March 7, 1967 R. R. JACKMAN 3,307,209

PONTOON SUPPORT DEVICE FOR USE IN WATER AND ON SNOW

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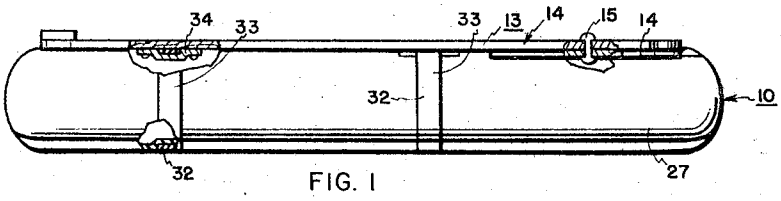


FIG. 1

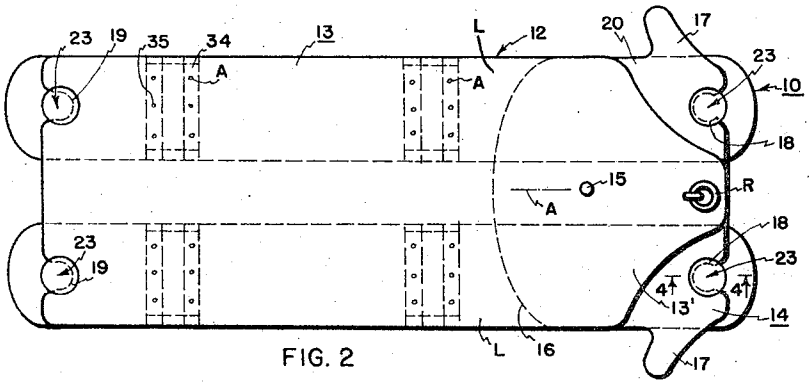


FIG. 2

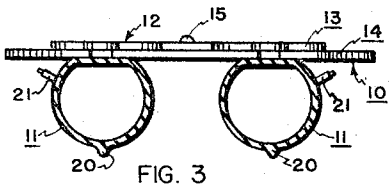


FIG. 3

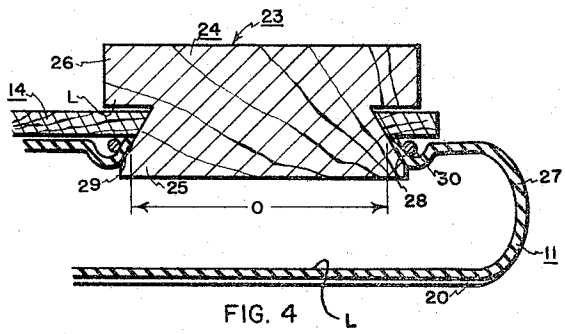


FIG. 4

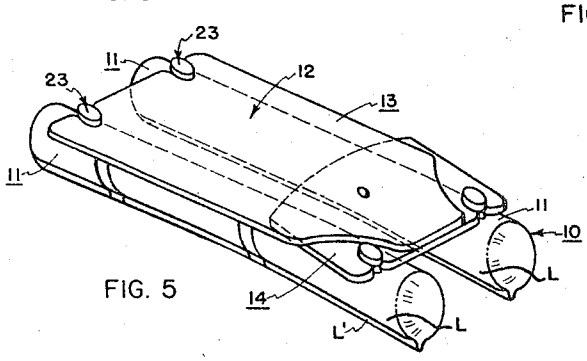


FIG. 5

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PONTOON SUPPORT DEVICE FOR USE IN WATER AND ON SNOW

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The present invention relates to recreational devices in the sled class and, more particularly, to a new and improved, steerable, pontoon equipped support device which is readily useable for both snow and water sports.

The present invention resides in the general area of sleds and toboggans. In the case of conventional sleds steel runners are universally used. These have proven to be very dangerous to children and others using sleds; often many serious accidents occur.

The present invention provides a sled-type device with rubber, or other elastomer pontoons of an inflatable type. This is proven valuable in not only reducing injuries in snow, and also adapts the structure for both toboggan and even water-sled usage.

Accordingly, a principal object of the present invention is to provide a new and improved, pontoon support device of a sled-type.

A further object is to provide a support device which may be used as a sled, toboggan, or even water sled.

A further object is to provide a pontoon device which can be steered on snow and/or water.

An additional object is to provide a novel pontoon for supporting structure which is inexpensive to manufacture, easy to install, and satisfactory for steering.

The features of the present invention which are believed to be novel are set forth with particularity in the appended claims. The present invention, both as to its organization and manner of operation, together with further objects and advantages thereof, may best be understood by reference to the following description, taken in connection with the accompanying drawing in which:

FIGURE 1 is a side elevation of the pontoon support structure as contemplated by the present invention.

FIGURE 2 is a top plan of the structure shown in FIGURE 1.

FIGURE 3 is a front elevation of the structure shown in FIGURES 1 and 2.

FIGURE 4 is an enlarged, fragmentary detail, principally in section and taken along the line 4—4 in FIGURE 2, of a representative end portion of a respective pontoon employed to mount the pontoon to a respective area of the support structure of the device.

FIGURE 5 is a perspective view of the device of the present invention in its course of travel on a downhill run.

In the drawings the pontoon support device **10** includes as its principal members a pair of pontoons **11** and a support structure **12** disposed thereover and attached thereto. The support structure **12** includes a horizontal, substantially flat, support member **13** and a steering member **14** pivotally secured to the former by pivot attachments **15**. Preferably, the steering member **14** is pivoted to support member **13** at a point which lies along the longitudinal central axis A' of support member **13**. For maximum freedom of movement of steering member it is desired that the rear edge **16** of the same be arcuate, as shown.

The steering member **14** includes laterally extending steering ears **17** on both sides of the structure, as indicated. Also included are inwardly extending, pontoon mounting recesses **18**, the same corresponding to the pontoon mounting recesses **19** disposed at respective rearward areas of the support member **13**.

At this point it is deemed desirable to discuss the individual pontoons that will be used. These are formed of a suitable elastomer such as natural or synthetic rubber, and include depending, longitudinal runner edges **20**. Conventional valve stems **21** will also be provided. The runner edges **20** are preferably molded or otherwise formed into the underside areas of the pontoons **11**. The pontoons are of a type which are capable of compressed air inflation.

It will be seen with respect to the drawings that the pontoons do include upstanding mounting means **23**. As seen in FIGURE 4 the mounting means may take the form of substantially cylindrical plugs **24** each having a conically-configured base portion **25** and an overlapping head or lip portion **26**. The individual pontoons **11** themselves include the elastomer pontoon member **27** provided, in addition to the individual runner edges **20**, with a pair of annular molded lips **28**. The conically configured base portion **25** will be preliminarily inserted interiorly of a respective lip **28** at the open area thereof, a suitable rubber cement at **29** applied, and a metal retainer ring **30** disposed in place. Thus, when the pontoon is inflated, the conically-configured base portion **25** will tend to wedge outwardly and thus squeeze the lip **28** between the same and the metal retainer ring **30**. The rubber cement will complete the sealing bonding between the mounting means **23** and the pontoon member **27**. Each of the pontoons will comprise a respective pontoon member **27** having the upstanding mounting means **23** affixed as indicated. While there are conceivably other ways in which the mounting means **23** can be devised as, for example, by an upstanding molded part, yet is deemed preferably the construction be as indicated in FIGURE 4. The mounting means **23** may be rubber, wood, plastic, or other rigid or semi-rigid material. It is essential, however, that an over-lapping lip L be provided so that the pontoons may be mounted to the support member **13** and steering member **14**.

The individual pontoon members **27** likewise preferably include an exterior, transverse peripheral groove **32** for accommodating the positioning of elastic retainer straps or bands **33**. Each of the retainer straps is retained in place by respective brackets **34**, the latter being provided with screw attachments **35** for securement to the support member **13**. The screws **35** along row A with respect to each of the brackets **34** may be preliminarily loosened so that the straps can be implaced in the brackets **35**, as desired. The rubber straps keep the pontoons against the structure and adequately retained with respect thereto.

In operation the user will either sit or lie down on his front over support member **13**. The forward extension **13'** of support member **13** is for the purposes of comfort of the individual user of the same. The user will actuate the steering ears either with his hands or fingers, rotationally displacing steering member **14** either to the right or to the left (in respective clockwise and counter-clockwise directions) in order to steer the unit. Such steering is accomplished by the arcuate displacement of the steering member **14**. Such action directly produces the slight displacement of the forward portions L of each of the flexible or bendable pontoons in each of the directions of the course of travel desired. Kindly note the arcuate line configuration at L' in FIGURE 5.

The structure can be used ideally in snow or even on water in which latter event some type of mounting ring R will be supplied for hooking a tow-rope onto a boat, for example.

The unique advantages of the present invention are that the structure can be manufactured very inexpensively, the pontoons or runners, being of an inflated nature, will not chance injury to children, the device is easily steered, and the unit can be used also in water as well.

While particular embodiments of the present invention

have been shown and described, it will be obvious to those skilled in the art that changes and modifications may be made without departing from this invention in its broader aspects, and, therefore, the aim in the appended claims is to cover all such changes and modifications as fall within the true spirit and scope of this invention.

I claim:

1. In combination, a platform type, horizontal, rigid support member, a steering member pivotally secured to said rigid support member along the longitudinal axis of the former, said steering member including respective side steering means constructed for user actuation, and a pair of inflatable pontoons disposed beneath and affixed to said rigid support member and also directly to said steering member on opposite sides of and forwardly of the pivotal securement of said steering member to said rigid support member.

2. In combination, a platform type, horizontal, rigid support member, a steering member pivotally secured to said rigid support member along the longitudinal axis of the former, said steering member including respective side steering means constructed for user actuation, and a pair of inflatable pontoons disposed beneath and affixed to said rigid support member and said steering member, each of said pontoons including upstanding, lipped mounting means, each of said support member and said steering member include edge recesses for retentively receiving said mounting means.

3. Structure according to claim 2 wherein said device includes retainer bands securing said pontoons in mutually parallel forward disposition to said support member at regions of said pontoons which are rearward of said steering member.

4. In combination, a rigid support member, a rigid steering member, pivot means pivoting said rigid steering member to said support member, a pair of parallel, longitudinally oriented pontoons disposed beneath and secured to and between said support member and said steering member, the securement of said pontoons to said steering member being on opposite sides of and forwardly of said pivot means, retainer means securing each of said pontoons to said support member rearwardly of said steering means, and each of said pontoons including depending runner edges at the pontoon regions beneath said steering member.

5. A pontoon for securement to the underside of a support member, said pontoon comprising, in combination, a pontoon member of inflatable character, means for inflating pontoon member, said pontoon member including at least one, annular, upwardly extending lip defining an inner open area, an upstanding, rigid, mounting member including a conically configured base cooperable with said lip and an overlapping, lipped mounting portion integral with said conical base, said conical base being inserted in the open area defined by said lip and being contiguous therewith, adhesive means disposed between said lip and said base portion, and rigid, annular retainer ring means disposed about said lip and engaging the same.

6. A sled runner comprising an inflatable pontoon fabricated of resilient material and having a lower portion comprising an integral, molded, longitudinal runner portion, said pontoon having an integral wall which is thickened, along the transverse cross-section of said lower portion, solely by the downward protrusion of said runner portion.

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