

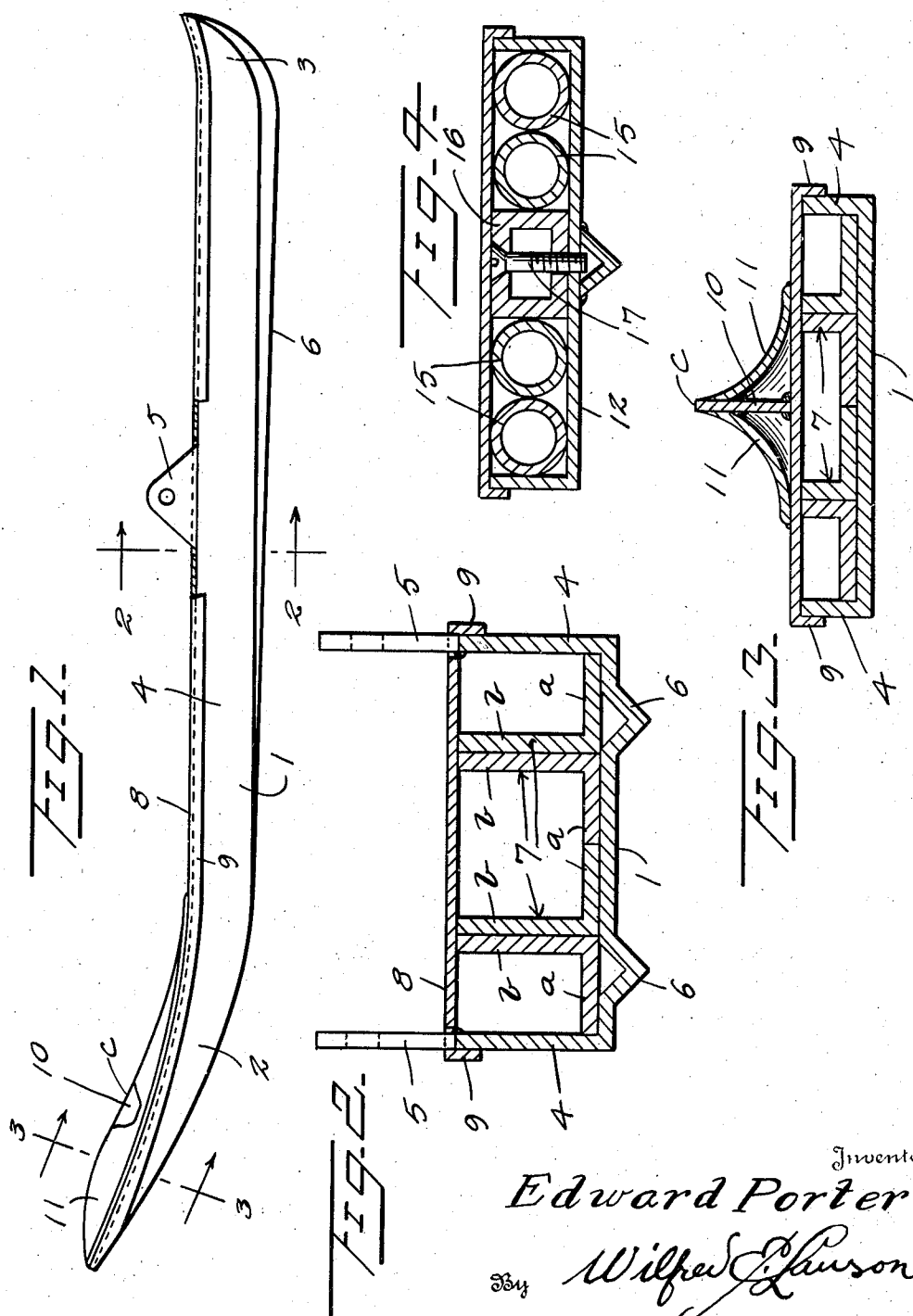
July 23, 1946.

E. PORTER

2,404,402

SKI RUNNER

Filed July 23, 1943



Inventor
Edward Porter
By *Wilfred Lawson*
Attorney

UNITED STATES PATENT OFFICE

2,404,402

SKI RUNNER

Edward Porter, Akron, Ohio, assignor of twentyeths to Alvin W. Larson, Akron, Ohio

Application July 23, 1943, Serial No. 495,907

8 Claims. (Cl. 280—28)

1

This invention relates to ski runners and has relation more particularly to devices of this kind especially designed and adapted for use with vehicles of a power driven type and it is a primary object of the invention to provide a ski runner of a type to facilitate the travel of a vehicle over a deep snow terrain.

It is also an object of the invention to provide a ski runner with means at its forward portion to facilitate passage through a snow drift and wherein the rear or heel portion of the runner is provided with means to facilitate backing up of the runner.

A still further object of the invention is to provide a ski runner which is light in weight but constructed in a manner to assure requisite strength.

An additional object of the invention is to provide a runner of this kind including effective means to prevent side slippage or lateral skidding to assure straight ahead travel over a snow terrain.

The invention will best be understood from a consideration of the following detailed description taken in connection with the accompanying drawing, it being understood, however, that the invention is not to be considered as limited by the specific illustration or description but that such illustration and description constitute a preferred embodiment of the invention.

In the drawing:

Figure 1 is a view in side elevation of a ski runner constructed in accordance with an embodiment of the invention;

Figure 2 is a sectional view substantially on the line 2—2 of Figure 1, looking in the direction of the arrows;

Figure 3 is a sectional view taken substantially on the line 3—3 of Figure 1, looking in the direction of the arrows;

Figure 4 is a transverse sectional view taken through a ski runner constructed in accordance with another embodiment of the invention.

In the embodiment of the invention as illustrated in Figures 1 to 3 of the drawing, 1 denotes an elongated runner preferably of a light weight steel alloy and having its under or tread surface highly polished. This runner 1 is of desired length and width and has its forward extremity disposed upwardly, at 2, to facilitate its advance over a snow terrain while the rear extremity thereof is disposed upwardly on a short radius to provide a heel 3 to facilitate backing up of the runner and more especially when the snow terrain is deep.

2

The side or longitudinal marginal portions of the runner 1 are provided with the upstanding flanges 4 which serve to strengthen or reinforce the runner 1 and these flanges 4 extend from the extreme front end of the runner 1 to the extreme rear end thereof.

At required points intermediate the ends thereof the flanges 4 are provided with the upstanding bracket plates 5 or the like to provide means whereby the ski runner is operatively applied to the vehicle with which it is to be employed. As the mounting of the ski runner forms no part of the present invention, a detailed description and illustration of such a mounting is not believed necessary.

The runner 1 has pressed therefrom or otherwise formed the transversely spaced ribs 6, shown as two in number and which extend lengthwise of the runner 1 from points forwardly of the longitudinal center of the runner 1 to the heel 3. Each of these ribs, as herein comprised, is V-shaped in cross section at all points therealong with the apex thereof downwardly directed and as is illustrated in Figure 1 of the drawing, each of the ribs continuously increases in depth from "a" at its forward end to a point closely adjacent to the heel 3.

Resting upon the runner 1 and extending from substantially one end to the other are the reinforcing members 7 of light weight steel alloy or other comparatively light material. These members 7 are L-shape in cross section with their foot flanges a contacting the runner 1 and their leg flanges b upwardly disposed. As herein embodied, the leg flanges b of adjacent members 7 abut and the sum of the lengths of the foot flanges a equals the space between the flanges 4.

The upper edges of the leg flanges b of the members 7 are substantially flush with the upper edges of the flanges 4 of the runner 1 and disposed over the runner 1 and resting from above on the upper edges of the legs b of the members 7 and the upper edges of the flanges 4 is a cover sheet or plate 8. This sheet or plate 8 is of a light weight steel alloy or other equally light weight material and is preferably of slight thickness. The side marginal portions of the sheet or plate 8 overlap, as at 9, the outer face of the upper portions of the flanges 4 and are welded or otherwise secured.

The forward end portion of the sheet or plate 8, or that portion overlying the forwardly upwardly disposed portion 2 of the runner 1, is provided at its transverse center with an upstanding blade 10, which provides means to facili-

3

tate travel of the runner should the same penetrate a snow drift or the like. As is clearly shown in Figure 1 of the drawing, the upper or working edge c of this blade 10 is arranged on an upward curvature.

To facilitate raising of the forward portion of the runner 1 when in a snow drift or the like and to prevent packing of snow along opposite sides of the blade, there are provided at opposite sides of the blade 10 the downwardly and outwardly curved aprons or plates 11. These aprons or plates 11 are preferably of thin light metal and welded into place and such aprons or plates 11 extend outwardly and laterally from the blade 10 at a point materially below the upper or working edge c of the blade.

In the embodiment of the invention as illustrated in Figure 4, the runner 12 at its transverse center is provided with a single depending rib which serves as a rudder or stabilizing element the same as the ribs 6 of the first embodiment. Resting upon the runner 12 are the longitudinally extending light weight alloy steel tubes 15, shown as four, and interposed between the pairs of tubes 15 is a spacer element 16, held in place in any desired manner as indicated at 17.

I claim:

1. A ski unit comprising an elongated flat runner having an upwardly curved forward end, elongated elements resting upon the runner in abutting side by side relation and covering the major width of the runner, means holding the runner and elements in assembly, and a rib depending from the runner and extending lengthwise thereof, said rib starting at and progressively increasing in depth from the beginning of the curve of the forward end.

2. A ski unit comprising an elongated flat runner having an upwardly curved forward end, a cover plate overlying and coupled with the runner, an upstanding blade upon the top of the cover plate and at the forward end of the ski at substantially the longitudinal center of the ski, and aprons extending downwardly and laterally from the upper edge portion of the blade to the cover plate.

3. A ski comprising a long flat body having a substantial portion of one end curved upwardly and having a short up-curved rear end portion,

4

the bottom face of the body being flat, and a rib depending from said bottom face and extending from the start of the up-curve at the forward end rearwardly to the end of the up-curve at the rear end.

4. A ski as set forth in claim 3, in which said rib is of gradually and constantly increasing depth from its forward end to the beginning of the up-curve at the rear end.

5. A ski comprising a long hollow body, and tubular reenforcing members therein in contacting side by side relation one with the other and with opposite sides of the body and extending longitudinally of the body.

6. A ski comprising a long hollow body having a flat bottom portion, upstanding side portions and a top portion connecting the side portions, a substantial portion of the body at one end curving upwardly and being of gradually decreasing height from the beginning of the up-curve to the adjacent end of the body, an upstanding rib secured longitudinally of the center of said top portion throughout the extent of said up-curve, and aprons extending downwardly and laterally from the top edge of said blade throughout the length of the blade to and connected with the said top portion.

7. A ski as set forth in claim 6, with a depending rib extending lengthwise of the bottom face of said bottom portion from the beginning of the up-curve of said forward end portion to the rear end of the bottom portion, the rib being of gradually and constantly increasing depth from the forward end through the major extent of the bottom portion.

8. A ski as set forth in claim 6, with a depending rib extending lengthwise of the bottom face of said bottom portion from the beginning of the up-curve of said forward end portion to the rear end of the bottom portion, the rib being of gradually and constantly increasing depth from the forward end through the major extent of the bottom portion, the rear end of the body having a short up-curved portion and said rib being continued in gradually decreasing depth through the longitudinal extent of said short up-curved rear end portion.

EDWARD PORTER.