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3,481,483

AUTOMOBILE CLOTHES RACK

Filed April 1, 1969

2 Sheets-Sheet 1

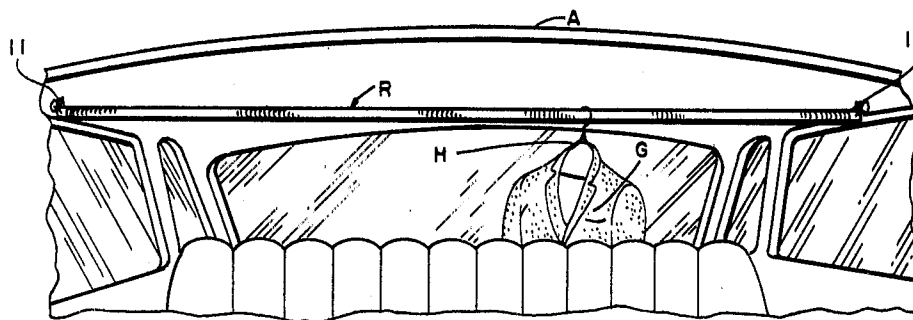


FIG. 1

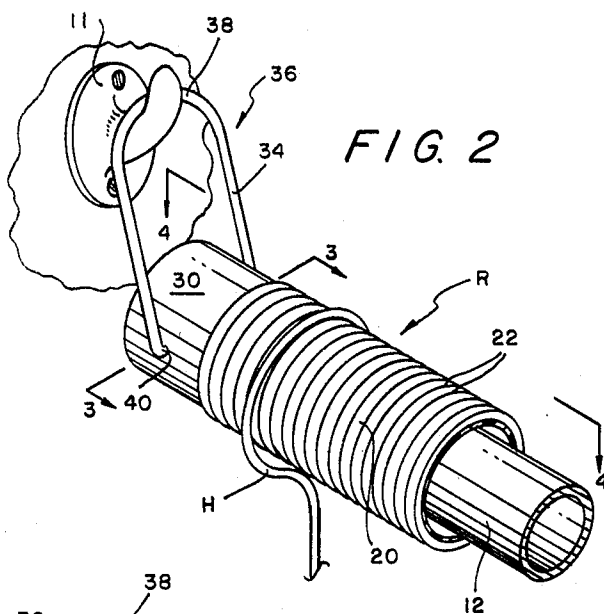


FIG. 2

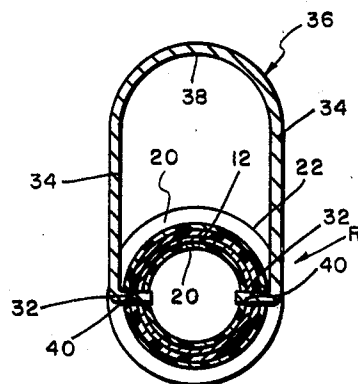


FIG. 3

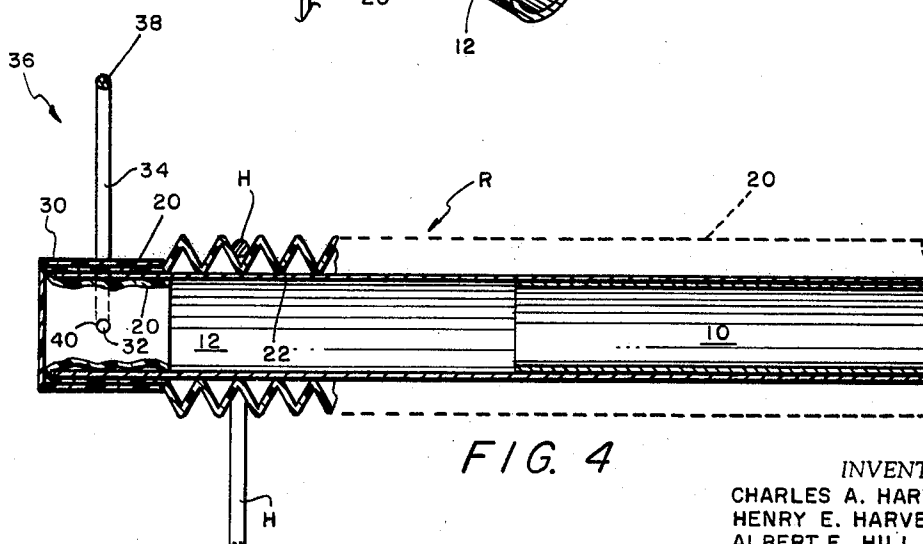


FIG. 4

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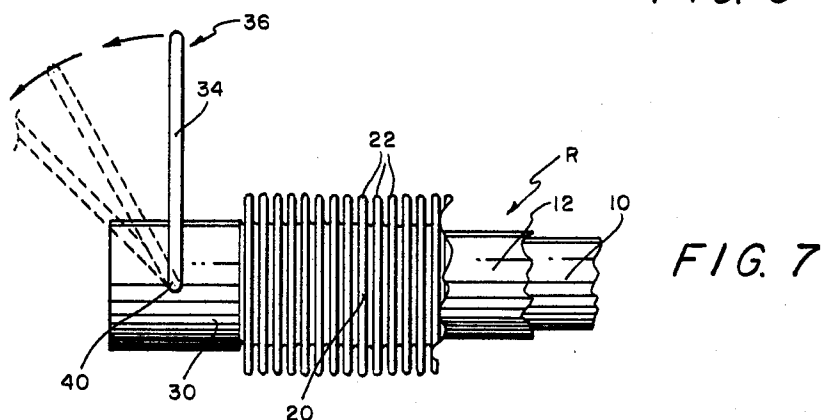
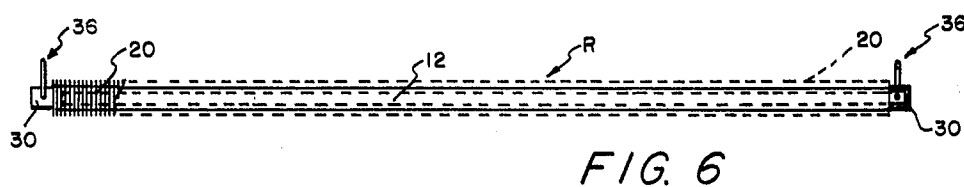
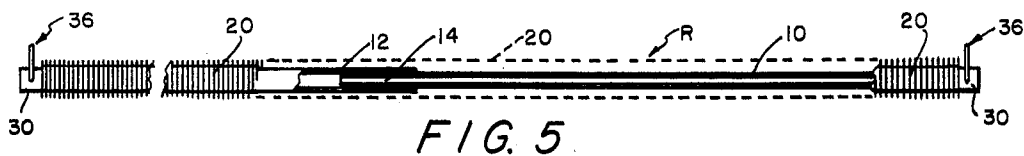
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AUTOMOBILE CLOTHES RACK

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5 Claims

ABSTRACT OF THE DISCLOSURE

Telescoping tubes extending laterally between hook means on the inside of a car and forming a clothes rack are covered with a stretchable sheath having exterior annular corrugations thereby to retain clothes hangers from sliding along the rack.

Brief summary of the invention

Our invention concerns an improvement in clothes racks for automobiles whereby a rack assembly, foreshortened for transportation, shipment and storage, may be extended by the user to extend across the automobile, the rack having a stretchable sheath with annular corrugations to retain clothes hangers in place.

The objectives of our invention include: to provide an improved garment rack for automobiles; to solve the problem of garment hangers sliding on such rack or assuming other than desired positions; to provide the above in an article which is compact for transportation, shipment and storage but can be readily extended for installation; and to provide the above in a structure having other desirable characteristics such as simplicity and economy of manufacture, ease of installation and removal, etc.

Our invention, together with additional objectives and advantages thereof, will be best understood from the following description, read with reference to the drawings, in which:

FIGURE 1 is a view of a specific embodiment of our invention installed in an automobile.

FIGURE 2 is an enlarged perspective view, with portions broken away, and partly in section.

FIGURE 3 is a view, partly in section, taken on the plane indicated by the line 3-3 in FIGURE 2.

FIGURE 4 is a view, primarily in section, taken on the plane indicated by the line 4-4 of FIGURE 2.

FIGURE 5 is a side view, partly in section, of the garment rack in extended position in use.

FIGURE 6 is a side view, partly in section, of the garment rack in retracted position for storage.

FIGURE 7 is a partial enlarged side view of end portions of the rack.

It will be understood there are a number of considerations in making a garment rack for automobiles, including appearance, ease of use, compactness for storage, avoiding having hangers bunch or slide from end to end of the rack as the car turns corners, etc. Commonly the rack will be used only occasionally and will be taken down and stored at other times, so ready installation and removal is important. The construction shown in the drawing has proven to be very satisfactory from all these considerations.

As in the case of some other garment racks for the rear seat of automobiles, the rack R extends between and is attached at its ends to hook means 11 which are standard parts of most automobiles A. Hooks 11 of course take various forms depending on the make, model and year of automobile, and the form of hooks depicted in the drawings is merely intended to represent whatever hook-like fixture is provided for hanging things in the rear seat of a car, or the addition of hook means if the same are not provided or extra hooks are desired.

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An inner telescoping tube 10 and an outer telescoping tube 12 have the extended position shown in FIGURES 1 and 5 in use and have the retracted position shown in FIGURE 6 in storage, etc. (non-use). It will be understood that in extended position (for use as a car rack), tubes 10, 12 still have interfitting portions (shown at 14 in FIGURE 5) of an extent to give the rack R due rigidity. Aluminum tubing is suitable of .024" wall thickness with the inside tube 10 of 3/4" O.D. and 29" long and with the outside tube of 1 1/16" O.D. and 30" long.

A sheath 20 is provided of resilient, flexible plastic material which covers tubes 10, 12. An I.D. of 7/8" for sheath 20 provides a suitable fit. Sheath 20 has annular corrugations 22 which catch or receive hangers H (represented by single hangers H and a single garment G in FIGURES 1 and 2). The corrugations 22 are formed by the accordion configuration of sheath 20. The corrugations of the accordion formation readily accommodates stretching from the compact (non-use) position of FIGURE 6 to the extended (use) position of FIGURES 1 and 5. The FIGURE 6 length of sheath 20 is approximately the normal relaxed length of the plastic tubing.

The ends of sheath 20 are invaginated into the ends of tubes 10, 12 (which can be done readily with the fingers of the assembly workers) and plastic caps 30 are forced over the ends of the sheath (and are partly secured in place by compression of the corrugations 22 in the area by plastic caps 30). However, the most positive securing system is the intumed ends 32 of the legs 34 of the U-shaped clips 36 (whose bases 38 are secured over hooks 11). The intumed ends extend through holes 40 punched or drilled through caps 30, sheath 20, and tubes 10, 12. The clips 36 are preferably formed of spring steel stock so that the ends 32 can be spread to align with holes 40 and then can be snapped into place. As shown in FIGURE 7, of course clips 36 are pivotal to position over hooks 11, or to pivot to minimum article width for packaging, storage, etc.

One unobvious result of the construction is that in the FIGURE 6 position, the free end of the outer tube 12 tends to catch between the sheath 20 and the inner tube 10 to hold the rack R in contracted position until the tubes 10, 12 are drawn apart (with very modest force). The appearance of the article is excellent. Sheath 10 can be selected from a number of plastic colors (to complement the interior color scheme of the automobile if desired) and cap 30 can be made a corresponding color, a contrasting color, or white, for example, which gives a decorative effect.

It is proper to call this a car rack, although if someone wants to use it as a garment rack someplace else (such as using it in a closet), we don't want to exclude this from our claim coverage, although we are simply calling it rack means for an automobile. A principal point, of course, is that in an automobile it is desirable to keep clothes hangers in place, rather than sliding from side to side due to car movement or inclination, whereas in a closet or other clothes rack in a stationary environment, the user may want to be able to freely slide the clothes hangers. Corrugations 22 are workable with various dimensions but an example would be about 1/10" on centers in unexpanded position with ridges and grooves of about equal widths. About 1/40" depth of the annular grooves is suitable, but, really, the dimensions could be considerably larger or smaller and still operate to fulfil the function.

Wire hangers commonly are of wire of something like 1/16" O.D., so it will be understood that the annular grooves (expanded or unexpanded) have a suitable width relationship. For good operation, annular corrugations 22 should be no greater than 1/4" maximum on centers in the stretched condition of sheath 20.

Of course one primary novelty and advantage of our construction is providing an auto clothes rack so simply by having essentially a pair of telescoping tubes and an accordion plastic sheath.

Having thus described our invention, we don't want to be understood as limiting ourselves to the precise details of construction shown but instead want to cover what is fairly within the scope of our invention.

We claim:

1. The improvement in rack means, extending laterally between a pair of hook means on opposite walls of an automobile interior, or the like upon which garments on hangers are to be hung, comprising:

(a) inner and outer telescoping tubes and attachment means on an end of each tube connected to one of said hook means, said tubes having medial inter-fitting portions whereby said tubes extend from hook means to hook means as a rigid rack, and

(b) said tubes having a flexible sheath enclosing the same and extending substantially from one hook means to the other hook means, said sheath having exterior annular corrugations closely spaced substantially throughout its length whereby said hangers are caught in said corrugations against shifting along said rack.

2. The subject matter of claim 1 in which said sheath is of thin resilient plastic material and is formed in an annular accordion manner whereby the sheath has both exterior and interior corrugations, said sheath normally having in unstretched condition about the same length as said tubes when the tubes are fully telescoped and are of substantially less length than a car width, said sheath having sufficient resiliency to stretch to the length of said

tubes when they are extended and secured to said hook means.

3. The subject matter of claim 2 in which the ends of said sheath are invaginated into the tube ends and cap members enclosing the tube ends and compressing the adjacent portions of said sheath thereby securing the end portions of said sheath.

4. The subject matter of claim 3 in which each attachment means is a substantially U-shaped clip with the base of the U-shape to secure over said hook means, the legs of the U-shape having inturned ends and there being openings through said tubes, sheath and cap members receiving said inturned ends thereby securing the members in place.

5. The subject matter of claim 1 in which said annular corrugations are a maximum of $\frac{1}{4}$ " on centers.

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U.S. Cl. X.R.

211—123; 224—42.1, 42.46