J. O. NELSON.

SLED.

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989,395.

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Fig. 1.

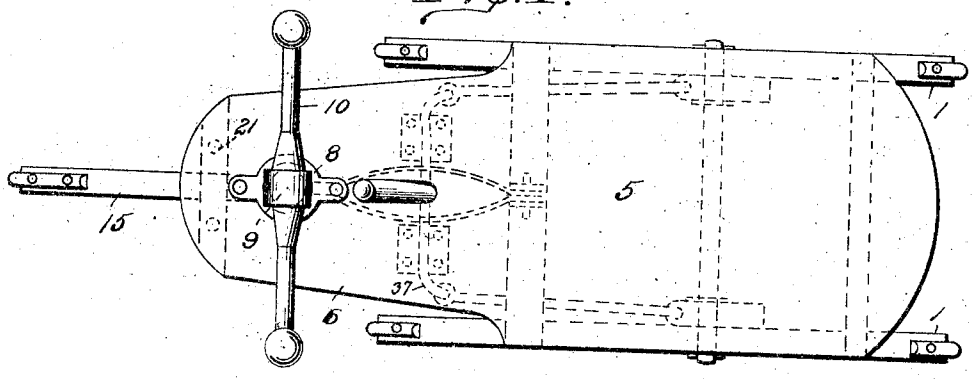


Fig. 2.

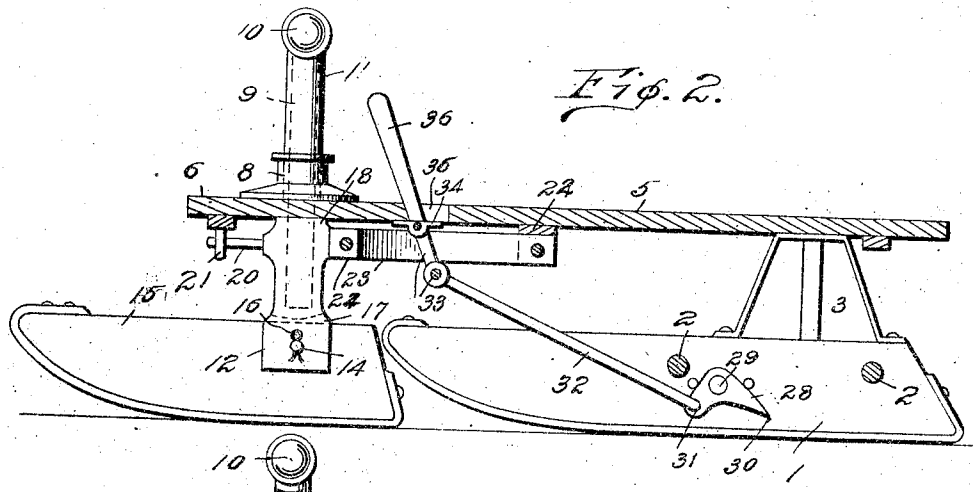
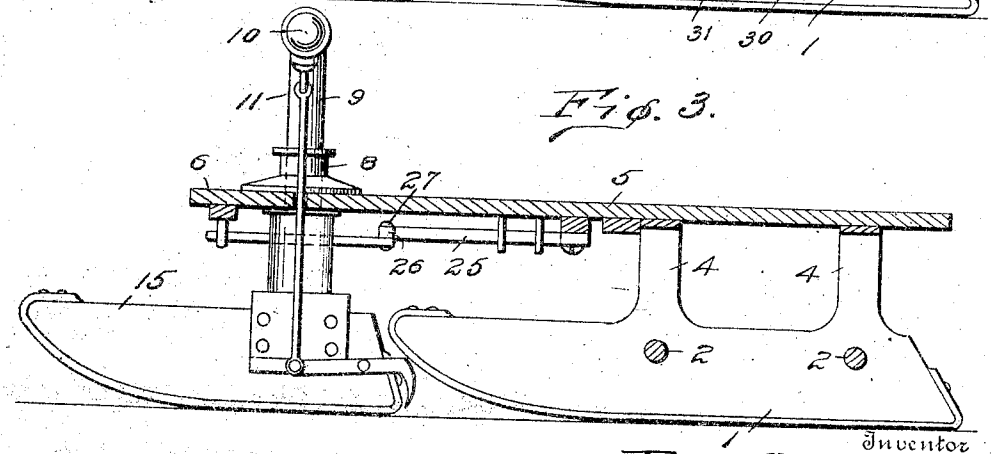


Fig. 3.

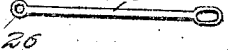


Witnesses

H. Straus

M. E. Moore

Fig. 4.



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UNITED STATES PATENT OFFICE.

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SLED.

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To all whom it may concern:

Be it known that I, JOHN O. NELSON, a citizen of the United States, residing at Worcester, in the county of Worcester and State of Massachusetts, have invented certain new and useful Improvements in Sleds, of which the following is a specification.

My invention relates to improvements in sleds, and the leading object of my invention is the provision of an improved form of sled which can be more readily guided than the common forms of sleds now in general use and which will therefore be especially desirable for children and ladies or others at present prevented from sliding on account of inability to guide the sled by dragging the feet or by lack of strength to satisfactorily bend the runners of the sleds of the flexible type.

A further object of my invention is the provision of a readily steerable sled which shall have means secured thereto for rapidly stopping the same.

To attain the desired objects of my invention, my sled consists in a main sled having an additional guiding runner and having brakes carried by the body of the sled for stopping the same, the invention further residing in the novel features of construction and combination and arrangement of parts for service substantially as described and as illustrated in the accompanying drawings.

Figure 1 represents a top plan view of the preferred form of my invention, the parts underlying the cover being indicated in dotted lines. Fig. 2 represents a longitudinal vertical sectional view of the sled. Fig. 3 represents a similar view of a modified form thereof, and, Fig. 4 represents a view of the guiding runner thereof removed and illustrating the brake setting and securing means.

In the drawings, in which similar characters of reference are employed to denote corresponding parts in the several views, the numeral 1 designates the rear runners, there being a pair of said sections connected by suitable braces 2 to retain them in spaced relation, while supported by said runners, either through the medium of the brackets 3 or the integrally formed lugs or projections 4 in the seat board 5, said board having a forwardly extending portion 6 of reduced width extending beyond the forward ends of the runners and having a socket 7 formed in said portion surmounted by the bearing bracket 8.

Extending downward through the bracket and socket is the guiding shaft or rod 9 having on its upper end the handles 10 extending laterally therefrom at right angles thereto, while engaged on the shaft 9 and bearing against the bracket 8 is a collar 11 serving to secure the shaft in position. The portion of the shaft below the seat board is of larger diameter than the bore of the socket and bracket and terminates in a bifurcated lower end 12 having openings 13 formed therein in which are engaged the securing pintle 14 on which is mounted the front single runner 15, pins 16 being engaged in the ends of the pintle for securing the same in position. It will be observed that the runner does not extend entirely to the top of the slot 17 between the two portions of the lower end of the shaft and that said slot is slightly curved, thus permitting the runner 15 to rock therein and accommodate its position to the inequalities of the surface over which it is passing while but slightly moving the shaft and in this manner providing a much easier riding sled than if the front runner were rigidly secured to the guiding shaft.

The shaft 9 is preferably formed from metal tubing although it will be understood that it may be made of wood or other material, in which case the bifurcated portion is provided with a socket engaging the lower end of the shaft, while to limit the upward movement of the shaft and runner and cause the runner 15 to support a part of the weight on the seat board, the shaft is provided with an enlargement or collar 18 which bears against the under side of the seat board, a washer 19 being interposed between the parts to facilitate the rocking of the shaft to shift the guide runner. Extending forward from the shaft is a pintle 20, while the board is provided on its under side with a pair of abutments 21 for limiting the movement of the shaft and thus prevent the runner from being swung beyond a certain angle and lessening the liability of upsetting of the sled due to making too short turns as often occurs.

To aid the rider in keeping the sled in a straight course and prevent zig-zag or wild running thereof I secure on the under side of the board 5 a brace 22, while secured to said brace centrally of its length is a spring member 23, said spring being preferably of elliptical or double bow form and extending forward and having its other end secured

to the lug 24 on the shaft 9, the force of the spring being exerted to retain the shaft in a position where the runner 15 will lie parallel to the runners 1, the rocking of the shaft and shifting of the runner 15 being against the force of the spring which tends to return the parts to normal position as soon as the shifting pressure is removed.

In Fig. 3 a slight modification is shown in which the spring 25 is of the ordinary blade type and has an eye 26 pivotally engaged on the lug 27, the rocking of the shaft bending the spring in the same manner as in the form shown in Figs. 1 and 2.

From the foregoing description taken in connection with the drawings it will be seen that I have provided a new and improved form of steering mechanism for sleds which can be readily operated by any one, young or old and which will therefore greatly enhance the pleasures of sliding, in that it insures safety of riding and of ability to turn out of the way of obstacles for those unskilled in the sport which is now enjoyed only by the skilled, and it will be understood that the tension of the spring will vary according to the size of the sled and the relative strength of the person for whom it is intended.

To further increase the value and safety of my sled I have applied thereto an improved brake for stopping the sled, two forms of the same being shown in the drawings and both embodying the same idea, the one, however being applied to the single runner while the other is applied to the pair of rear runners. This brake, as shown in Figs. 1 and 2 consists of an L-shaped member 28 pivotally secured to each of the runners by the bolt 29, said member having a pointed end 30 and having an eye 31 formed in the other end in which is engaged one end of the link 32, the other end of said link being pivotally secured to the rock shaft 33 journaled in the bracket-plates 34 secured on the under side of the board 5, said board having a slot 35 formed therein above the rock shaft through which extends the operating handle 36 for rocking the shaft, the ends 37 of the shaft being bent downward and when rocked throwing the links and thus the arm of the L-members secured thereto upward and bringing the points 30 into engagement with the surface over which the sled is passing, if desired a segment 38 being carried by the board and adapted to be engaged by a dog 39 carried by the handle to lock the handle in adjusted position to have the brake constantly retard the progress of the sled. To limit the movement of the member 28 and keep it in engagement with the road I provide an abutment 40, and to return the same to normal position and retain it out of operation I secure to the pointed arm a spring 41 having its other end secured to the runner, a second abutment 52 being provided to limit the pivotal movement of the member under the influence of the spring.

In the modified form shown in Figs. 3 and 4, I employ a similar member 43 to the member 28, said member 43 being pivotally secured to the runner 15 and having its pointed arm 44 extending down behind the runner, while a link 45 extends upward along the shaft 9 and connects the member with the lever 46, said lever being pivotally secured to the shaft and having a handle or grasping portion 47, while a spring 48 is placed between the lever 46 and the handles 10 for holding the lever and brake in operative position, this form thus providing a brake which can be operated without removing the hand from its grasp of the steering handles.

It is evident that I have provided a simple, cheap and durable sled which may be manufactured from either wood or metal and which is thoroughly efficient and desirable in every particular and will recommend itself to all as safe and extremely easy to control.

I claim:

In a sled, the combination with a seat board having a forward extension, of a pair of runners secured to the rear portion of said board, the board having a reinforced socket formed therein, a steering rod passing through said socket and provided with handles on its upper end, a bifurcated casting secured on the lower end of the steering rod and bearing against the seat board, a runner mounted between the bifurcations of the casting and pivotally secured thereto, the casting at the base of the bifurcated portion being convexed to permit of slight rocking of the runner on its pivot, lugs projecting from diametrically opposite sides of the casting and in alinement with the runner, a guide-bracket secured to the board in which one of said lugs is adapted to move, and a bow spring member having one end secured to the other lug and the other end to the seat board, said spring yielding when the casting and thus the runner is turned but tending to throw said runner back into parallel alinement with the rear runners, substantially as described.

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

JOHN O. NELSON.

Witnesses:

JOHN BAXTER,

GEO. M. SHREPPY.