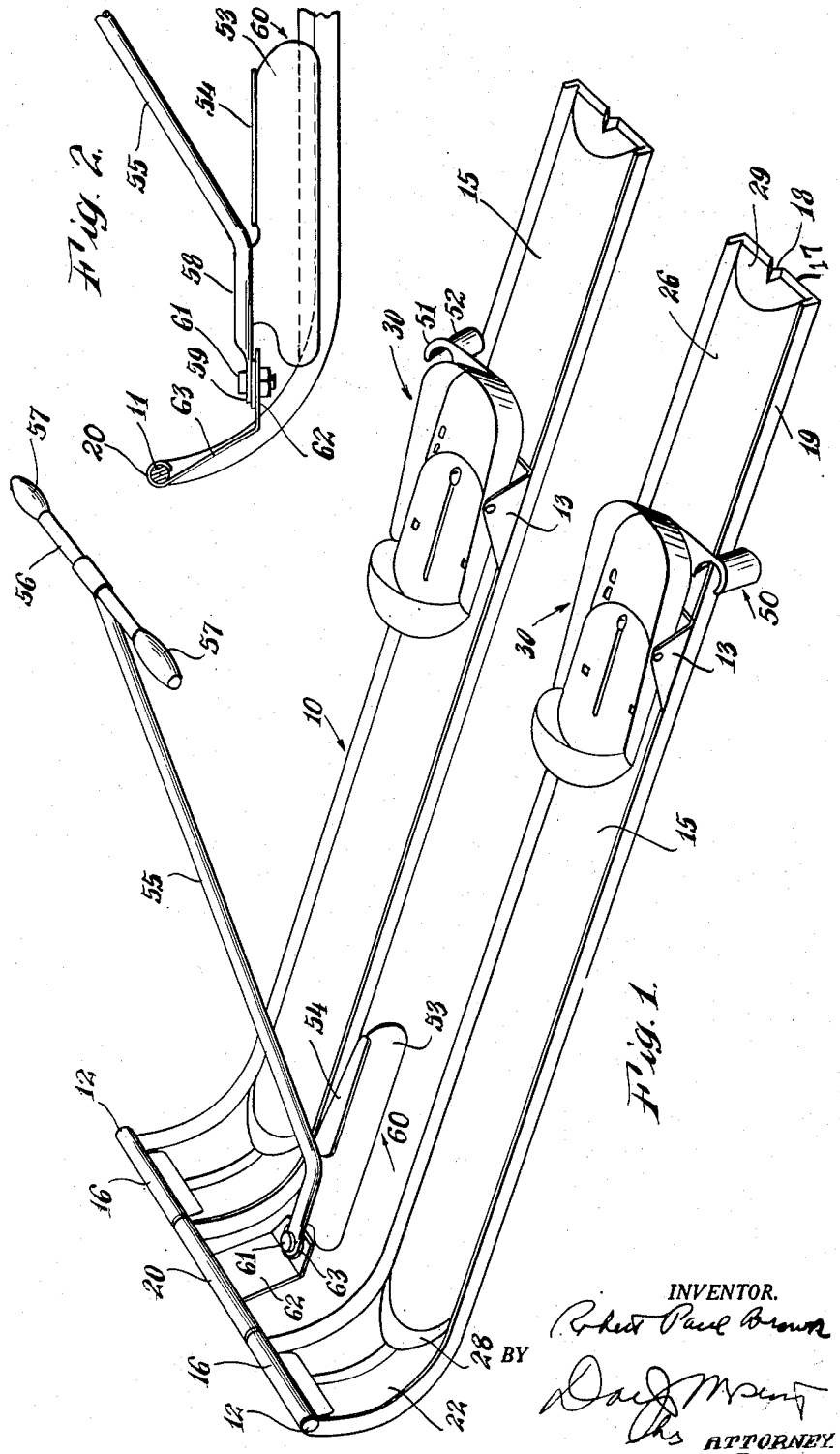
April 22, 1952 R. P. BROWN 2,593,974

SKI SLED

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Fig. 3.

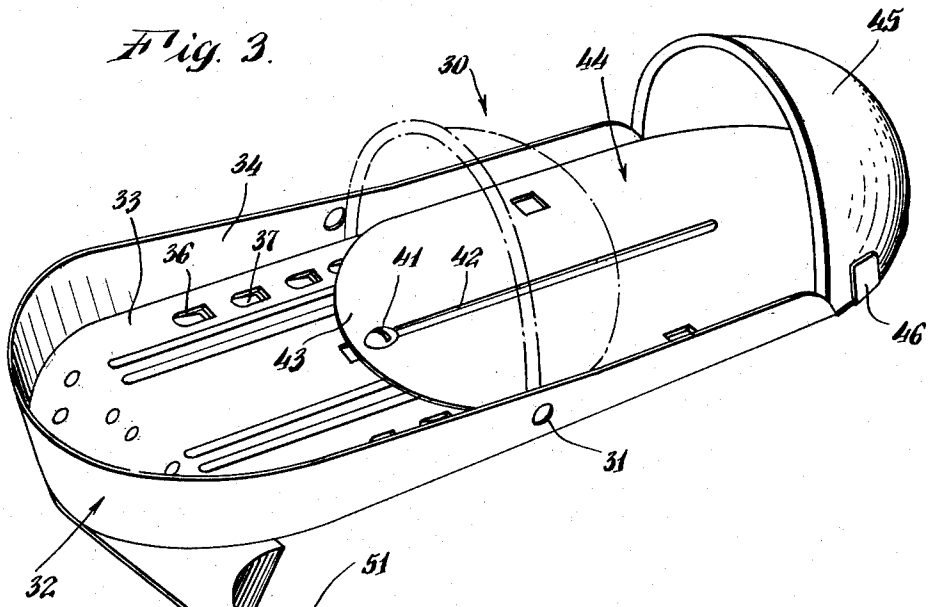


Fig. 4.

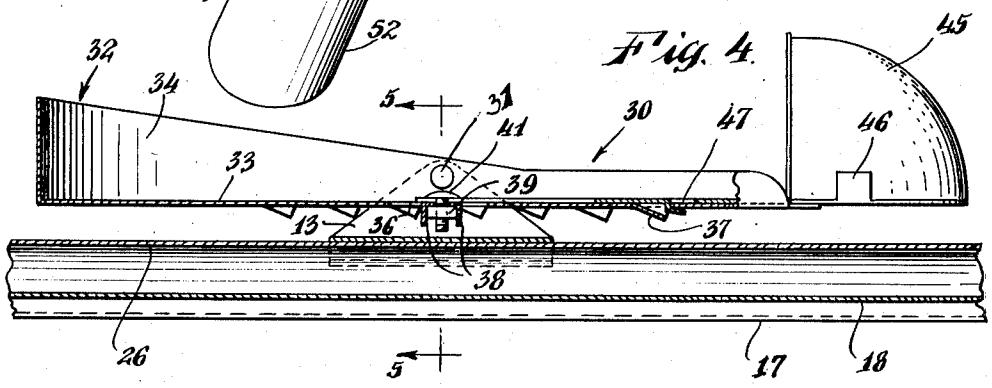
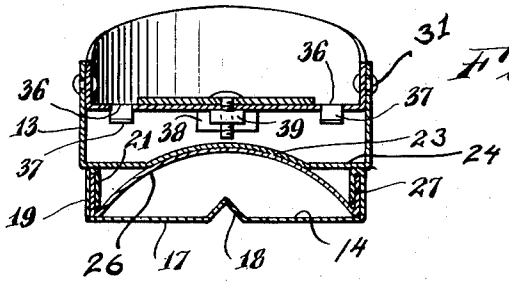


Fig. 5.



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2,593,974

SKI SLED

Robert Paul Brown, White Plains, N. Y.

Application October 7, 1948, Serial No. 53,190

2 Claims. (Cl. 280—21)

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This invention relates to a novel ski-sled comprising a pair of interconnected skis having steering and braking arrangements associated therewith. Seats may also be mounted on the sled. The present invention is an improvement over that described in my copending application Serial No. 22,182, filed April 20, 1948, now Patent No. 2,564,420, dated August 14, 1951.

In the present arrangement, a pair of tubular section skis have their front ends interconnected and held in laterally spaced relation by a cross rod. The intermediate portion of this cross rod acts as a horizontal pivot for vertical swinging movement of a combined steering blade and braking spoon, having an elongated rearwardly and upwardly extending operating handle secured therewith. The handle is in turn pivoted to the vertically swingable means so that the steering blade may be swung laterally. By moving the handle downwardly, the braking spoon is engaged in the snow to decelerate the sled, and by swinging the handle in either lateral direction, the sled may be effectively steered.

A feature of the invention is the use with the skis of novel, quickly adjustable shoe plates, each comprising a pair of relatively adjustable heel and toe members. These shoe plates are mounted on the skis on horizontal pivoting axis, so that the shoe plates may be tilted either forwardly or rearwardly. The rear end of each shoe plate carries a braking member which is arranged to dig into the snow when the shoe plates are tilted rearwardly. Thus, the user of the ski-sled may brake the same by pulling downwardly on the aforementioned handle while at the same time tilting the shoe plates rearwardly. The shoe plates may also be used selectively to assist the steering of the sled by digging one or the other of the attached braking means into the snow to exert a braking action on either side of the sled.

With the foregoing in mind, it is among the objects of this invention to provide a novel ski sled having multiple steering and braking means incorporated therewith.

Another object is to provide such a ski-sled having novel foot plates on the skis, with braking and steering means incorporated with the foot plates and operable by tilting movement of the latter.

These, and other objects, advantages and novel features of the invention will be apparent from the following description and the accompanying drawings. In the drawings:

Fig. 1 is a perspective view of one embodiment of the invention.

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Fig. 2 is an elevation view, partly in section, of the steering and braking spoon and its mounting.

Fig. 3 is a perspective view of an adjustable foot rest incorporated in the ski device of Fig. 1.

Fig. 4 is a longitudinal sectional view through the foot rest and its supporting ski.

Fig. 5 is a transverse sectional view on the line 5—5 of Fig. 4.

Referring first to Figs. 1 through 5, the ski-sled 10 of the invention includes a pair of skis 15, 15 interconnected at their forward ends by a rod 11 sildably engaged in sleeve portions 16, 16 at the tips of the skis. Nuts, heads, or the like 12, 12 on rod 11 maintain skis 15, 15 against outward displacement on rod 11, and a sleeve 20 intermediate sleeve portions 16, 16 maintains the skis laterally spaced. As will be described hereinafter, sleeve 20 carries the steering and braking means for sled 10.

Skis 15 may be of the hollow tubular metal type described in copending application Serial No. 22,182, filed April 20, 1948. Each ski 15 includes a lower elongated channel member 14 whose base 17 acts as the snow running face of the ski and has suitable means, such as a groove 18, stabilizing the ski against lateral sliding movement. The flanges 19 of member 14 are bent inwardly to form re-entrant portions 21 spaced slightly from the flanges.

The ski further includes an upper, transversely arched, elongated member 26 which has upstanding longitudinal flanges 27 interfitted with re-entrant portions 21 of flanges 19. The two interlocked members 14, 26 form a tubular, reinforced structure for ski 15.

Channel 26 has an upturned forward end 22, which forms the toe of the ski, and base 17 is continued beyond flanges 19 and curled on itself to form sleeve portion 16. The forward end of arched member 26 has flanges 28 riveted or otherwise secured to toe 22, and the rear end is flattened and bent down into channel 16, as at 29, to close the rear end of the tubular structure.

Intermediate the end of each ski 15, a channel-shaped saddle 13 is riveted or otherwise secured to member 26, being provided with an arched portion 23 conforming to member 26 and flattened portions 24 resting on the re-entrant flange portions 21. The upstanding flanges of saddle 13 are triangular, and the apex of each flange is apertured and carries a rivet 31 acting as a pivot bearing for foot plate or rest 30.

The foot plates 30 form an important feature of the present invention, and are lockingly adjustable to different length to accommodate the

shoe size of the user. Each foot plate comprises a heel member 32 pivoted on rivets 31 and includes a base 33 having a U-shaped flange 34 along both sides and its rear end. Flange 34 increases in height toward the rear of base 33. Base 33 has two parallel rows of apertures 36 formed by partially severing tongues 37 from the base. At substantially the center of base 36, two oppositely directed tongues of metal 38, 38 are struck downwardly to form a lock for a nut 39 on a bolt 41 which extends through an elongated slot 42 in the base 43 of toe member 44. The latter has an arched toe member or cap 45 at its forward end secured to tabs 46 on base 43. At two transversely aligned points longitudinally aligned with apertures 36, base 43 has shouldered tongues 47 struck downward therefrom to engage in apertures 36.

Adjustment of the length of shoe plates 30 is effected by loosening bolt 41 with a screwdriver. Toe member 44 is lifted slightly and moved over heel member 32 until the right length is attained. Tongues 47 are then engaged in apertures 36 (Fig. 4) and bolt 41 is tightened, with nut 39 being held from turning by flanges 38.

A feature of the shoe plate is the braking means. This comprises a member 50 having a flange 51 secured by rivets or the like to the rear of heel member base 33. Member 50 extends to either side of the shoe plate, and has forwardly concave flanges 52 at each end extending normally to flange 51. In operation, the user leans forward, tipping shoe plates 30 forwardly. To brake the sled, the user tips the plates 30 backward so that flanges 32 dig into the snow to decelerate the sled 10.

A steering and additional braking means 60 is provided for the sled, and comprises a vertical blade 53 having a triangular horizontal flange 54 on its upper edge. Blade 53 is welded, or otherwise secured to or formed integral with an elongated tubular handle 55 having a cross piece 56 provided with grips 57. The bent forward end 58 of rod 55 lies along the forward part of the upper edge of blade 53 and has a flattened part 59 projecting beyond blade 53. A bolt and nut 61 pivotally secure part 59 to the bent end 62 of a flange 63 formed as an extension of sleeve 20.

The sled 10 may be steered by swinging handle 55 to either the right or left, at the same time depressing the handle to engage blade 53 in the snow. The blade acts against the snow to deflect the skis in the desired direction. To brake the sled, handle 55 is further depressed to engage flange 54 against the snow, at the same time as the user tips plates 30 rearwardly to dig members 50 into the snow.

While specific embodiments of the invention have been shown and described in detail to illustrate the application of the principles thereof, it will be understood that the invention may be otherwise embodied, without departing from such principles.

What is claimed is:

1. A device of the class described comprising, in combination, a pair of skis; a cross member interconnecting the front ends of said skis and maintaining such front ends in substantially fixed laterally spaced relation; a bracket mounted on said member for vertical oscillation relative thereto; a braking and steering means secured to said bracket for lateral oscillation relative thereto; an elongated handle secured to said means to swing the same downwardly into a snow-engaging position and laterally to effect steering of the device; a pair of shoe plates each mounted on one of said skis for vertical oscillation relative thereto; and a snow-engaging brake on the rear end of each plate operative into braking position by rearward tilting of the plate; whereby an operator can depress said handle and tilt said plates rearwardly to decelerate said device, said plate supported brakes being selectively operable to exert a drag on either ski to assist in steering the device.

2. A device of the class described comprising, in combination, a pair of skis; a cross member interconnecting the front ends of said skis and maintaining such front ends in substantially fixed laterally spaced relation; a bracket mounted on said member for vertical oscillation relative thereto; a steering blade having a braking flange and secured to said bracket for lateral oscillation relative thereto; an elongated handle secured to said blade to swing the same downwardly into snow-engaging position and laterally to effect steering of the device; a pair of shoe plates each mounted on one of said skis for vertical oscillation relative thereto; and a snow-engaging brake on the rear end of each plate operative into braking position by rearward tilting of the plate; whereby an operator can depress said handle and tilt said plates rearwardly to decelerate said device, said plate supported brakes being selectively operable to exert a drag on either ski to assist in steering the device.

ROBERT PAUL BROWN.

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