No. 736,386. PATENTED AUG. 18, 1903.

S. S. HANSEN.

SNOW BOAT.

APPLICATION FILED OCT. 12, 1900.

NO MODEL. 2 SHEETS—SHEET 1.

Fig. 1.

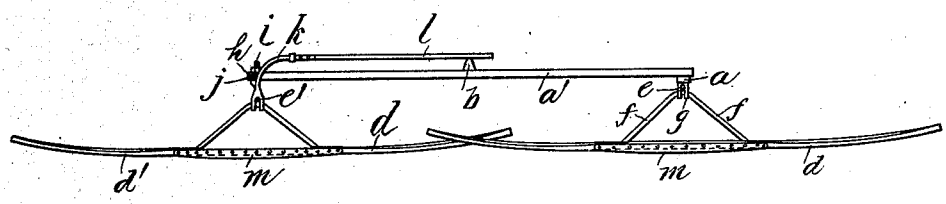


Fig. 2.

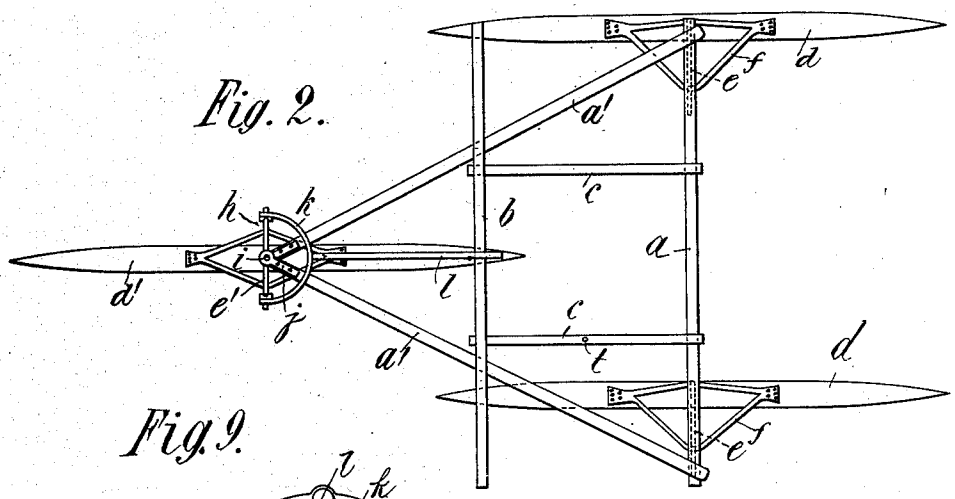
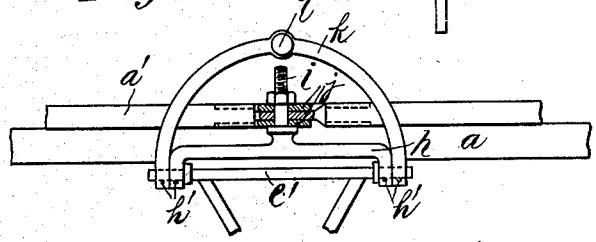


Fig. 4.



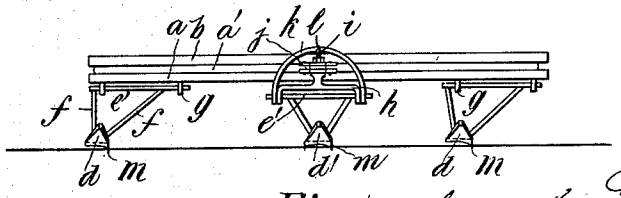


Fig. 3.

Inventor.
Sigurd Scott Hansen.
by Steuart Gatty
Atty.

Witnesses:
[illegible]
B. K. Sommers

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

No. 736,386. PATENTED AUG. 18, 1903.

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SNOW BOAT.

APPLICATION FILED OCT. 12, 1900.

NO MODEL. 2 SHEETS—SHEET 2.

Fig. 4.

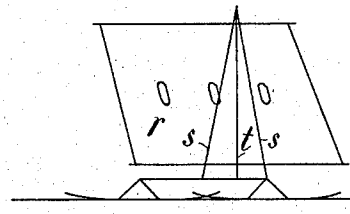
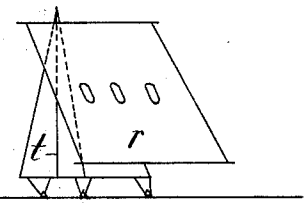


Fig. 5.



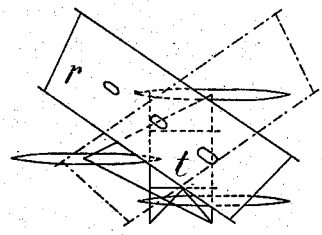


Fig. 6.

Fig. 7.

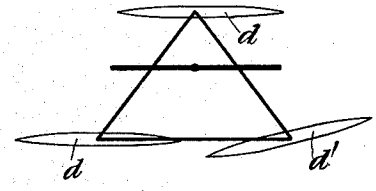
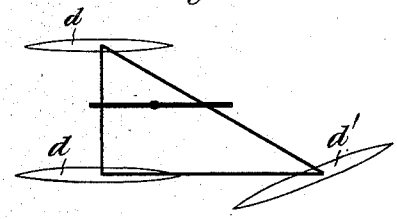


Fig. 8.



Witnesses:
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Inventor.
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by Henry Orth
Atty.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

No. 736,386. Patented August 18, 1903.

UNITED STATES PATENT OFFICE.

SIGURD SCOTT HANSEN, OF CHRISTIANIA, NORWAY.

SNOW-BOAT.

SPECIFICATION forming part of Letters Patent No. 736,386, dated August 18, 1903.

Application filed October 12, 1900. Serial No. 32,891. (No model.)

To all whom it may concern:

Be it known that I, SIGURD SCOTT HANSEN, a subject of the King of Sweden and Norway, residing at Christiania, Norway, have invented certain new and useful Improvements in Snow-Boats; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention relates to sleds for use on more or less loose snow; and it consists in a new and improved arrangement and construction of such sleds whereby the same may be used as a boat for sailing on snow-covered ground. The construction of this snow-boat is such that it may be used not only on levels, (as on lakes, prairies, &c.,) but also in hilly or rolling countries and may under certain conditions also be used for arctic purposes.

In the annexed drawings I have shown means for carrying out my invention, though I desire it to be understood that I do not limit myself to the details of construction shown and hereinafter described, as these may be varied without departing from the spirit and nature of my invention.

Figure 1 is a side elevation, and Fig. 2 a ground plan, of a snow-boat embodying my invention. Fig. 3 shows the same in rear elevation. Figs. 4, 5, and 6 are diagrams showing the preferred sail-rigging. Figs. 7 and 8 are diagrammatic plans showing a modified arrangement of the frame and the steering-shoe, and Fig. 9 is a detail.

By referring to Fig. 2 it will be seen that the frame is formed in this case of bars or sills a a', disposed triangularly and braced or stayed by other sills b and c c. The runners are mounted on the frame at the corners of the triangle and are made in the form of snow-shoes d, commonly termed "skees," connected to an axle e by means of braces f. The side skees d have their axis e journaled in bearings g, secured to the under side of the transverse sill a of the triangular frame. The axis e' of the rear or steering skee d' is journaled in bearings formed in the downwardly-bent ends of a yoke h, rotatable on a vertical pivot i. (See detail view, Fig. 9.) Said pivot has its bearing in ears or lugs j at the point of junction of the side sills a' of the triangle formed by the sills a a', at which point said side sills are firmly united by means of said pivot. The ends of the axle project beyond the yoke on either side to be embraced by the fork k of the tiller l, so that the steering-skee may be turned on the pivot i by means of said tiller.

The two side skees are secured to their axles, so that their running or under faces will be at an angle to the horizontal, as shown in Fig. 3, and are provided on one side with a metallic runner or cutter m, which in sailing on hard or frozen snow or other frozen surface cuts into the same and prevents the sled from sliding laterally or being otherwise deviated from its course by the pressure of the wind on its sails. Both ends of the skees are of the same construction, so that they may be reversed in accordance with a reversal of the direction of sailing or according to the direction of atmospheric currents. To this end the bearings for the axles e, to which the skees are secured, may be of any desired or suitable construction which will admit of the ready removal and reversal of the skees. For instance, as shown in Fig. 1 and more clearly in Fig. 9, these bearings may be bifurcated and the axles held therein by removable bolts h', Fig. 9, the ends of the arms of the steering-yoke k being similarly constructed.

In Figs. 4, 5, and 6 I have indicated one way of arranging the sail-rigging. The sail r, which is in the form of a square sail and may be provided with apertures, as shown, for better fetching the wind, is carried by a mast t, erected at one side of the sled (in one of the frame-pieces c) and stayed by means of backstays s. This arrangement makes it possible to keep the sail in a sufficiently oblique position (relatively to a vertical plane) to cause a lifting action upon the sled by the pressure of the wind, which will materially facilitate the floating of the sled upon the snow and reduce the friction.

The dotted lines in Fig. 6 indicate how the sail may be shifted over in case the boat is to be sailed with the rudder-skee ahead.

Figs. 7 and 8 show modifications in the ar-

rangement of the triangular frame, in which one of the side sills a' is parallel with the axis of the boat and the steering-skee d' to one side thereof.

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

1. A snow-boat comprising a triangular frame, a skee at each of its corners, one of said skees serving as a steering-skee; in combination with a mast rigged on said frame closer to the apex of one of the angles than to the apices of the other angles, for the purposes set forth.

2. A snow-boat comprising a triangular frame, a skee at each of its corners, two of said skees arranged with their running-surfaces at an angle to a horizontal, the third skee serving as a steering-skee; in combination with a mast rigged to the frame at a point closer to the apex of one of the angles than to the apices of the others, for the purpose set forth.

3. A snow-boat comprising a triangular frame, and a skee at each of its corners, one of said skees serving as a steering-skee, the other two skees provided on their lee side, midway of their length, with a cutter; in combination with a mast rigged on said frame closer to one of the corners than to the others, for the purpose set forth.

4. A snow-boat comprising a triangular frame and a skee at each corner, one of said skees serving as a steering-skee, the other two arranged with their under faces inclined upwardly from the lee to the windward side, said two skees provided on their lee sides, midway of their length, with a cutter; in combination with a mast rigged on said frame closer to one corner than to the others, for the purpose set forth.

5. A snow-boat comprising a triangular frame, a steering-skee at one of its corners provided with a cutter on each side midway of its length, a skee connected to each of the other two corners with their under faces inclined upwardly from the lee to the windward side, and having a cutter secured to their lee side midway of their length; in combination with a mast rigged on said frame closer to the apex of one of the angles than to the apices of the other two angles, for the purpose set forth.

6. A snow-boat, comprising a triangular frame, a steering-skee at one of its corners and a reversible skee at each of the other corners, said two skees provided with a cutter on one side and midway of their length; in combination with a mast rigged on said frame closer to one corner than to the others, for the purpose set forth.

7. A snow-boat, comprising a triangular frame, a skee at each of its corners, converging braces for two of said skees, one end of said braces secured to opposite sides of the longitudinal center of a skee, a shaft at right angles to said longitudinal axis of a skee, to which shaft the converging ends of the braces are secured, bearings for and in which said shafts have rocking motion and a vertical pivot about which the third skee is adapted to rotate, for the purpose set forth.

8. A snow-boat comprising a suitable frame, reversible side skees, a reversible steering-skee and means for rigging a sail on said frame, for the purposes set forth.

In witness whereof I have hereunto set my hand in presence of two witnesses.

SIGURD SCOTT HANSEN.

Witnesses:
JOH. VAALER,
O. MÜLLER.