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AUTOMOBILE-TOP CARRIERS FOR SKIS AND LIKE ARTICLES

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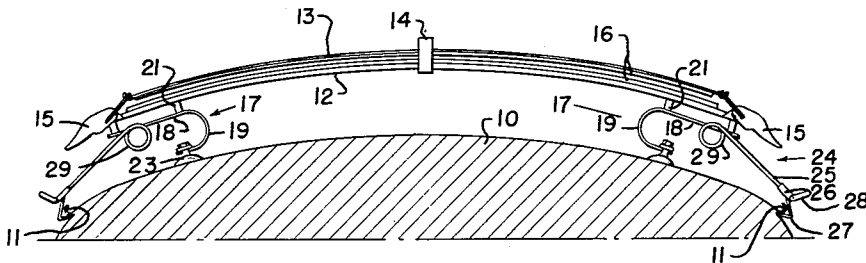


Fig. 1

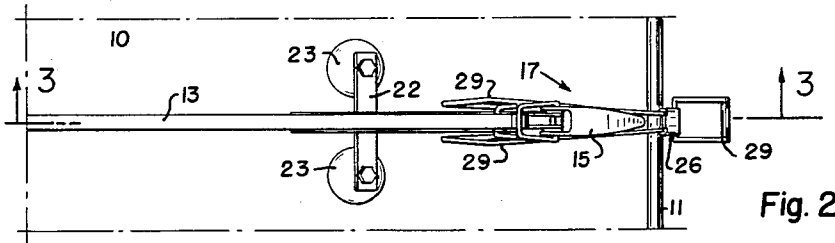


Fig. 2

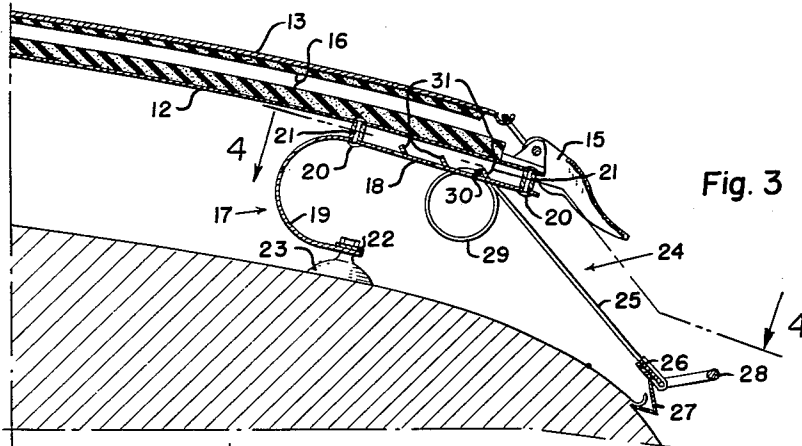


Fig. 3

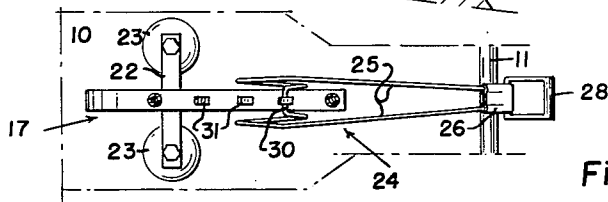


Fig. 4

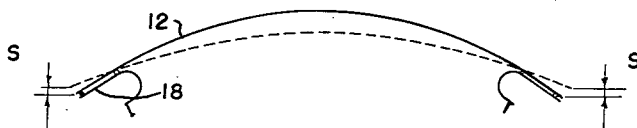


Fig. 5

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1

2,752,079

AUTOMOBILE-TOP CARRIERS FOR SKIS AND LIKE ARTICLES

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3 Claims. (Cl. 224—42.1)

This invention relates to automobile-top carriers for skis, toboggans and like articles, and more particularly to an improved mounting arrangement for automobile-top ski carriers of the type illustrated and described in my Patent No. 2,575,458, issued November 20, 1951. The primary object of the present invention is to provide a new and improved mounting for an automobile-top ski carrier which is adapted to tighten itself to the automobile top as the central loaded portion of the carrier flexes responsive to loading of the carrier and to vibrations, bumps and jars of the automobile.

Other objects of my invention are to provide a new and improved mounting for an automobile-top ski carrier which: (a) may be quickly and easily attached to the top of an automobile; (b) is resiliently secured to the automobile top in a manner which renders accidental disengagement therefrom virtually impossible; and (c) is simple and economical in construction, rugged and durable and adapted for use with any conventional type of hard-top automobile having a drip mold or other engaging means near the side edges of the top, the term drip mold or drip molding being hereinafter used to indicate any such engaging means.

With the foregoing and other objects in view, all of which will more fully hereinafter appear, my invention comprises certain novel and improved constructions, combinations and arrangements of parts and elements, all as hereinafter described and as defined in the appended claims, and illustrated, in preferred embodiment, in the accompanying drawing in which:

Figure 1 is an elevation view taken from a transverse section through the upper portion of an automobile, showing a unit of my improved auto-top ski carrier mounted on the top of the roof of the automobile.

Figure 2 is a plan view of one end portion of the unit shown at Fig. 1 but on an enlarged scale.

Figure 3 is a sectional elevation as viewed from the indicated line 3—3 in Fig. 2, but on an enlarged scale.

Figure 4 is a fragmentary section as viewed from the indicated line 4—4 at Fig. 3.

Figure 5 is a diagrammatic outline of a ski carrier unit mounted in accordance with the principles of my invention, with broken lines indicating movement thereof as by loading the carrier or from a jar or vibration of the automobile.

Ski carriers of the type illustrated and described in my Patent 2,575,458, comprise two similar units which are mounted transversely across the top of an automobile, one being near the forward end and the other being near the rear end of the auto top. Skis or similar objects are mounted upon these units and are arranged longitudinally of the automobile so that each end portion of a ski will be connected to a carrier unit. Such ski carriers are attached to the roof of the automobile by an arrangement of clips which hook underneath the drip molding of the automobile at each side of the roof, combined with suction cups, hereinafter described. While such arrangement provides a comparatively tight attachment

2

nevertheless the load on the carrier and the bumps and jars when the automobile is in motion will flex the units and sometimes loosen the connections of the clips to the drip molding causing accidental disconnection of the carrier. Resilient links between the clips and units have not entirely removed this difficulty since a link which is sufficiently strong and tight to obviate the danger of an accidental disconnection of a clip renders connection of the clip underneath the drip molding quite difficult.

With the above problems in view, my invention was conceived and developed, and comprises, in essence, an improved mounting and connecting arrangement of a ski carrier which operatively functions to tighten the attaching clip whenever the unit flexes as from a load or vibration of the automobile.

Referring to the drawing, an automobile top is conventionally illustrated at 10 with the usual drip molding 11 at each side thereof and immediately above the doors of the automobile. One of the ski-carrier units is shown in position mounted above and transversely across the auto top, and this unit includes a main bar of slightly flexible material, surmounted by a lock bar 13 which is substantially the same length as the main bar 12 and is connected thereto by a central clamp 14 and is engageable thereto at each end by toggles 15. Either end of this lock bar may be released from a toggle and elevationally separated from the main bar 12 to permit skis to be placed therebetween and then reconnected at the toggle to lock the skis in place. Pads 16 of sponge rubber or other suitable material are mounted on the underside of the lock bar 13 and on the top side of the main bar 12 to provide resilient surfaces for holding skis placed therebetween. The lock bar 13, as disclosed in my said prior patent, is of resilient material and normally curves upwardly on each side of central clamp 14 when not engaged to main bar 12 by the toggles.

This unit, including the main bar 12, when the bars are toggle connected, forms an arch conforming to the arcuate shape of the automobile top 10 and it is carried above the top upon a pair of my improved mountings, generally indicated at 17, and now to be described there being one mounting at each end of the unit.

The body 17, of my mounting unit, is formed as a hook-shaped strap-like member including a flat shank 18 which is adapted to extend below the underside of, and in spaced parallelism with, main bar 12, the outer end of the shank being adjacent the outer end of the main bar. At the inner end of the shank 18, the body 17 is turned downwardly and into a 180 degree loop 19. Each end of the shank 18 is connected to the main bar 12 by rivets 20 which extend through the members 12 and 18 and through cylindrical spacers 21 therebetween which hold said members apart and in spaced parallelism.

The end of loop 19, below the inner portion of shank 18, is mounted on a transverse bracket 22 from which depends a pair of suction cups 23, one at each side of the unit.

Shank 18 is connected to the drip molding 11 by a connector link 24 having two substantially parallel legs 25 whose outer ends are joined by a connector plate 26 which is provided with a clip 27, adapted to be hooked under the drip molding 11, and with a handle 28. The inner ends of the legs 25 are turned into loops 29 and thence joined to form a crotch 30 adapted to seat on shank 18 which shank is provided with a series of spurs 31 to engage the crotch 30 at any selected point along the shank. The loops 29 are of slightly resilient material and this resilience combined with the selected positioning of the crotch along the shank provides an adjustability which takes care of variations of distance from drip molding to drip molding over the top of the auto-

3

mobile and assures a tight but somewhat resilient securing of the shanks 18 to the moldings in all situations.

With the ski carrier unit positioned upon the top of an automobile upon a pair of my improved mountings 17 it is to be noted that points of contact of the connector links 24 with the shanks 18 are outwardly from the mounting points at the suction cups 23. It follows that whenever the arched main bar 12 is flexed downwardly as from a load or jar or vibration, as indicated by the broken line at Fig. 5, the main bar 12 pivots substantially about the mounting points at the suction cups 23 and the outer ends of the bar are lifted as indicated by the space S at Fig. 5. This action tends to place increased tension upon the connector links 24 to increase the tightness of the connection of the carrier to the drip molding, and practically eliminates the possibility of accidental disengagement of the carrier from the drip molding.

As hereinabove described and illustrated, it is preferable to have the loop 19 depend from the inner end of shank 18 but it is possible to form such loop or other connection between the shank and the suction cups at some other point along the shank, the essential point being that the seating of the carrier unit on the auto top be beneath the end portion of the bar 12 but inside the point of engagement of the link with the shank in order that such seating of the suction cups or similar devices may provide a fulcrum on which the centrally depressed bar will act as a lever to tend to raise its outer end and thus tighten the grip on the drip mold or other part of the auto to which the ends of the unit are connected.

While I have illustrated in the drawing and herein described many details of construction, alternative and equivalent structures will readily occur to those skilled in the art and which are within the spirit and scope of my invention, hence it is my desire that my protection be limited only by the proper scope of the appended claims.

I claim:

1. For an automobile having a top with drip molds along the sides of said top, a carrier for skis and like articles including, in combination, a main bar adapted to extend transversely across said top, a mounting unit associated with each end portion of said bar, said unit including means at its end nearest the adjacent drip mold and beneath and adjacent the bar end for resilient engagement of the unit to the drip mold and at its other end a resilient support for said other end of said unit and for the bar, said support providing a resilient fulcrum, beneath said bar and inwardly of the bar end, whereby a depression of the central portion of the bar will raise the end of the bar and the drip-mold-engaged end of the unit, said unit including a shank attached to and beneath the bar end portion and having means for seating it upon the top of the automobile, the shank being attached to the bar by means including spacers at each end portion of the shank and thereby held in spaced parallelism with the main bar, said resilient engagement means compris-

4

ing a link between the drip mold and said shank at a point between the spacers, the shank having a plurality of link-engaging means between the spacers whereby the link may be engaged to the shank at selected positions along the shank.

2. For an automobile having a top with drip molds along the sides of said top, a carrier for skis and like articles including, in combination, a main bar adapted to extend transversely across said top, a mounting unit associated with each end portion of said bar, said unit including means at its end nearest the adjacent drip mold and beneath and adjacent the bar end for resilient engagement of the unit to the drip mold and at its other end a resilient support for said other end of said unit and for the bar, said support providing a resilient fulcrum, beneath said bar and inwardly of the bar end, whereby a depression of the central portion of the bar will raise the end of the bar and the drip-mold-engaged end of the unit, said unit including a shank attached to and beneath the bar end portion and having its inner end portion curved downwardly and thence outwardly beneath the shank, the end of the curved portion having means for seating it upon the top of the automobile, the shank being attached to the bar by means including spacers at each end portion of the shank and thereby held in spaced parallelism with the main bar, said resilient engagement means comprising a link between the drip mold and said shank at a point between the spacers, said link including resilient loops and a crotch between said loops adapted to seat upon said shank.

3. For an automobile having a top with drip molds along the sides of said top, a carrier for skis and like articles including, in combination, a main bar adapted to extend transversely across said top and a mounting unit associated with each end portion of said bar, said unit including engagement means at its end nearest the adjacent drip mold and beneath and adjacent the bar end for resilient engagement of the unit to the drip mold and at its other end a resilient support for said other end of said unit and for the bar, said support providing a resilient fulcrum beneath the bar and inwardly of the bar end, whereby a depression of the central portion of the bar will raise the end of the bar and the drip mold engaged end of the unit, said unit including a shank attached to and lying beneath and in substantial spaced parallelism with the bar end portion, said resilient engagement means including a link between the drip mold and said shank, link engaging means at the shank whereby the link may be engaged to the shank at selected positions along the shank.

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