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REMOVABLE SHELF FOR STATION WAGON
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2 Claims. (Cl. 224-42.42)

The present invention relates to improvements in a removable shelf for station wagons and it consists in the combinations, constructions and arrangements hereinafter described and claimed.

Station wagons are provided with a storage compartment in back of the rear seats. The side windows in the station wagon permit a full view of all items placed in the storage compartment. If items of value, such as a set of golf clubs, are placed in the storage compartment, the owner runs the risk of having them stolen even though he locks the side doors and tail gates because they can be seen through the windows and a thief could force open a door or window and steal the golf clubs or any other item in the compartment.

One of the principal objects of my invention is to provide a removable shelf for the storage compartment that will extend from side to side of the station wagon and from the rear of the back seat to the tail gate. Such a shelf will serve the additional function of acting as a closure for the items placed in the compartment and disposed under the shelf.

A further object of my invention is to provide a device of the type described in which four stanchions are removably secured to base plates placed on the floor of the compartment. These stanchions are adjustable as to height and have vertical threaded shanks at their tops which are designed to enter openings in a shelf that is to be supported by the tops of the stanchions. Wing nuts secure the shelf to the shanks. The shelf is not connected to the sides of the station wagon nor to the back of the rear seat. Rubber washers may be used on the shanks to eliminate any rattling noises. Hand grips may be secured to the shelf adjacent to both sides and rear edges thereof and these permit the shelf to be moved into place on top of the stanchions or to be removed therefrom. In addition the hand grips can be used for tying down any luggage or other items placed on the shelf.

If the station wagon has a spare tire well with a lid covering it, the lid forming a part of the floor of the storage compartment, then the base plates can be secured to the floor and be spaced from the lid so as not to interfere with its opening. When the stanchions are secured to the base plates and the shelf supported by the stanchions, there is no interference by these parts to the normal opening of the lid to gain access to the well for removal of the spare tire therefrom. It is a simple matter to remove the shelf and then remove the stanchions from their base plates and this will permit the entire storage compartment to be used. These base plates will not interfere with such use of the compartment.

Other objects and advantages will appear as the specification continues. The novel features of the invention will be set forth in the appended claims.

Drawing

For a better understanding of my invention, reference should be made to the accompanying drawing, forming part of this specification, in which:

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FIGURE 1 is a perspective view of the rear of a station wagon with the upper and lower tail gates in open position and showing my device secured in place;

FIGURE 2 is an enlarged view of one of the stanchions and also shows the base plate to which the stanchion is removably secured and further shows a portion of the shelf; and

FIGURE 3 is a perspective view of a slightly modified form of removable shelf to be used in another design of station wagon.

While I have shown only the preferred forms of my invention, it should be understood that various changes, or modifications, may be made within the scope of the annexed claims without departing from the spirit thereof.

Detailed Description

In carrying out my invention I make use of a station wagon of the types indicated generally at A in FIGURES 1 and 3. These station wagons have a lower tail gate B and an upper tail gate C both of which are shown in open position in FIGURE 1. The upper and lower tail gates are not indicated in FIGURE 3. The station wagons also have a floor D that extends to the rear of the vehicle. An opening 1 is provided in the floor and this is normally closed by a lid E. The lid acts as a cover for a spare tire well which is not shown in the drawing. Access may be had to the spare tire when the lid E is swung into open position. In certain station wagons the lid E may be entirely removed for gaining access to the tire.

The station wagon is also provided with side doors F and with a rear seat G. Normally the rear seat acts as a front wall for the compartment at the rear of the station wagon that is formed by the sides H' of the vehicle, the floor D and the lower and upper tail gates B and C when they are in closed position. A wheel housing 2 is formed in each side H' of the vehicle and these housings receive the rear wheels that support the vehicle. The parts thus far described form no part of my invention except insofar as they cooperate with the parts now to be described.

I provide four vertical stanchions H which are removably secured to the floor D and which in turn removably support a shelf J. I will first describe the structure of one of the stanchions in detail and then will set forth how the four of them can support the shelf J.

The stanchion is shown in detail in FIGURE 2 on a larger scale. A hollow outer cylinder K has a metal disc 3 secured to the lower end thereof and the disc in turn has a cap screw 4 secured thereto. The threaded portion 4a of the cap screw will project below the disc 3 for a purpose presently to be described. The outer cylinder K has aligned openings 5 in its wall for receiving a bolt L. A wooden cylindrical inner member or peg M has a diameter which will permit it to readily slide in the outer cylinder K as clearly shown in FIGURE 2. The inner cylindrical member M has a transversely extending opening 6 therein which may be aligned with the two openings 5 in the outer cylinder for receiving the bolt L. More than one opening 6 may be provided in the inner cylindrical member M and more than one pair of openings 5 may be provided in the outer cylinder K so that the inner member M can be adjusted within the tubing K to the desired height and then the bolt L inserted into the aligned openings 5 and 6 for securing the parts in adjusted position.

The top of the inner cylindrical member M projects above the top of the outer cylinder K and carries a wood screw 8. The screw 8 has an integral machine screw portion 9 that projects above the top 7 and is designed to receive a wing nut N. A rubber washer P is mounted on the portion 9 and rests on the top 7 and a metal washer Q is placed on top of the rubber washer P. The rubber washer P acts as a silencer for the shelf and will prevent rattling between the parts.

Each stanchion H is removably secured to a base plate R that in turn is secured to the floor D by four self-tapping screws S, see FIGURE 1. The base plate has a threaded integral nut 10 for receiving the threaded portion 4a of the cap screw 4. The four base plates R are secured to the floor D in the station wagon so as not to interfere with the movement of the lid E. The stanchions H can be removably secured to the base plates R and will extend vertically above the floor D the desired distance.

The shelf J is provided with four openings 11 for receiving the machine screw portions 9 that form a part of the stanchions. The shelf will rest upon the metal washers Q. Additional metal washers 12 are placed over the machine screw portions 9 and will rest upon the top of the shelf J. The wing nuts N are then secured to the machine screw portions 9 and will hold the shelf rigidly to the stanchions. The side edges 13 of the shelf are spaced about a fourth of an inch from the inner surface of the side walls H' of the vehicle. The front edge 14 of the shelf is spaced about one-fourth of an inch from the rear surface of the back seat G. The rear edge 15 of the shelf is arranged so that it will just clear the lower tail gate B when the latter is swung into closed position. In certain station wagons the mechanism for securing the lower tail gate in closed position includes swingable latch handles 17, one being shown in FIGURE 3, and where these are used, the rear edge 15 of the shelf J will have its corners recessed as at 15a for providing sufficient space for these latch handles. The shelf J also has side hand grip members T and a rear hand grip member U. The shelf J may have a central hinged section J' for a purpose hereinafter described.

Operation

From the foregoing description of the various parts of the device, the operation thereof may be readily understood. If a person desires to mount the device in the station wagon A, he secures the base plates R to the floor D by the self-tapping screws S. These base plates are placed on the floor D so as not to interfere with the movement of the lid E. He then adjusts the wooden members M within the outer cylinders K so as to make the stanchions of the desired length and then he inserts the bolts L in the aligned openings 5 and 6 for securing the parts K and M in adjusted position.

In certain station wagons the rear tail gates B and C are not as wide as the width of the vehicle between the side walls H'. Where this is true, the operator can tilt the shelf J into an angular position and insert it into the compartment from the rear of the vehicle until the shelf entirely passes through the rear opening. The shelf is then swung into a horizontal position and lowered onto the stanchions. If the shelf is too wide for the rear door opening even when tilted, the operator can open the side door F and swing the shelf into a vertical position for moving it transversely into the interior of the vehicle through the door opening. He can then grasp the side hand grips T and lift the shelf over the top of the rear seat G and then lower the shelf onto the tops of the stanchions H. After this is done, the operator adds the additional metal washers 12 to the machine screw portions 9 and these will rest upon the top of the shelf. Finally the operator secures the wing nuts N to the machine screw portions 9 and fastens these down in place.

It is possible to place articles on the floor D and on the lid E and these articles will be covered by the shelf J.

It is impossible to see these articles when looking through the side windows V in the side walls H' or when looking through the windows in the side doors F. If the upper tail gate C has a window X in it, again a person will not be able to see what articles are on the floor D because the shelf J will hide these items. The items can be inserted into place under the shelf either through the rear of the vehicle when the lower tail gate B is opened or from the front portion of the compartment when the back of the rear station wagon seat is swung forwardly. Other articles may be placed on the shelf J and these can be secured against movement by passing strands over the tops of the packages and securing the ends of the strands to the hand grips T and U.

It is a simple matter to remove the shelf J and stanchions H, to return the station wagon to its former condition. This can be accomplished without any tools being necessary. The wing nut N may be removed by hand and then the shelf J can be removed by grasping the side hand grips T. The four stanchions H may then be unscrewed from their base plates R. The entire interior of the rear of the station wagon is now freed from any obstruction. The shelf J, the four stanchions H, and the four base plates R may be assembled as a kit. A person buying the kit can install the device himself in the station wagon. All he needs to do is to secure the four base plates R, to the floor D, at the proper places and to use the sixteen self-tapping screws to fasten the base plates to the floor.

In some station wagons, the windows V in the side walls H may extend nearer to the floor D and this will necessitate placing the shelf J at a lower level. If the shelf J would interfere with the raising of the lid E to gain access to the spare tire in the tire well, not shown, then the shelf may be provided with a hinged central section J'. Hinges 16 are placed on the upper side of the shelf J and pivotally secure the central section J' to the main shelf J. Near the outer end of the central section J', slip bolts Y may be mounted on the underside and the bolts may be removably disposed in keepers, secured to the underside of the main shelf J, for supporting the central section J' in the same plane as the main shelf J. The central section J' can be released by the slip bolts Y and swung upwardly if necessary to permit the lid E to be raised for removing the spare tire.

I claim:

1. The combination with a station wagon having a rear storage compartment with a floor, a plurality of base members secured to said floor in spaced relation to one another, each of said base members formed with a central threaded bore, a plurality of telescopically adjustable stanchions having a threaded member mounted in and projecting from each end thereof, the threaded member projecting from one end of each of said stanchions removably threaded into the bore of each of said base members, a shelf arranged to overlie the entire floor of said storage compartment and having a plurality of openings formed therein complimentary to the threaded bore in said base members, the threaded member projecting from the other end of each of said stanchions extending through the openings in said shelf contemporaneous with the positioning of the shelf upon said other end of each of said stanchions and a wing nut mounted upon each of the last mentioned threaded members for removably securing the shelf to said stanchions.

2. The combination with a station wagon having a rear storage compartment with a floor, a plurality of base members secured to said floor in spaced relation to one another, each of said base members formed with a central threaded bore, a plurality of telescopically adjustable stanchions having a threaded member mounted in and projecting from each end thereof, the threaded member projecting from one end of each of said stanchions removably threaded into the bore of each of said base member, a shelf arranged to overlie the entire

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floor of said storage compartment and having a plurality of openings formed therein complimentary to the threaded bore in said base members, the threaded member projecting from the other end of each of said stanchions extending through the openings in said shelf contemporaneous with the positioning of the shelf upon said other end of each of said stanchions, a wing nut mounted upon each of the last mentioned threaded members for removably securing the shelf to said stanchions, said shelf having a movable central portion extending inwardly from the rear of said shelf to a predetermined distance from the front of said shelf, hinges securing the front of said central portion to said shelf to permit said central por-

tion to be swung upwardly about said hinges as a pivot and means for securing said central portion to said shelf.

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