No. 619,895. Patented Feb. 21, 1899.

# W. M. KNOX.

## SELF LEVELING CHAIR FOR SHIPS.

(Application filed Dec. 17, 1897.)

(No Model.)

Fig. 1.

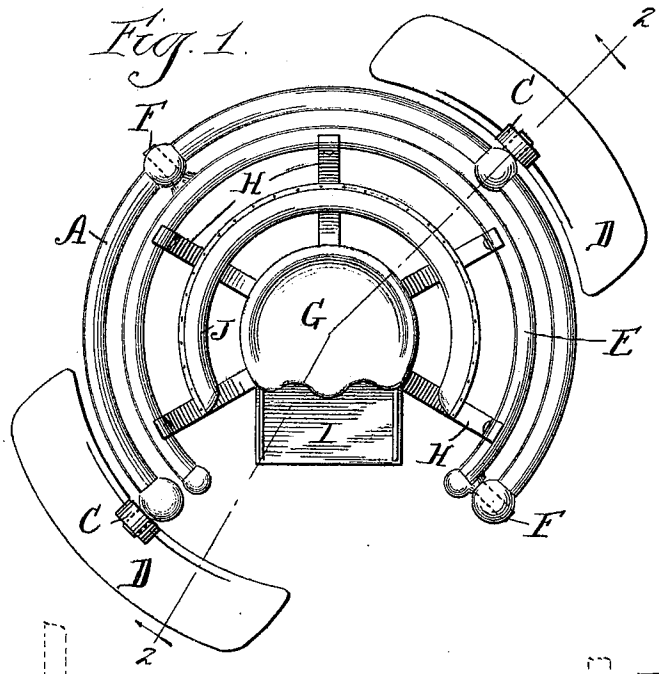
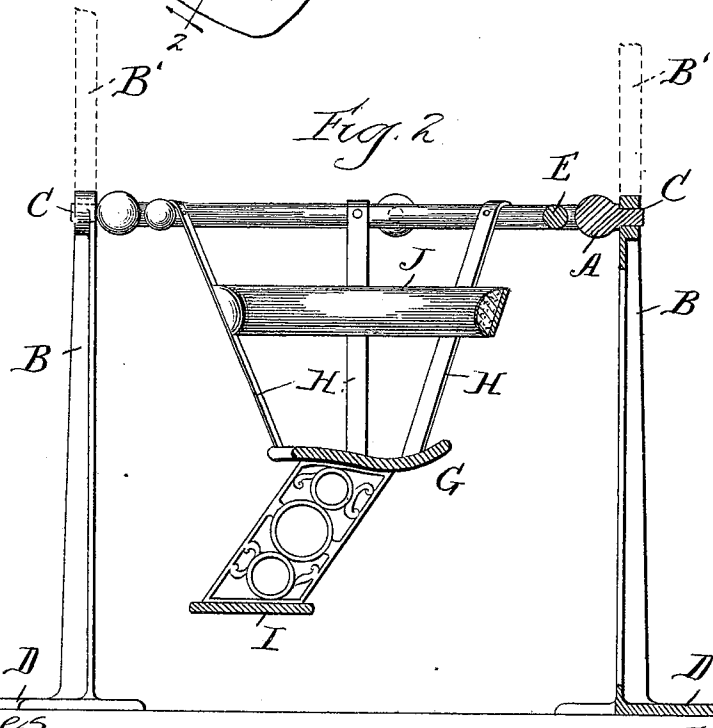



Fig. 2.




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# UNITED STATES PATENT OFFICE.

WILLIAM M. KNOX, OF CHICAGO, ILLINOIS.

## SELF-LEVELING CHAIR FOR SHIPS.

SPECIFICATION forming part of Letters Patent No. 619,895, dated February 21, 1899.

Application filed December 17, 1897. Serial No. 662,302. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM M. KNOX, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Chairs, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

My invention relates to certain new and useful improvements in chairs for use on board ship and in similar places where a person is subjected to a rocking or other unusual and disagreeable motion which tends to produce seasickness or other complaint of a similar nature.

Another object of the invention is to suspend a chair in such a manner that it will be capable of moving in any direction and maintaining itself in its normal vertical position notwithstanding the position of its supports; and a further object of the invention is to provide a chair of simple construction which can be moved about from place to place and suspended from above or supported on the deck of a ship and which is readily accessible at all times.

With these and other ends in view the invention consists of the peculiar construction and arrangement of parts hereinafter described, and illustrated in the accompanying drawings, in which—

Figure 1 is a top plan view of my improved sea-chair, and Fig. 2 is a sectional view on the line 2 2 of Fig. 1.

Referring to the drawings, in which like letters of reference denote corresponding parts in both the figures, A designates a circular supporting-frame which is mounted on a pair of standards B and secured thereto by swivel connections C, these standards being provided with enlarged bases D, or they may be adapted to receive fastening devices by which they can be secured to the deck of a ship. Instead of employing the standards B the frame may be supported from above by means of depending rods B'. (Indicated by the dotted lines in Fig. 2.) A chair-frame E is arranged within the supporting-frame and swiveled thereto at F, said chair-frame carrying the seat G, which is secured to the frame by means of the rods H. The seat carries a foot-rest I, and a back J is secured on the rods H.

The chair-frame is swiveled to the supporting-frame at points between the swivel connections of the supporting-frame and the standards, so that the chair-frame can swing freely in one direction independently of the supporting-frame and the supporting-frame can swing freely in the opposite direction independently of the chair-frame, whereby the seat carried by the chair-frame may always be held by gravity in a vertical position.

The supporting-frame and the chair-frame are each open on one side, so that access may be readily had to the seat, and this opening occurs between one of the swivels for the supporting-frame and a swivel of the chair-frame. It will thus be observed that the chair, comprising the seat, the foot-rest, the supporting-rods, and the back-rest, will always remain in a vertical position notwithstanding the movement of the ship or whatever else the supporting-frame is supported on and whether it is suspended from above or supported on standards. This is accomplished by means of the double swivel-support for the chair, which is constituted by the swivel-supporting frame capable of swinging in one direction and the chair-frame swiveled to said supporting-frame and capable of swinging in the opposite direction.

I am aware that other means may be substituted for the standard to form a support for the frame A and that other changes in the form and proportion of parts and details of construction of my invention may be made without departing from the spirit or sacrificing the advantages thereof, and I would therefore have it understood that I reserve the right to make all such changes that fall within the spirit and scope of my invention.

My improved chair may be designated a "sea-chair" for the reason that it is especially adapted for use on board ship and by reason of the fact that the seat will remain in a normally vertical position, notwithstanding the pitching and tossing or rocking of the ship, and a person may sit in the chair and be free from the disagreeable motion of the ship, which tends to produce seasickness and nausea.

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

The combination with suitable supports, of a supporting-frame swiveled thereto at diametrically opposite points, a chair-frame arranged within the supporting-frame, and swiveled thereto at points equidistant between the swivels of the supporting-frame, the supporting-frame and chair-frame having openings at one side which register with each other, rods depending from the chair-frame, a seat secured to the depending rods, and a foot-rest suspended below the chair-seat.

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