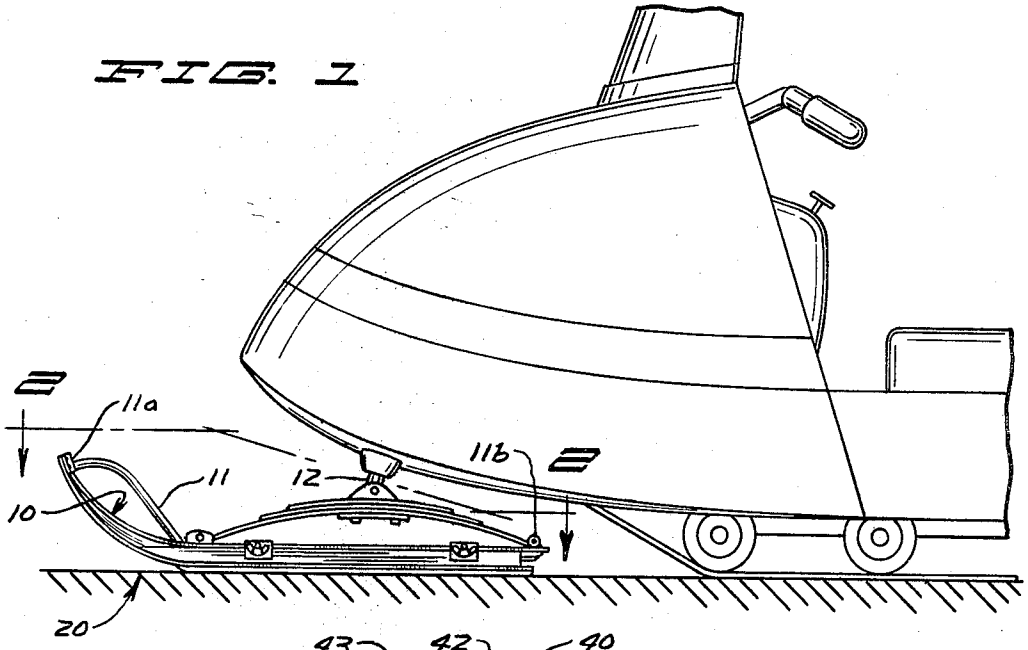
Dec. 9, 1969 W. J. PUETZ 3,482,849

SKI ATTACHMENT FOR SNOWMOBILES

Filed Jan. 25, 1968 2 Sheets-Sheet 1

FIG. 1



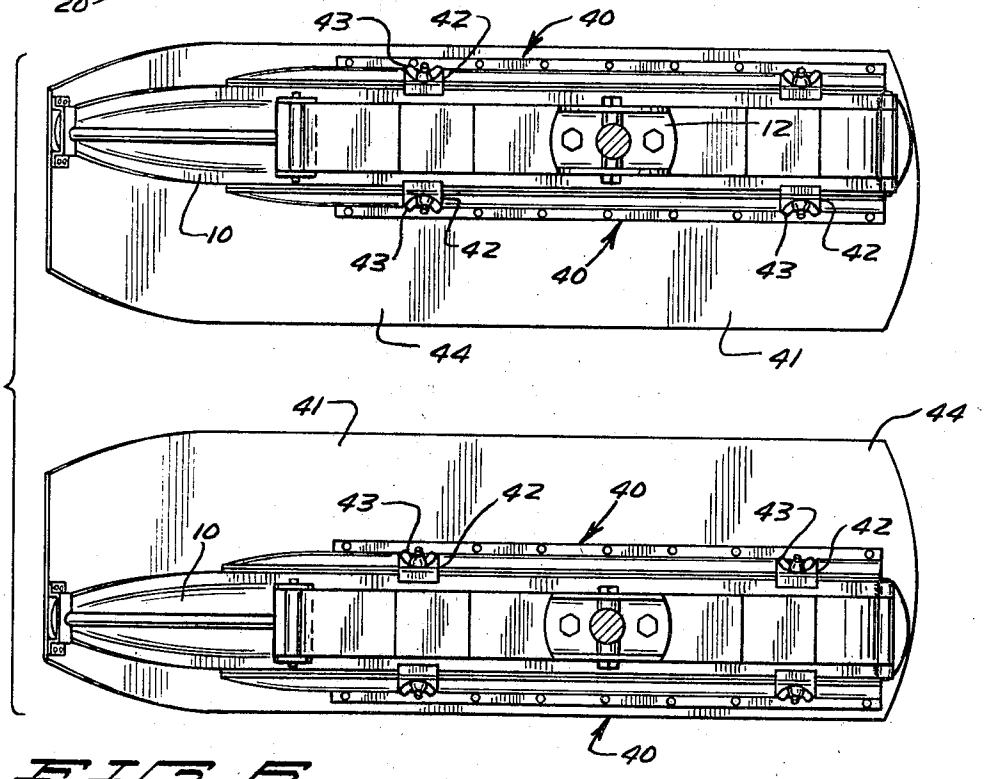


FIG. 6

INVENTOR.
WILLIAM J. PUETZ
BY
Adams Cuayna & Haugen
ATTORNEYS

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SKI ATTACHMENT FOR SNOWMOBILES

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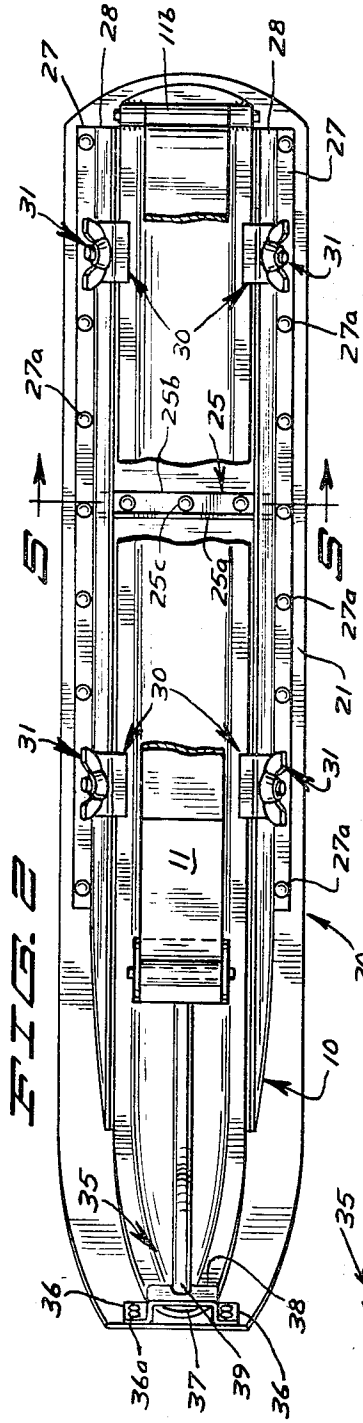


FIG. 2

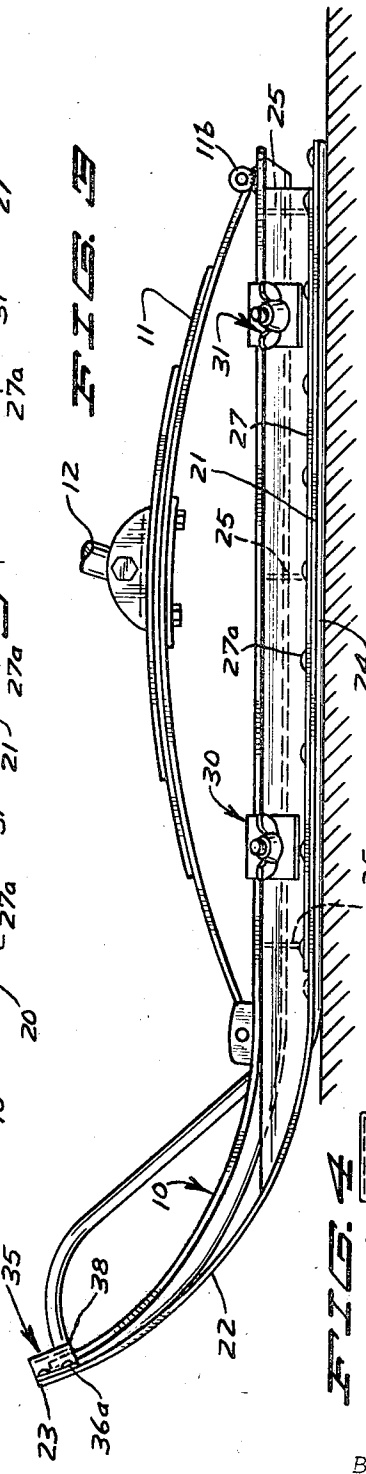


FIG. 3

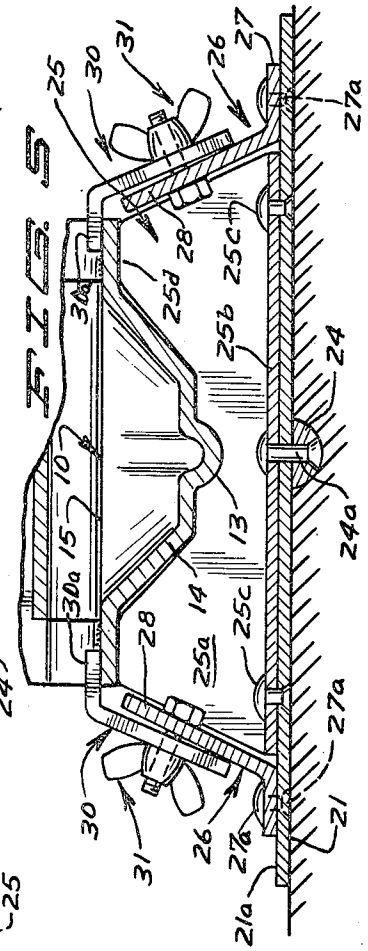


FIG. 5

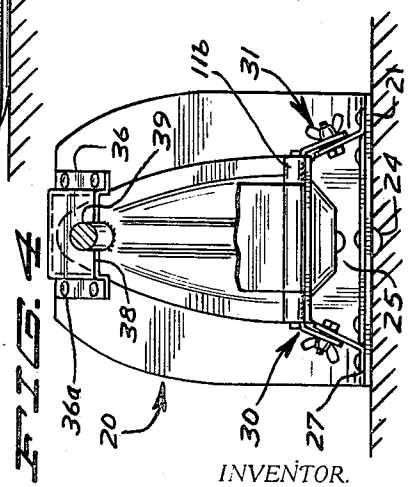


FIG. 4

INVENTOR.
WILLIAM J. PUETZ

BY
Adams Quayna + Haugen
ATTORNEYS

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3,482,849

SKI ATTACHMENT FOR SNOWMOBILES

William J. Puetz, 5015 12th Ave. S.,
Minneapolis, Minn. 55417

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Int. Cl. B62d 9/04; B62m 27/02
U.S. Cl. 280—28 4 Claims

ABSTRACT OF THE DISCLOSURE

This invention relates to an attachment for snowmobiles and similar vehicles employing a ski and includes a wide base ski arranged for attachment to the present ski and includes a relatively wide base with longitudinally extending parallelly arranged and transversely spaced clamping members to clamp to the sides of the existing ski and a front attachment member receiving the tip of the present ski therein. The bottom of the attachment ski is provided with at least one longitudinally extending guide or rudder element to assist in tracking.

The advent of snowmobiling has opened a new area in the winter recreational field and has evolved into a rapidly expanding industry. One of the problems faced by people using snowmobiles which employ skis of present day design is the sinking of the skis in soft deep snow areas or more important, in slush areas and causing the mobile to bog down. With applicant's design for a snow ski attachment a greater support area is provided for the mobile which will thereby enable the mobile to "float" over the slushy or deep snow areas.

One other concept devised and included in applicant's invention is the utilization of an off-center wide ski arrangement which permits and provides a compacting area between the skis. Normally the present narrow skis of snowmobiles are spaced a fair distance apart such that they will often times be outside of the width of the succeeding drive track. With applicant's design of off-centering a wide base ski the ski will pass over an area and compact an area which is then followed and utilized by the drive track or tread. This compacting situation, when covering deep snow or slush definitely provides a firmer base for the track or tread to drive upon, thereby increasing the drive possibilities for the unit.

It is therefore an object of applicant's device to provide a wide ski attachment for snowmobiles and the like which will provide an increased supporting surface for the snowmobile.

It is a further object of applicant's invention to provide a readily detachable snowmobile ski which will increase the support area of the skis and provide a compacting area for the succeeding drive track or tread.

It is still a further object of applicant's invention to provide a ski attachment for snowmobiles and the like which will greatly enlarge the ski support area of the snowmobile and which will, due to an off-center relationship thereof, provide a compacting area over a center portion of the snowmobile to provide a firm base for the drive track.

These and other objects and advantages of my invention will more fully appear from the following description made in connection with the accompanying drawings, wherein like reference characters refer to the same or similar parts through the several views, and in which:

FIG. 1 is a partial side elevation of a snowmobile illustrating the wide ski embodying the concepts of applicant's invention attached thereto;

FIG. 2 is a section taken substantially along line 2—2 of FIG. 1;

FIG. 3 is a side elevation of the ski attached to a snowmobile ski;

FIG. 4 is a rear elevation of the unit; and

FIG. 5 is a vertical section taken substantially along line 5—5 of FIG. 2 drawn to an enlarged scale; and

FIG. 6 is a substantially horizontal cross section illustrating applicant's modified form of the invention wherein the skis embodying applicant's concept are arranged in off-center relationship to the ordinary snowmobile skis.

In accordance with the accompanying drawings, a standard ski construction for a snowmobile includes the ski element **10** which element is provided with a spring mounting bar member **11** attached to a vertical strut **12**. The spring mounting member **11** is usually at least attached to the ski **10** at a front **11***a* and rear point **11***b* and may be attached at certain center points therealong. This spring member **11** of course permits the ski **10** to flex as it encounters the various snow or terrain contours. The cross sectional shape of the standard snow ski **10** is best illustrated in FIG. 5 which shows a center ridge portion **13**, a trapezoidal section **14** arranged thereover and a flat ski portion **15** overlying the trapezoidal section **14**. Naturally the cross sectional shape of skis produced by different manufacturers may differ and the form illustrated herein is one form presently on the market to which applicant has adapted his wide ski attachment.

A standard practice is to provide two standard width skis **10** spaced on the forwardmost edge of the vehicle and these skis **10** are utilized to provide the steering for the vehicle. Under ordinary snow and terrain conditions these skis function very well but upon entering conditions of very heavy slush or particularly deep snow and the like applicant has found that the supporting area provided by the skis is not sufficient and he has therefore provided what he describes as a wide base attachment for the ski and which is generally designated **20** throughout the drawings.

In the form shown this wide ski member **20** includes a substantially flat section **21** having a width substantially greater than the normal ski member **10** and having a generally upwardly disposed and tapered front section **22** terminating in a forwardmost end of the ski **23**. A first center guide member **24** is provided longitudinally along the underside of the flat section **21** of the ski **20** and is firmly attached thereto through rivet devices **24***a* or the like.

As best illustrated in FIGS. 3, 4 and 5 a plurality of upwardly disposed female ski receiving members **25** are attached at spaced intervals along the upper surface **21***a* of the flat ski section **21**. In the form shown these female ski receiving members **25** are provided from angularly shaped elements to afford an upstanding portion **25***a* and a base portion **25***b* which base portion is positively secured to the upper surface **21***a* of the flat portion **21** of the ski **20** through rivets **25***c* or the like. This female member **25** is provided with a receiving configuration defined on the upper surface **25***d* thereof to conform to the specific shape of the ski to which the unit is attached. Naturally the design shown is provided with the proper configuration to receive the skis heretofore defined but this configuration could change depending upon the particularly normally provided ski on the particular snowmobile.

In order to provide a clamp down device for the ski received into the support members **25** a pair of upwardly converging attachment members **26—26** are provided in transversely spaced relation on the upper surface **21***a* of the flat ski portion **21** and extend longitudinally therealong so as to provide substantial longitudinal support to the ski unit **20** and to provide retaining means along the length of the ski **20**. In the form shown these upwardly

converging members **26** include a base portion **27** securely attached to the ski surface **21** through rivets **27***a* or the like and side portions providing upwardly and inwardly arranged clamp retaining members **28** thereon. These clamp retaining members **28** terminate at the approximate height of the transverse support members **25** and clamp elements **30** are received therein through spaced apertures through the sides **28**. Thumb screws or the like **30** are provided to hold these clamp elements **30** to the upstanding inclined sides **28**. In the form shown these clamp elements **30** provide an overhanging and inwardly arranged lip structure **30***a* to be received over the top surface **15** of the ski **10** to hold the same against the top surface **25***b* of the spaced support members **25** and thereby hold the same into the female receiving portions **25***d* thereof. In the form shown two pair of such clamp units **30** are illustrated to positively hold the attachment ski **20** to the snow ski **10**.

Arranged at the forward end **23** of the ski **20** is a tip retaining unit generally designated **35** which is of generally U-shaped configuration with outwardly extending attachment elements **36** provided thereon which attachment elements **36** are again rigidly attached to the ski **20** through the utilization of rivets or the like **36***a*. This U-shaped configuration defines a cavity **37** therein to receive the tip of the ski **10** and the upper plate surface thereof **38** is provided with an aperture or slot therein **39** to permit the spring bar member **11** of the ski **10** to be received therein and past therefrom. This capturing member **35** may of course vary in its shape and construction depending upon the particular method for mounting the original snow ski **10** into the snowmobile.

As hereinafter stated the configuration and width of the ski **20** provides a substantially wider base for the snowmobile ski and as such will serve to support a greater load thereon or will support the same load more positively than the narrower ordinarily provided ski. This system is designed whereby the width of the ski **20** will not affect the steering of the snowmobile.

In the modified form of the invention as illustrated in FIG. 6, the same general construction for the wide ski is utilized but in this situation the ski is still wider than the preferred form and the center line for mounting the ski to the provided ski **10** of the snowmobile is off-center such that the skis as with the pair illustrated are more closely spaced to one another. The comparison in FIG. 6 illustrates a pair of such skis mounted on a normal spacing for a snowmobile ski **10**. In this form the same construction is utilized again in that a pair of attachment members **40** are arranged on the upper surface of the wider ski **41** and provide the necessary hold down clamps **42—42** therefore which hold down clamps again are provided with thumb screws **43** or the like to assist in fastening the normal ski **10** onto the wide ski **41**. The primary difference in this modification as should be obvious from these drawings is that the center line for mounting the ski **10** onto the ski **41** is substantially displaced from the center of the ski **41**. This latter modified form then places the inner edges **44** of the skis in more closely associated relationship to one another than the edges of an ordinary wide ski **20** and will therefore, in addition to providing a greater support area will provide a partially compacted section between the skis such that the following tracks of the snowmobile will be increasingly supported thereby. This situation then obviously increases the traction and driving ability of the treads of the snowmobile.

It should be observed that one of the advantages of either form of this invention is the ease of attachment and removal of the unit. The only necessary attachment occurs upon the skis **10** themselves and no modification of these skis **10** is required and rather the wide ski units would be designed to receive the individually styled skis to positively trap and hold the same therein. The only mechanical attachment of course is through the clamps **30** and screws **31**.

It should be obvious that applicant has provided a new and unique attachment device for the skis of snowmobiles and the like which will greatly increase the support area defined by the skis and which provides a means for readily attaching the device to the existing skis of the snowmobile and which will in a modified form provide a compacted area for the driving track or treads.

What is claimed is:

1. A wide ski for attachment to the skis of snowmobiles and vehicles designed to travel over snow including:

(a) a ski member having a width substantially greater than the width of the ski to which it will be attached and having a generally upwardly curved forward end;

(b) a pair of transversely spaced, longitudinally extending, ski receiving elements secured to the upper surface of said wide ski;

(c) a plurality of longitudinally spaced ski receiving elements secured to the upper surface of said wide ski, extending transversely between said pair of longitudinally extending elements, said longitudinally spaced elements having a negative configuration at the upper surface thereof to conform to the ski received therein;

(d) means for attaching the tip of said broad ski to the forward end of a snowmobile ski; and

(e) means for capturing said snowmobile ski into said receiving elements.

2. The structure set forth in claim **1** and a guide member arranged generally longitudinally of said wide ski along the bottom surface thereof.

3. The structure set forth in claim **1** wherein said capturing means include clamp elements arranged and constructed to overlie the snowmobile ski and hold the same into said receiving elements.

4. The structure set forth in claim **1** wherein the receiving elements and tip receiving elements of said broad ski are arranged in offset relation to the center line of said wide ski whereby the broad ski extends a greater distance on one side of said snowmobile ski than on the other side thereof.

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LEO FRIAGLI, Primary Examiner

ROBERT R. SONG, Assistant Examiner

U.S. Cl. X.R.

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