

[54] **SKI AND POLE CARRIER**

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280/11.37 K

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E, 42.1 B, 5 Z, 81 SK; 280/11.37 A, 11.37 K,
11.37 C; 70/58

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[57]

ABSTRACT

An oblong body of semi-rigid elastic material has a pair of opposite side faces, each having recessed therein a socket complementary in cross section to a ski but slightly less in cross section area than the cross section area of a ski when seated in the socket. The body face containing the ski socket is recessed also to provide a pole socket complementary to the shank of a ski pole when seated in the socket but of slightly less cross section area than the cross section area of the pole shank. Longitudinally spaced resilient tongues integral with the body project laterally from each side face of the body and define the sockets. The outer ends of the tongues have tip portions that extend part way over their adjacent sockets, terminating in aligned, spaced relation to provide a lateral opening for each socket, through which a ski shank or pole shank may be inserted edgewise in or removed from its socket. Each body constitutes a rack for holding a pair of skis and a pair of poles in such individually spaced apart relation that no part of any ski or pole may contact any part of the other ski or pole. The racks may be detachably mounted in a carrier frame for transportation by automobile or back pack.

1 Claim, 5 Drawing Figures

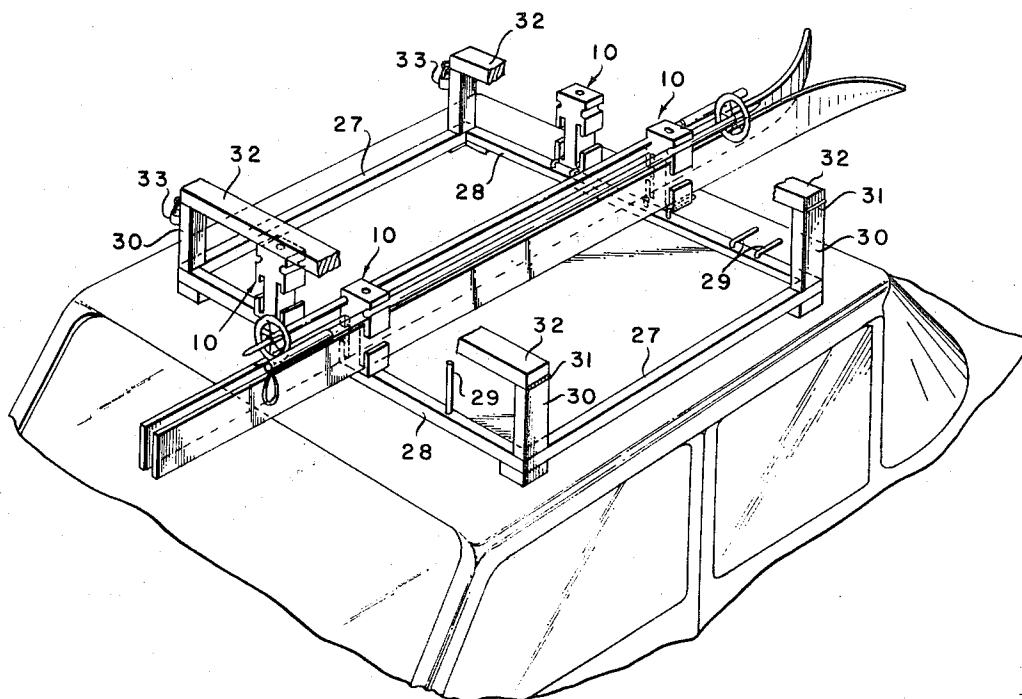


Fig. 1

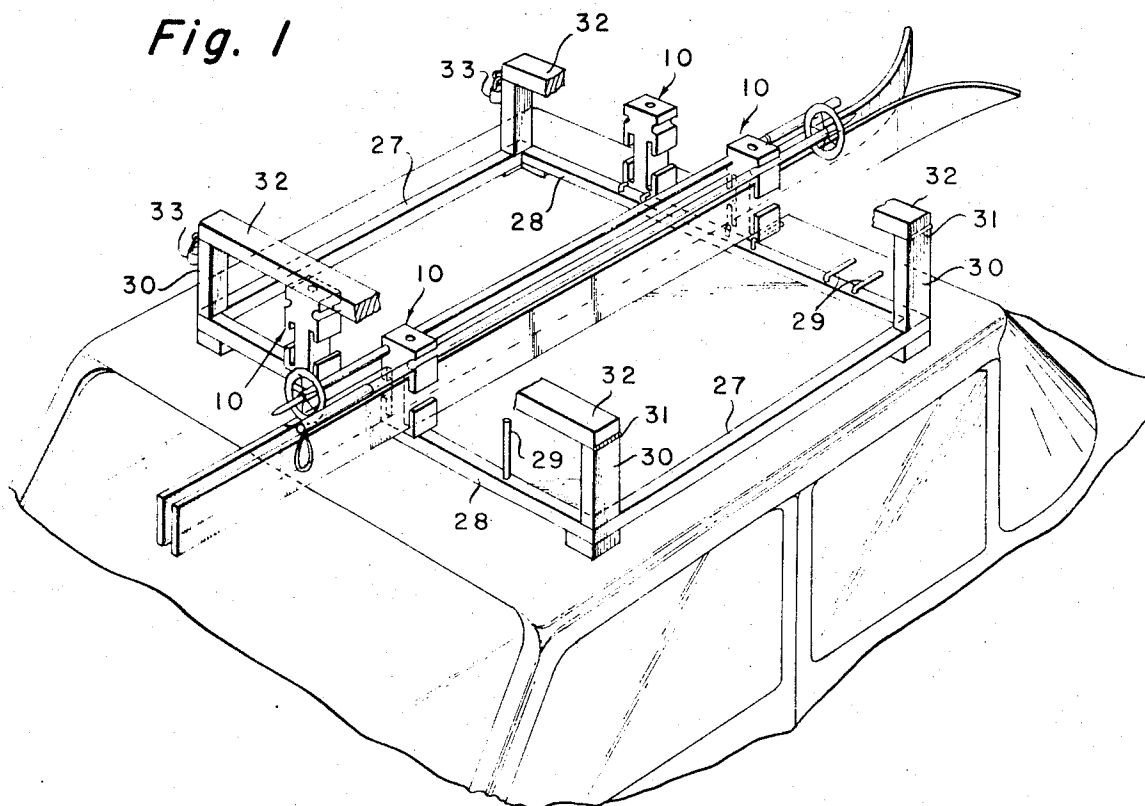
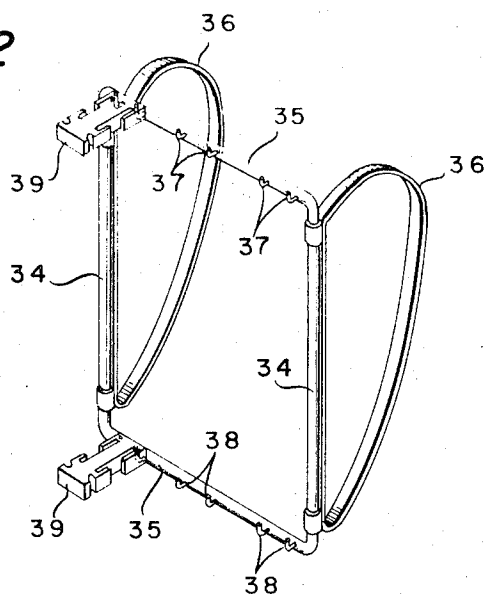


Fig. 2



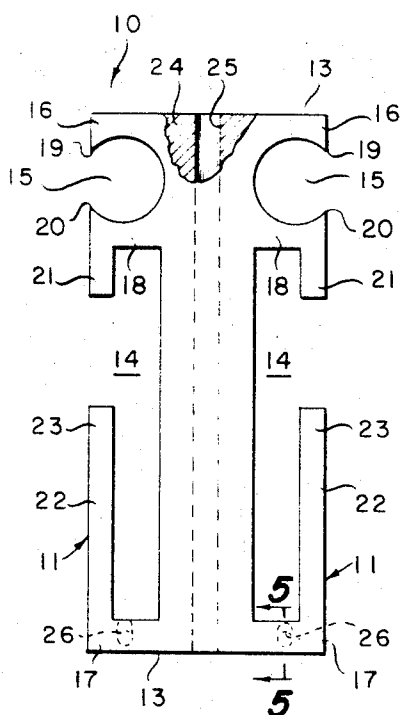


Fig. 3

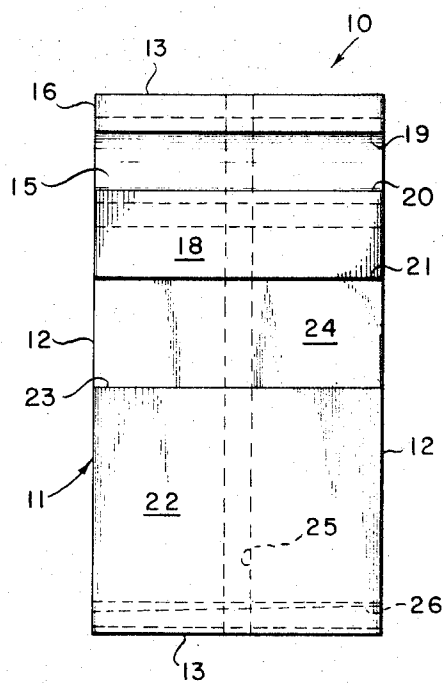


Fig. 4

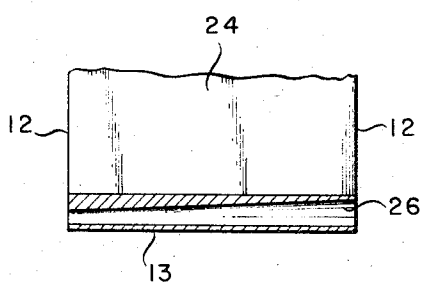


Fig. 5

SKI AND POLE CARRIER

BACKGROUND

The field of the present invention is the art pertaining to supports of the rack type in general, and in particular to portable racks for holding and transporting conventional skis together with ski poles.

The prior art pertaining to transportation of skis and their accessory poles is chiefly concerned with means for securing pairs of skis and poles together in a unitary bundle that may be hand carried, mounted on the body of an automobile or carried in a back pack. It is customary in the provision of such units to place the skis with their running faces in full area contact, as typified in U.S. Pat. No. 2,042,086, or separated by interponents as typified by U.S. Pat. Nos. 2,469,604 and 2,562,178. In both categories the unitary assembly of skis and poles is held together by encircling straps or by clamps, both of which exert pressure placing the components of the unit under tension. All such units may, of course, be individually secured to some part of an automobile or be carried in a back pack, but the particular straps or clamps which bind the components of a unit together do not constitute nor function as individual unit holders in which each component of a unit bundle is separated from and cushioned against contact with any other component. The prior art devices are merely clamps or retainers for binding together the components of a ski set — a pair of skis and a pair of poles.

So far as I am aware, the prior art has no teaching of any means for mounting such bound units assembled in a single frame by which one or more units may be carried in on the body of an automobile or as a back pack. U.S. Pat. No. 3,091,011 discloses a ski clamp arranged to be locked in clamped position and which is suspended from a rack by a looped cable that is closed by the same means which locks the clamp. There is no suggestion that the rack is part of a portable frame, or that the skis may be removed without dismantling the clamp.

Skis transported by vehicle are continually subjected to jarring, bouncing, and sliding stresses during motion of the vehicle. Unless their highly polished running surfaces are maintained in spaced apart relation the smoothness of the running faces becomes impaired as a result of chafing in contact. In consequence, and particularly in the course of a bumpy trip, the running faces become marred, which condition lowers their efficiency.

SUMMARY OF THE INVENTION

The basic element of the present invention is a unit constituted as a one-piece portable rack for holding a pair of skis and poles in individual spaced relation such that no portion of either ski is in contact with any portion of the other and is out of contact with either pole. The body of the rack is constituted of semi-rigid rubber or equivalent resilient elastic material and is formed with individual sockets for seating the skis and poles and cushioning them against shock. The racks are holder units which serve a function similar to that of prior art clamps, but with the advantage that the means by which a pair of skis and their poles are assembled and held together for transportation as a single bundle or package assures that no part of any component

thereof will at any time be in contact with any surface that is not soft and elastic.

An auxiliary element of the invention is a portable carrier in which the aforesaid holder units may be detachably and selectively mounted either before or after the skis and poles are seated in their sockets. The carrier may be secured on the body of an automobile or it may be in the form of a back pack.

DESCRIPTION OF THE DRAWINGS

FIG. 1 is a perspective view of an embodiment of the invention positioned on the roof of an automobile.

FIG. 2 is a perspective view of the present invention constituted as a back pack.

FIG. 3 is a side edge elevation of a rack constituting a ski and pole holder unit of the invention.

FIG. 4 is a side face elevation of the rack shown in FIG. 1.

FIG. 5 is a fragmentary sectional view on line 5 — 5 of FIG. 3.

DESCRIPTION OF PREFERRED EMBODIMENT

As herein disclosed, each ski and pole holder unit is a one-piece rack 10 of semi-rigid rubber or other suitable elastic and resilient material constituted as an oblong, preferably rectangular body, having parallel major side faces 11, parallel minor side edge faces 12, and parallel end faces 13. Each major side face portion of the rack body is recessed to provide a ski seating socket 14 and a pole seating socket 15. Each socket recess is complementary in cross section to the ski or pole which it is intended to seat, but the cross sectional area of the socket is slightly less than the cross sectional area of a ski or pole when seated in the socket; so that the walls of the socket will bind tightly thereon with such tenacity that a seated ski or pole cannot be moved along its longitudinal axis without exercise of severe disruptive force. This constrictive engagement of the socket walls precludes removal of a ski or pole from its socket by endwise pushing or pulling along its longitudinal axis. Each socket recess opens at its ends through the side edge faces of the rack, and laterally through its adjacent major side face as shown in FIG. 3.

With reference to the rack as illustrated in FIG. 3, it is apparent that the body of the rack between the top of each pole socket 15 and the adjacent end face 13 constitutes a resilient tongue 16, the body of the rack between the bottom of each ski socket 14 and the adjacent end face 13 constitutes a resilient tongue 17, and the body of the rack between the bottom of each pole socket and the top of the adjacent ski socket constitutes a resilient tongue 18 intermediate the end tongues 16 and 17. The intermediate tongues 18 separate their associated pole and ski sockets. The outer end of each end tongue 16 has a downturned tip portion 19 that extends part way across its adjacent socket 15. The outer end of each intermediate tongue has a pair of oppositely directed tip portions 20 and 21. Each upper tip 20 extends part way over its associated socket 15, terminating in vertical spaced relation from its associated tip 19, and each lower tip 21 extends downwardly part way over the upper end of its ski socket 14. The outer end of each lower end tongue 17 has an upturned portion 22 that extends part way over the socket 14 and terminates in a tip 23 in alignment with and spaced from the tip 21 with which it serves to provide a lateral opening for the ski socket 14 near its upper end. The

upturned portion 22 of the lower end tongue 17 constitutes an outer wall for the ski socket and is approximately three times greater in length than the tip portion 21 of the intermediate tongue 18, and the distance between the tips 21 and 23 is approximately three times the depth of the socket 14 between its inner and outer side walls. The distance between the tongue tips 19 and 29 is slightly less than the diameter of their respective pole sockets 15.

Between the inner walls of the sockets 14 and the innermost points of the sockets 15 the body of the rack provides a partition 24 having a thickness between the inner walls of the sockets 14 approximately three times greater than the distance between the inner and outer walls of a socket. This partition is a separator that is interposed between skis which may be seated in the sockets and holds them sufficiently far apart that no part of one may come in contact with any part of the other.

The partition 20 has therein a longitudinal bore 25 centered on the longitudinal axis of the partition and opening at each end through the adjacent end edge face 13 of the rack. In addition, one end portion of the rack body, preferably the end portion opposite to the end containing the pole sockets 15, has therein a pair of bores 26 lying one on each side of the bore 25 and with their axes on a common plane at right angles to the axis of the bore 26. These bores 26 open at their ends through the side edge faces 12, and preferably, are slightly tapered from one end to the other; they extend transversely between the side edge faces 12 of the rack and together with the bore 25 are intended for engagement with attaching elements on a carrier to establish detachable connection therewith.

The carrier may be of the type shown in FIG. 1 or as shown in FIG. 2. In both, the attachment means is detachably engageable with either the bore 25 and the bores 26 of the holder rack 10 heretofore described and illustrated in FIGS. 3 - 5.

The carrier illustrated in FIG. 1 is designed to be mounted on the top of an automobile by any suitable securing means (not shown). It is an oblong, preferably rectangular, open frame having side bars 27 connected at their ends by end bars 28. Each end bar has fixedly mounted thereon attachment elements 29, here shown as pins, which may extend vertically from the end bars as seen at the left end of FIG. 1 or horizontally as seen at the right end of FIG. 1, or in combination, their selection being a matter of choice. An upright post 30 is secured to the frame at each corner. At one side of the frame each of the two corner posts is connected by a hinge 31 to a retainer bar 32 which extends transversely across the frame and seats on top of the corresponding corner post at the other side of the frame, to which it may be secured by a padlock 33. The retainer bar seats also on the tops of whatever holder racks may be attached to the underlying end bar of the frame, so that no rack can be removed from the carrier frame while the retainer bar 28 is in locked position.

Prior to placing skis and poles in the carrier, the retainer bars are raised and swung to one side of the frame. Holder rack units 10 are mounted on the pins 29 either by placing their bores 21 in registry with vertical pins and pressing the racks down axially on the pins until the bottom end of each rack seats firmly upon its associated end bar, or, if the pins are disposed horizontally, by engaging the pins in the horizontal bores 26 of the racks and moving the racks laterally until each is

fully seated on its associated end bar with the bottom of the rack seated on the bar and wedged firmly against it. The wedging action is due to the fact that, as shown in FIG. 5, the bottom of each bore 26 is in a plane very closely parallel to the adjacent end face 13 of the rack and the top of the bore occupies a plane convergent to the plane occupied by the bottom of the bore. Accordingly, the opening at one end of the bore is larger than the opening at its other end; so that when the larger end of the bore is engaged over the entrant end of one of the pins 29 lateral movement of the rack axially over the pin progressively wedges the entrant end of the pin in the bore, thus effecting a tight connection between the rack and its underlying frame end bar.

With the holder racks 10 mounted in service position on the end bars 28 of the carrier frame, and while the retainer bars 32 are in fully open position, a ski is inserted edgewise through the lateral openings of a socket 14, inclined, and slid edgewise downwardly into the socket until it seats on the socket bottom. As it moves down in the socket the body of the ski cams the tongue comprising the resilient side walls 22 of the socket outwardly to accommodate passage of the ski body. The upper tongue portion 16 of the rack is then flexed upwardly to clear the adjacent upper side edge portion of the ski which then is pressed inwardly until the ski is seated firmly in the socket with its running surface bearing against the elastic planar surface of the separator partition 24, and with the tongue 16 is lowered to its original position, thus enclosing the subjacent area of the ski and completing its seating in the socket. The operation is repeated for mounting the other ski of a pair in the socket 14 at the other side of the partition 24. Ski poles may then be seated in the sockets 15 simply by flexing the resilient upper tongues 18 upwardly sufficiently to permit a pole to be moved laterally into its socket, after which the bias of the tongue returns it to its original position, thereby blocking removal of the pole until the upper resilient tongue 16 is again flexed up or the lower resilient tongue 18 is flexed down. Downward flexing of the lower tongue 18 cannot be effected so long as a ski remains seated in the underlying socket 14.

A salient feature of the carrier illustrated in FIG. 1 is the arrangement by which skis and poles may be "locked" against surreptitious removal from their rack sockets. As there shown, the number and the spacing of the racks 10 relative to each other and to the corner posts 30 is such that when the retainer bars are lowered into seated engagement against the tops of the racks and secured by the padlocks 33 no pole or ski may be withdrawn from its rack socket until the retainer bars are unlocked and removed. As hereinbefore explained, the tenacious grip of the socket walls precludes endwise sliding movement of poles and skis seated in the rack, so that they cannot be pulled or pushed endwise from their sockets; they can be removed only through the restricted lateral openings of the sockets. Poles cannot be removed from their sockets 15 until the upper resilient tongues 16 are lifted or the lower intermediate resilient tongues 18 are depressed. The upper tongues are held down by the retainer bars 32 and cannot be raised, and the intermediate resilient tongues 18 cannot be depressed until a ski seated in the underlying socket 14 is removed, and it cannot be removed until the tongue 18 is flexed upward; but because the tongue 18 is held down by the body of a pole in the overlying pole

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socket, the tongue cannot be raised until the pole is removed from its socket. Furthermore, the space between adjacent racks and between the corner posts and adjacent racks is insufficient to permit the full removal of a ski from its socket even though it were possible somehow to separate the tips of the tongues 21 and 23 to an extent sufficient to allow inclination of the ski to a degree permitting it to be pulled from the socket, because the emerging edge of the ski would abut the adjacent rack or post or the retainer bar before the trailing edge of the ski could leave the socket; and the resultant jamming of the ski could not be relieved by flexing the tongue either up or down if it were possible to do so, for the trailing edge portion of the ski could not rise far enough in its socket to be free of the restraint imposed by the tongue 17. Succinctly stated: Under any circumstances while the retainer bars are in closed and locked position, no ski or pole may surreptitiously be removed from the rack socket in which it is seated without first releasing and opening the retainer bars 28.

The carrier illustrated in FIG. 2 is a back pack comprising an oblong frame having side bars 34 connected by end bars 35. Shoulder straps 36 secured to the frame provide loops through which the arms of a wearer may be passed in the conventional manner of back pack supports. The end bars of the frame carry fixed attachment elements 37 similar to the horizontal pins 29 of the frame shown in FIG. 1, but having upturned outer end portions 38 for engagement in one or both of bores identical to the bores 26 in the racks 10 of FIG. 1. The rack units 39 are similar to the rack units 10 of the FIG. 1 carrier assembly, but they project horizontally from the rear face of the frame and are not secured by retainer bars. There is no need for retainer bars in the back pack carrier of FIG. 2 because such packs are usually kept on or near the persons who use them.

Unlike the ski holders of the prior art, which are clamps or straps that encircle and externally bind together in a single bundle a pair of skis and a pair of ski poles, the holder of the present invention is a one-piece rack having sockets in which the skis and poles are seated in spaced relation and held in fixed positions by

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retainer means integral with the body of the rack. When a pair of skis and associated poles are secured in a pair of racks spaced apart a distance equal to the length of a major portion of a ski, the assembly is a unitary bundle or package that may be hand carried or mounted in a carrier frame.

With reference to FIG. 3, it is apparent that the body of the rack between the top of the pole sockets 15 and the adjacent end face 13 constitutes the resilient tongues 16, the body of the rack between the bottom of the sockets 15 and the tops of the sockets 14 constitutes the resilient tongues 18, and the body of the rack between the bottoms of the sockets 14 and the adjacent end face 13 constitutes the resilient tongues 17. All the tongues extend in parallel spaced relation laterally from the faces of the rack body which are the inner planar side walls of the sockets 14.

I claim:

1. A ski and pole holder rack comprising: an oblong one-piece body of semi-rigid elastic material having a pair of planar opposite side faces and a pair of opposite end faces; first and second resilient end tongues extending laterally from each side face at each end of the body respectively; a third flexible resilient tongue extending laterally from each side face intermediate said first and second end tongues and defining therewith a ski shank seating socket and a separate pole shank seating socket, said ski shank socket partially defined by said first tongue, said tongue terminating in an upturned portion overlying a major portion of said ski shank seating socket, said pole shank seating socket partially defined by said intermediate tongue, said intermediate tongue including a first portion extending toward said upturned portion of said first tongue and overlying a minor portion of said ski shank seating socket and a second portion overlying a portion of said pole shank seating socket, said second resilient end tongues adjacent said pole shank sockets each having a portion extending partially over its adjacent pole shank socket.

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