

(No Model.)

B. F. HOOK.
SLED.

No. 569,459.

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Fig. 1.

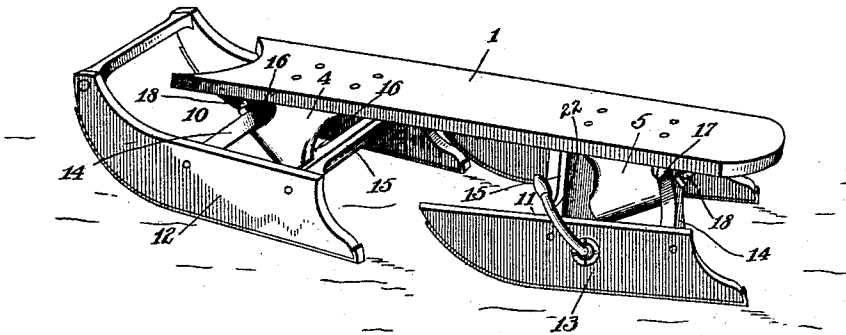


Fig. 2.

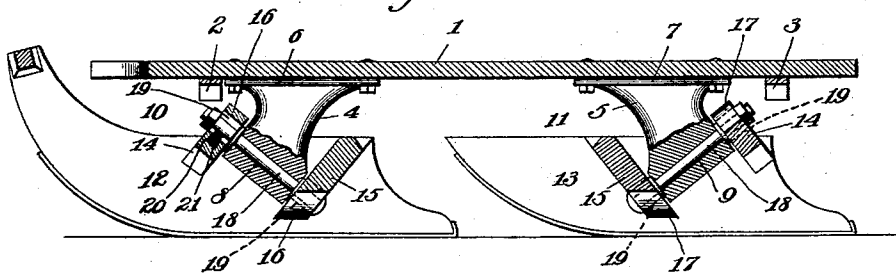


Fig. 3.

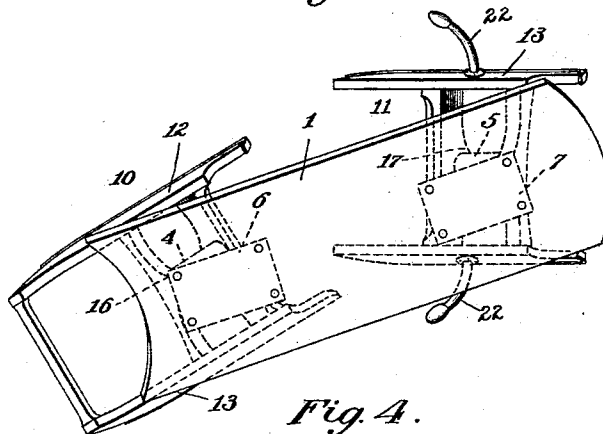
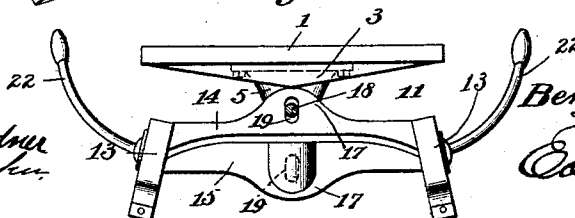


Fig. 4.



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SLED.

SPECIFICATION forming part of Letters Patent No. 569,459, dated October 13, 1896.

Application filed November 1, 1895. Serial No. 567,667. (No model.)

To all whom it may concern:

Be it known that I, BENJAMIN F. HOOK, a citizen of the United States, residing at Holmesville, in the county of Holmes and State of Ohio, have invented certain new and useful Improvements in Sleds; 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.

My invention relates to an improvement in sleds; and its object is to provide means whereby the sled, when used in coasting, may be easily and skilfully steered by the occupant through the movement of his body, allowing him the use of his hands for properly securing himself upon the sled or for other purposes. This concert of movement between the mind and the sled through the medium of the body leads to an increased precision and celerity of action necessary to successfully and safely steer sleds used for coasting purposes. Means are provided for safeguarding against abrupt turning of the sled while in motion. I attain this object by the mechanism hereinafter described, and illustrated in the drawings, in which—

Figure 1 is a perspective view of the sled in the act of turning. Fig. 2 is a longitudinal sectional view, and Fig. 3 is a plan view showing in dotted lines the position assumed when being steered in the opposite direction. Fig. 4 is an end elevation.

Like numerals of reference indicate like parts throughout the several figures of the drawings.

1 represents the body or seat of the sled, which may be of any ordinary or preferred construction. Across the bottom and near the ends are placed strengthening-cleats 2 and 3.

Depending centrally from the sled seat or bottom and arranged at suitable distances from the front and rear ends of the same are castings 4 and 5, provided with base-plates 6 and 7, which are securely bolted or otherwise fastened to the body 1. These castings are formed with bearing-heads having bearings or journals 8 and 9, which are angularly disposed with relation to the horizontal plane of the sled-body and are in the same vertical plane with each other. When viewed in side

elevation, they are at angles to each other. The object and advantage of this arrangement of bearings will be obvious when taken in conjunction with the remaining construction and arrangement of parts.

10 and 11 represent forward and rearward runner-trucks, provided with the usual shoes or runners 12 and 13, sheathed on their contact edges with steel or iron strips. The length of these truck-runners is suitable to allow them freedom of movement without contact with each other, although it is obvious that no disadvantage will arise from their being further separated. These trucks are constructed with pairs of parallel transverse bars 14 and 15. Besides their other and primary function they serve as stays for the runners. They are separated sufficiently to permit of the entrance therebetween of the bearing-heads 8 and 9, and the face of each bar is at right angles to the bearing or journal, or, more properly speaking, of the axis of the bearing or journal.

Projecting from the top of the front and the bottom of the rear transverse bars 14 and 15, respectively, of the forward truck are bearing-ears 16, and analogous to the same but reversely arranged are the ears 17 of the rear truck. These ears are perforated to provide bearings, and such perforations take the shape, preferably, of vertical slots 19.

The bearings of each head and its respective pair of contiguous ears coincide, and passed therethrough is a bearing pin or bolt 18, provided with a securing-nut. It will thus be readily conceived that no unnecessary straining or wrenching of the various parts can occur, owing to the freedom of vertical play afforded the bearing-pins 18 by the bearing-slots 19.

Seated in a depression 20 of each vertically-disposed slot 19 is a buffer-spring 21, which springs lend to the sled-body the necessary amount of elasticity of motion conducive to comfort.

The usual curvature is given to the front ends of the runners of the forward truck, and the usual connecting foot brace or bar is provided whereby, in this instance, the sled may be held to its original course by the pressure of the feet.

From the above construction it will be

clearly seen that an independently and oppositely acting hinge-joint is provided for each truck, and by reason of the fixed relationship of the bearing-heads and the sled body or seat
 5 any lateral oscillating movement of the latter will tend to dispose the trucks at an angle to each other, and as the lateral movement is to the right or to the left so, as a consequence, are the trucks angularly disposed to the right
 10 or the left and a new direction imparted to the speeding sled.

It is a well-known law of nature that objects acted upon or influenced by centrifugal force have a tendency to change the direction of
 15 travel from the arc of a circle to its tangent, and it is the very simple and necessary act of leaning or inclining to the right or to the left, whichever is desired, preparatory to overcoming this centrifugal force which changes the
 20 course of the sled and skilfully steers it.

Should it be desired to vary the degree of inclination of the sled-body with absolute certainty and accuracy, it can be readily done by the addition of curved grasping-bars 22,
 25 attached to the front or rear truck, and one on either side, by means of which the sled occupant can regulate the movement of his body to the right or left. These curved grasping-bars are preferably secured to the rear
 30 truck, one to the outer side of each runner, and project upwardly and slightly forward. They are provided with suitable handles and are curved outward sufficiently to avoid interference with the sled-body while at its various angles to said rear truck, and yet to be
 35 within easy reach of the occupant of the sled.

I do not desire to limit myself to the precise details of construction herein shown and described, but reserve to myself the right and
 40 privilege to alter the same without departing from the spirit of my invention.

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

45 1. In a sled of the character described, the combination with the sled-body 1, and the bearing-heads 4 and 5 attached thereto, said bearing-heads being angularly disposed with relation to the sled-body and reversely dis-

posed with relation to each other, of the forward and rear reversely-acting runner-trucks 10 and 11, comprising the runners 12 and 13 and the parallel connecting brace-bars 14 and 15, the bearings 19 carried by said brace-bars, the recesses 20 formed in the bottoms of said
 55 bearings, the springs 21 located in said recesses and the axles 18 mounted in said bearing-heads and projecting on either side thereof, said projecting ends being journaled in the spring-cushioned bearings 19 carried by
 60 the parallel connecting brace-bars 14 and 15, substantially as described.

2. The combination with a sled, provided with independently-movable trucks and designed to be steered by the tilting of the sled-body thereon, of the outwardly-projecting
 65 handles or grasping-bars attached to the runners of one of the trucks and adapted to be grasped to control or vary the degree of inclination of the sled-body, substantially as described.

3. In a sled of the character described, the combination with the sled-body and the bearing-heads attached thereto, said bearing-heads being angularly disposed with relation
 75 to the sled-body and reversely disposed with relation to each other, of the forward and rear reversely-acting runner-trucks, comprising the runners and the parallel connecting brace-bars, the bearings carried by said brace-bars, the recesses formed in the bottoms of said
 80 bearings, the springs located in said recesses and the axles mounted in said bearing-heads and projecting on either side thereof, said projecting ends being journaled in the spring-cushioned bearings carried by the parallel
 85 connecting brace-bars; and the outwardly-projecting handles attached to the runners of the rear truck and adapted to be grasped to control or vary the degree of inclination of
 90 the sled-body, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

BENJAMIN F. HOOK.

Witnesses:

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 A. H. SWITZER.