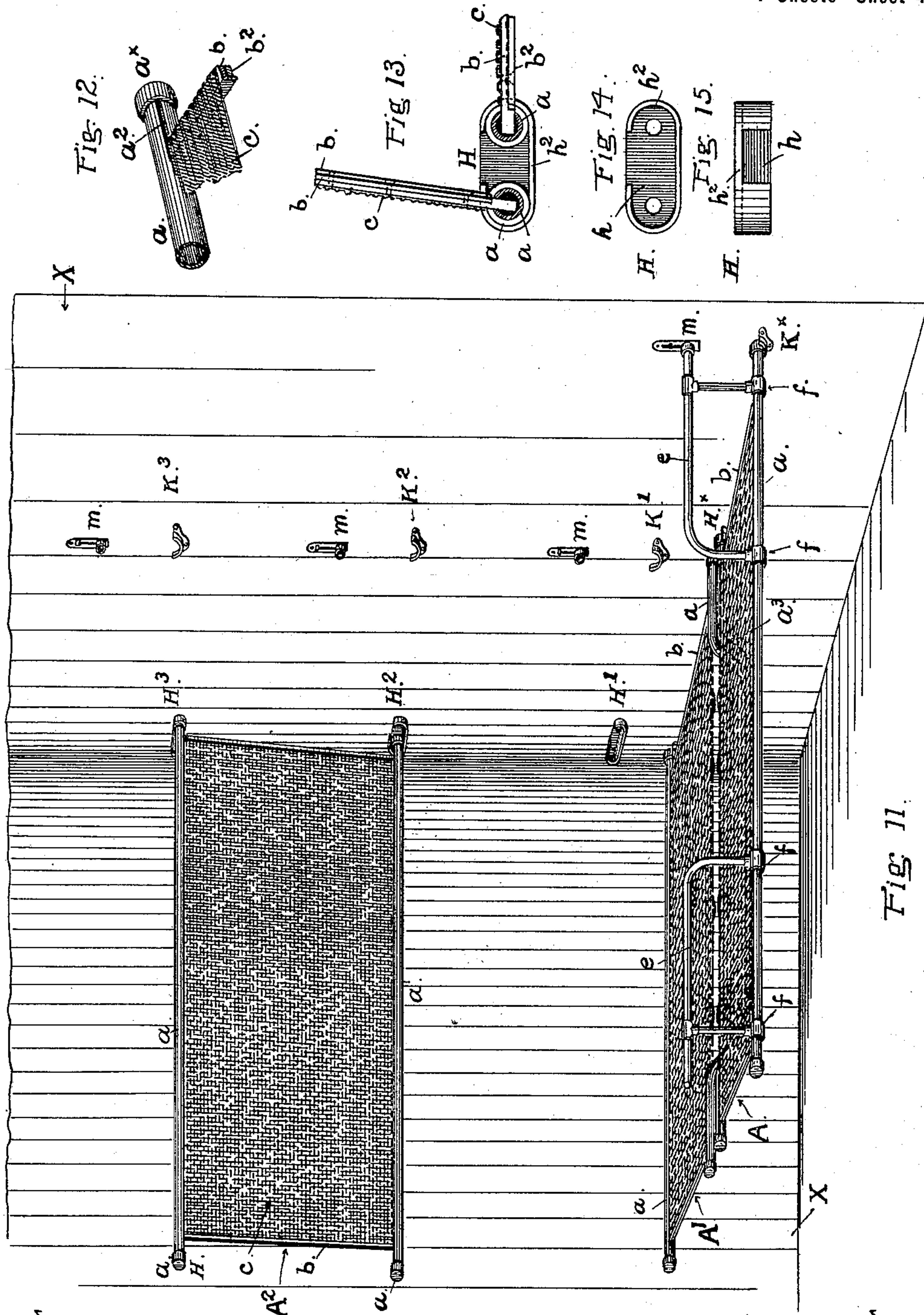
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(No Model.)

4 Sheets—Sheet 4.



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UNITED STATES PATENT OFFICE.

THOMAS R. TURNER, OF SAN FRANCISCO, CALIFORNIA.

CONVERTIBLE BERTH AND SETTEE FOR SHIPS.

SPECIFICATION forming part of Letters Patent No. 610,421, dated September 6, 1898.

Application filed May 13, 1898. Serial No. 680,569. (No model.)

To all whom it may concern:

Be it known that I, THOMAS R. TURNER, a citizen of the United States of America, and a resident of the city and county of San Francisco and State of California, have invented certain new and useful Improvements in Convertible Berths and Settees for Ships, of which the following is a specification.

This invention relates to improvements made in portable passenger-berths for ships and vessels, and the same comprise certain novel parts and combination of parts and details of construction whereby a set or tier of berths is stowed away and converted into a settee for use in the daytime, and the same is capable of being arranged to form either a double or a single lower berth for use at night, all as hereinafter fully described, and pointed out in the claims at the end of this specification.

The following description explains at length the nature of my said improvements and the manner in which I proceed to produce, construct, and apply the same, reference being had to the drawings that accompany and form part hereof.

Figure 1 of the drawings represents in perspective a set or tier of three berths in a state-room assembled to form a settee for use in the daytime. Fig. 2 is an elevation in transverse section of the same parts set up to form a tier of three single berths. Fig. 3 is a sectional detail view of a portion of the stanchion employed in Fig. 2 to support the berths at the front side when the berths are set up in open spaces between the decks instead of in a state-room or between partitions that form the sides of the room. Fig. 4 is a front elevation of the berths set up in a state-room, the supports for the ends of the berths being fixed to the sides of the room. Fig. 5 is an elevation of one side wall or partition of the room, showing the arrangement and position of the sockets and fastenings for the frames. Fig. 6 is a perspective view showing the manner in which the berths are stowed to form the settee. Figs. 7 and 8 are details, on an enlarged scale, of the socket and fastening for the lee-rail, Fig. 7 being a front view, partly in section, showing the end of the rail locked in the socket, and Fig. 8 a front view of the

socket-plate and bolt. Figs. 9 and 10 are detail front and side views of the brackets that carry the ends of the berth-rails on the front side. Fig. 11 is a perspective view showing the arrangement and positions of the parts to form a double berth. Fig. 12 is a detail in perspective of one of the side rails and the cross-bar at one end of the berth-frame. Fig. 13 is a front view of one of the rear socket-irons that take ends of the berth-rails at the back of the berth. Fig. 14 is a detail front view of the socket-iron, and Fig. 15 is a top view.

A A' A² are the frames for three berths, and B B' B² are the mattresses for the same.

X X represent partitions forming the back and two sides of a berth-room or state-room.

In place of close or solid partitions the berths are sometimes supported by removable stanchions E, held in place by socket-plates E' on the floor and ceiling, which take the place of partitions. In that arrangement the entire space taken for the berths can be thrown into one room or space when the berths are not needed simply by unshipping the berths and removing the stanchions. In such application the brackets or supports to carry the ends of the berth-frames are fixed on or formed on the stanchions. This substitution of stanchions for partitions between the sets of berths is more specially applicable to the steerage and in other quarters of a vessel where temporary berths may be desired to be set up or taken down, as occasion may require. The berths are constructed of tubular iron frames and woven-wire bottoms with a lee-rail both at the head and the foot. In these general features the berth does not differ from the tubular metal berths already in use. The manner of uniting the transverse bars or headers *b* to the side rails *a* and of fastening the woven-wire bottom *c* to the headers, however, are novel features in the present construction.

As illustrated in Fig. 12, a slot *a*² is cut in one side of the tubular rail a short distance back from the end, and the bar *b*, which is formed of angle-iron, is cut at the end to fit the slot, and after the ends of the bar are inserted in the slots of the front and rear rails that go to make the frame a tight joint is

made by pouring molten solder into the open end of the rail before the screw-cap a^x is put on. By this means the header b and the side rails are rigidly joined together. The bottom c , of woven wire, is fastened to the header b by inserting the ends of the fabric between the bar b and a flat bar b^2 and drawing the two together with bolts, the wire bottom being turned over the top of the header from beneath. This construction is shown in Figs. 12 and 13 of the drawings. In two of the berth-frames that are intended to be placed together to make a double berth the rail a on one side is formed with a drop or bend a^3 , so as to throw the rail a suitable distance below and clear of the wire bottom, and spiral bed-springs d d are fixed on this dropped portion of the rail of each frame at intervals apart to support the wire fabric of the bottom along the edge.

When placed together side by side for a double berth, the drop-rails a^3 come in the center of the bed, and the springs d d thus hold up the wire bottom through the center where the principal weight has to be sustained, while the longitudinal rails of the frame that otherwise would lie in the way and interfere with the elasticity or springing qualities of the bed-bottom are set down out of the way.

On the straight outer side rail a of each berth-frame is fixed a lee-rail e both at the head and the foot of the frame. Each of the last-named rails is attached to the front rail a by a T-coupling f , fitted to turn on the rail and also to slide longitudinally, so that in stowing away the berths or assembling them to form the settee the lee-rails can be turned down or folded against the bed-bottom, and when setting up the berths the lee-rail can be set into the socket provided for it on the vertical support, which is either in the side of the state-room or in the upright stanchion E , when such a movable support is used.

Secured to the two side partitions of the state-room the brackets or supports for the berth-frames are placed at the proper distance apart vertically to afford comfortable headway between one berth and the next above it. Those which are placed closely to the back wall or partition to carry the ends of the rear rail a are formed, as shown in Figs. 14 and 15, with a deep flange h^2 , with countersunk holes for screws. The rear brackets H H^2 H^3 have each a recess or open socket of sufficient length to take in the ends of two side rails at the same time, so that the corresponding ends of two frames can be suspended from or supported in the same bracket when the frames are stowed away or folded against the back partition. This is shown in Fig. 13.

The supports K K^x K' K^2 K^3 for the ends of the rails a at the front side of the berth-frames have half-round seats corresponding in size to the ends of the rail and are provided with flanges k^x for screwing them in place against the partitions. If stanchions are used in

place of partitions, the brackets K K' K^2 K^3 may be formed on the stanchion.

Above the brackets that carry the front rail of the berth a socket m is provided to receive the end of the lee-rail e both at the head and the foot of the berth, into which socket the end of that rail is inserted by a sliding movement of the rail upon the rail of the berth-frame, so that the lee-rails are readily unshipped from the sockets and turned down when the berth is to be entered or to allow its occupant to leave the berth without climbing over the rail. A sliding bolt m^x , working in guides in the socket-plate above the socket m , engages a slot or depression p in the lee-rail to prevent the rail from being moved accidentally out of the socket. As thus constructed the several berth-frames and the supports and fastening above described are arranged and combined for operation in a state-room or other compartment as follows:

At the distance of ten inches, or thereabout, from the floor a set of the brackets H and K are secured to each side partition to support the head and the foot of the berth-frame, it being understood that the length of the berth is about equal to the width of the room or the distance between the partitions or the stanchions, where the same are used in place of partitions.

The rear supports H H' H^2 H^3 are placed closely to the back wall or partition, and those K K' K^2 K^3 for the front are set in line with them and at greater or less distance apart, according to the width of the berth-frame. In front of and in line with its lowest set of supports another set of brackets H^x K^x is fixed in place against the partitions, and in these two sets of supports two of the berth-frames A A' are carried at the same height from the floor and in line with each other when a double berth is to be made up. Above the first or inside set of these supports H K another set H' K' is fixed at a distance above the lowest set of supports equal to the thickness of the mattress and bedclothing of the berth resting in the lowest supports. Ordinarily this distance leaves about four inches between the two berth-frames when one frame is placed in the lowest set of supports and another frame in the supports next above. This is the position of two of the berth-frames when the parts are assembled to form the settee, so that one frame and its bedding is stowed away beneath the other frame and its bedding, which go to form the seat. Figs. 1 and 6 illustrate this arrangement of the berths A A' .

A set of brackets H^2 K^2 to carry the middle berth is fixed at proper distance above the lowest set to give room or headway between the berths, and a similar set of supports H^3 K^3 is fixed to the sides of the room to carry the top berth-frame at corresponding vertical distance above the middle berth-frame. By this arrangement the berths are susceptible of being made up in a tier of three single

berths, or with a double lower berth and a single top berth, with a free head-room and space between them.

If the top berth is not required, its frame 5 A² is stowed away against the back wall by setting the ends of its front rail in the socket-irons H³ of the top berth and the ends of its back rail into the irons H² of the middle berth. The frame suspended in this manner can be 10 tilted forward to stand at an angle, leaving space between it and the back wall to contain pillows, bedclothing, and other articles. A panel of ornamental scrollwork or a hanging of fabric is used to cover and conceal the 15 berth-frame from view when thus suspended against the back of the state-room.

To convert the berths into a settee, the berth-frames A A' of the lowest and middle 20 berths are placed in position one below the other, as represented in Figs. 1 and 6, and the frame A² of the top berth is set against the wall in upright position, the ends of the side rails on the lower side of the frame being carried in the same socket-irons that hold the 25 ends of the seat-frame, as shown in Fig. 13. On the frames thus assembled and combined to form the seat and back, the mattresses and bedding for the three berths are secured in place to provide a cushioned back and seat. 30 One of the mattresses B is stowed away between the lowest frame A and the one A' next above, another B' is placed on the upper frame A' for the seat and the third B² is fastened against the front of the upright frame 35 A² to form a cushioned back the entire length of the settee. Over the mattress seat and back thus arranged a covering of some ornamental stuff or fabric T is spread and secured in place. The general structures of the 40 frames allow them to be stowed in compact manner, to be quickly set up for use at night, and to be readily converted into a settee in the daytime. There are no screw-joints or other complicated fastenings employed to 45 hold the frame in position, and at the same time whether forming a settee or converted into berths the parts are securely and safely held and fixed in place.

Having thus fully described my invention, 50 what I claim as new therein, and desire to secure by Letters Patent, is—

1. The herein-described convertible berths and settee for ships, comprising the inde-

pendent berth-frames A A' A² each having 55 side rails with projecting ends, header-rails uniting the side rails, lee-rails adapted to fold down against the frame, and a yielding bed-bottom; the rear brackets H H' H² H³, having 60 each an enlarged recess or socket with a surrounding flange *h* and an opening in the top through said flange leading into the recess to admit the end of the side rail, said brackets being secured to the sides of the berth-room at distances apart as described; the front sup- 65 ports K K' K² K³ secured in position in front of and opposite to the rear brackets and adapted to support the said berths at the front; and the sockets for the lee-rails of the berth-frames arranged for operation as de- 70 scribed; whereby the three berth-frames when placed in the brackets one over the other form three berths, or when assembled and stowed away in the sets of supports H K H' K', H² K² two of the berth-frames form 75 the seat-frame, and the third berth-frame the back of the settee.

2. In convertible berths, a berth-frame having a straight side rail on one side, a drop-rail on the opposite side, header-rails at head and foot uniting the side rails, a yielding bed- 80 bottom stretched between the header-rails and the spiral springs interposed between the drop-rail and the said bed-bottom along the edge thereof, as set forth.

3. The combination of the tubular metal 85 side rails having slotted ends, header-rails of angle-iron having cut-away portions fixed in the slotted ends of the side rails, the wire mattress stretched over the header-rails and the clamping-bars bolted to the header-rails. 90

4. In convertible berths and settee the combination with the sets of rear brackets H H^x H² and front sockets K K^x K²; of the two 95 berth-frames each having one side rail of its frame provided with a downwardly-bent middle portion, whereby the frames are supported by the said sets of brackets and sockets in one position to form a double berth and in another position to form single berths 100 one over the other.

In testimony that I claim the foregoing I have hereunto set my hand and seal.

THOMAS R. TURNER. [L. S.]

Witnesses:

EDWARD E. OSBORN,
M. REGNER.