Nov. 8, 1966 L. A. KOCINA 3,283,972

LADDER CARRYING DEVICES

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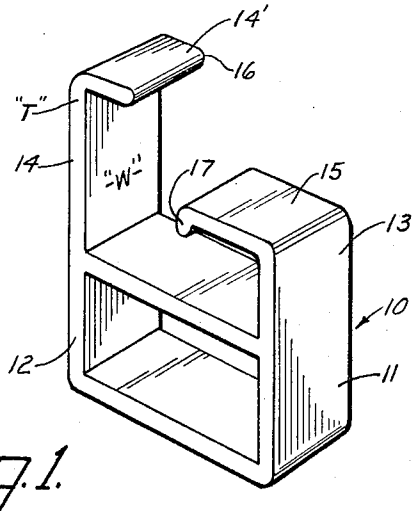


Fig. 1.

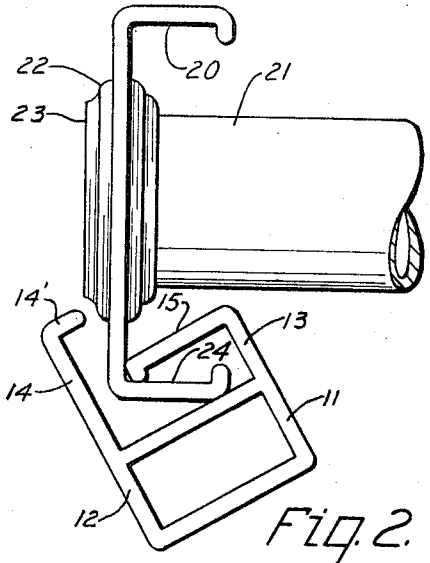


Fig. 2.

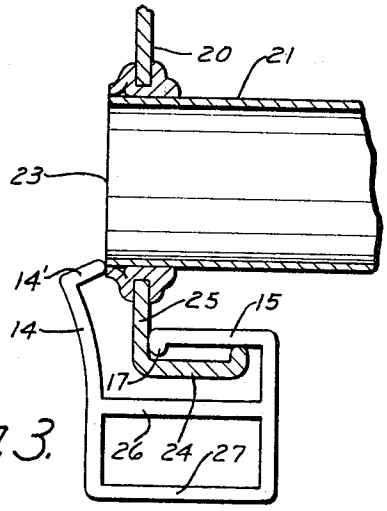


Fig. 3.

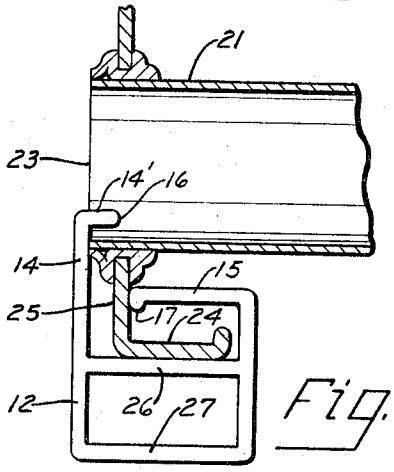


Fig. 4.

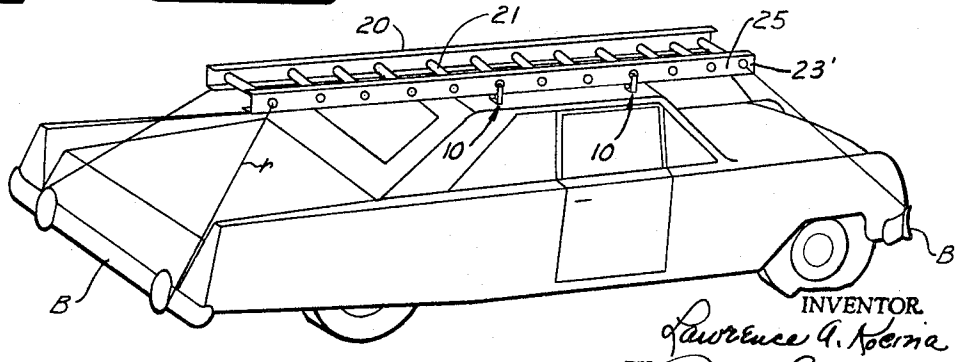


Fig. 5.

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LADDER CARRYING DEVICES

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The present invention relates to ladder carrying devices and relates more particularly to a device of the character referred to which is adapted for use in carrying a ladder, as for example, an extension ladder, on the top of an automobile.

It is an object of my invention to provide improved devices of the type referred to which may be easily attached to, or detached from a ladder and enables such ladder to be easily secured to or removed from an automobile or truck top.

A further object of my invention is to provide improved devices of the type referred to which provide car carrying means for ladders and prevent scratching or marring of the automobile etc. thereby.

A still further object of my invention is to provide improved devices of the type referred to which may be separately packaged and adapted as a part of the sale of the ladders, to be handed to a customer wherefor the customer or the merchant may easily and quickly mount the ladder on the roof of the customer's car by the use of such devices and hence transportation from the retail establishment to the home by the consumer readily accomplished as well as transportation to and from the job by painters and other workmen.

Yet another object of my invention is to provide improved devices of the type referred to which will be relatively inexpensive to manufacture, being but a single integral unit, and highly efficient in use.

Other objects and the invention itself will become more readily apparent from a preview of the appended description, in which description reference is made to the accompanying drawings, in which:

FIGURE 1 is an enlarged perspective view of the carrier of this invention;

FIGURE 2 is a side view showing in part a ladder section, said view showing a first step in the installation of the ladder carrier of FIGURE 1 thereon;

FIGURE 3 is a view similar to that of FIGURE 1 showing a further step in the installation of the ladder carrier on the ladder;

FIGURE 4 is a view similar to that of FIGURES 1 and 2 showing the carrier in its assembled relation to the ladder.

FIGURE 5 is a perspective view showing the ladder mounted on the top of a car by means of the carriers of this invention.

Referring now to the drawings, in all of which like parts are designated by like reference characters, at **10** I show a plastic ladder carrier having an open rectangular base portion, integrally formed flat extensions **13** and **14** of sides **11** and **12** of the rectangular base projecting upwardly therefrom, said base having a further pair of spaced substantially parallel sides **26**, **27** at substantially right angles to the sides **11**, **12**. An inturned foot **14'** of the relatively larger side **14** is disposed upwardly of an inturned leg **15** of the relatively shorter side **13** and the leg **15** is relatively of greater length than the foot **14'**. The leg **15** is preferably constructed of such dimension as to extend inwardly of the rail from a position adjacent the flange end thereof to the web. All sides of the rectangle are preferably of the same width W and the same thickness T. It is to be noted that the foot **14'** is preferably rounded at its tip, as shown at **16**, and the edge **17** of the leg **15** is generally provided with an inturned beaded edge, as shown, to assist in sliding the shank into and out of engagement with the rail. Further it is to be noted that the leg **15** may slope to a slight degree downwardly from the juncture thereof with its associated side member **13**.

In use, a plurality of such carriers **10**, preferably four in number, are provided to act as mounting and support means for ladders, preferably ladders known as extension ladders provided with inwardly channeled side rails **20**, as shown in FIGURES 2 and 3, and connecting rungs **21**, the said rungs secured to the rails in any well-known manner. Joints **22** of the type disclosed in U.S. Letters Patent No. 3,039,186 granted June 19, 1962, and assigned to assignee of the present application, surrounding aligned openings **23**, in opposite of said side rails are shown herein. Rungs **21** are tubular and circular in form and extend through circular rung openings in the rails. It is to be understood that variations in the form of the rail openings, the rungs, and joint connections may be used and are within the contemplation of the present invention.

To install the ladder on the car, the foot **14'** of the relatively longer leg **14** of each of the carriers successively is first slipped over an inwardly extending flange **24** of an outer rail section **20**, as shown in FIGURE 2, the foot **14'** of the leg **14** initially pointing upwardly and inwardly at an angle to the web **25** of the rail beneath rung openings **23** therein, and an end of the flange **24** then is disposed beneath and at an angle to the inturned leg **15** of the side extension **13** as best shown in FIGURE 2. The carriers are next manually rotated to an upright position, as shown in FIGURE 3, in which sliding engagement on the interior face of the web of the rail is effected by the beaded end **17** of the leg **15** and of an outer face of the web **25** by the foot **14'** of the leg **14** and the carrier slid along the rail of the outwardly disposed base section of the ladder. The rail flange **24** overlies the upper face **26** of the rectangular base of the carrier, until the foot **14'** contacts the joint portions surrounding the opening when the leg is lifted thereby to dispose the same over the rung opening, then the leg is released and the foot **14'** extends into the rung opening and may have bearing contact with the inner surfaces of the rung **22** to secure the carriers on the ladder. The ladder is then placed lengthwise on the roof of the car, as shown in FIGURE 5, and the lower face **27** of each of the plastic rectangular bases of each of the carriers then contacts the upper roof surfaces of the car preventing marring of the surfaces of the roof by the metal ladders and the ladder may then be secured, as illustrated, by ropes *r* which may be as illustrated, disposed through the opening in the end rungs, to the front and rear bumpers B of the car for transporting the same.

To remove the carriers from the ladder, upon arriving at destination and point of use of the ladders, the operator simply reverses the installation procedure, withdraws the foot **14'** from the rung opening, slides the carriers along the rail sides beyond the rung openings, rotates the carriers into the position shown in FIGURE 1 and removes the carriers from their associated ladder rails. The carriers may then be stored for further use.

While I have described my invention in connection with a preferred embodiment therein, it is to be understood that various changes may be made therefrom without, however, departing from the spirit of my invention or the scope of the appended claims.

What I claim is:

1. The combination with ladders having channel shaped rail members and tubular connecting rungs secured within openings in the web of each of said rails, which ladders are adapted to be positioned lengthwise of a vehicle top, of flexible plastic ladder carriers each having a base section, a pair of legs disposed on opposite sides of said base section, each leg having a flanged end portion, the said

flanged end portions of said legs being directed toward each other, said legs extending upwardly from the base, the flanged end portion of one of said legs adapted to be secured within one of the openings in said rungs and the other of said legs adapted to be disposed within a rail flange of said rail member, the rung engaging leg being longer than the rail engaging legs, the base of each said carrier being adapted to be disposed on said vehicle top and spacing the ladder rail therefrom.

2. The combination of claim 1 characterized by the ladder carriers being adapted to be positioned on said rail sections by disposing the carrier at an angle to the rail to angle the first leg portion of the same over the outer face of the web of the rail and the second leg portion thereof with respect to the flange, the carrier being adapted to be rotated to upright position, slid along the rail until the first leg portion is disposed opposite a rung opening, whereupon release of the same the flanged end of said first leg portion is caused to enter the rung opening.

3. The combination of claim 1 characterized by a pair

of said ladder carriers being disposed on opposite rail sections of said ladder, securing means being threaded through different rung openings in said opposite rail sections and securing the ladder to the vehicle.

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