June 23, 1953 M. P. WILLIAMS 2,643,050

PROTECTING WRAPPER FOR AUTOMOBILE DOORS

Filed March 20, 1951

FIG. 1

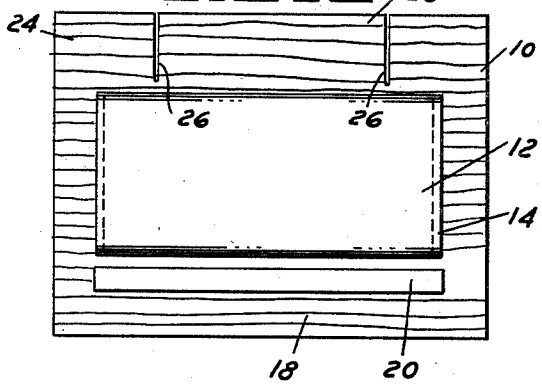


FIG. 6

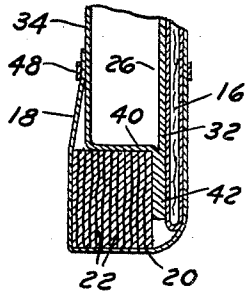


FIG. 2

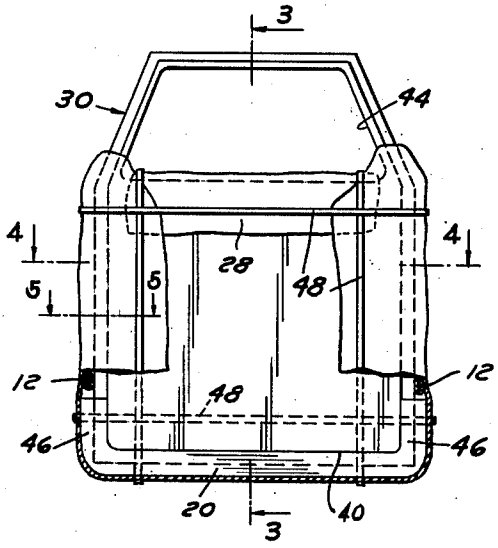


FIG. 3

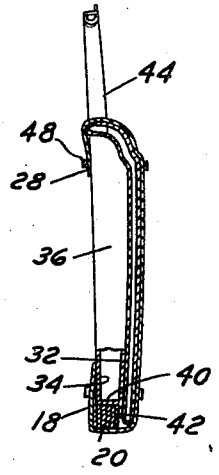


FIG. 5

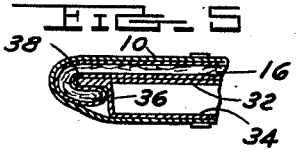
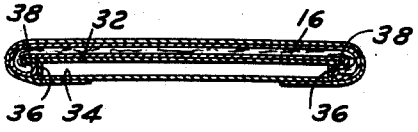


FIG. 4



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PROTECTING WRAPPER FOR AUTOMOBILE DOORS

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8 Claims. (Cl. 229—87)

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This invention relates to protective wrappings for shipping and storing articles and particularly to a protective cushioning pad for wrapping automobile doors for shipment and storage.

In the past it has been a problem to provide protective coverings for shipping articles and particularly articles of irregular formation having sharp projecting edges which are easily damaged in transit. The protective mediums heretofore used have been relatively expensive and bulky and required considerable time to apply and remove the medium.

An important object of this invention is to provide an improved protective covering or packing pad for irregularly shaped articles which is capable of being manufactured at low cost and quickly applied and removed from the article with a minimum amount of labor. Another important object of the invention is to provide an improved covering or wrapper for protecting articles in shipment and in storage which is composed of paper material and is flexible and bendable to conform to the shape of the article and which is tear resistant and difficultly penetrable when engaged by foreign bodies. A further important object of the invention is to provide an improved wrapper or packing especially designed to protect automobile doors when in shipment or in storage and so shaped as to preserve the finished exteriors of the automobile doors and to shield the relatively sharp edges of the doors from damage.

In carrying out the invention, the protective wrapper or covering comprises a flexible base sheet preferably formed of creped paper or the like which is not only tear resistant but has an elasticity which enables it to stretch and give when contacted by foreign bodies. Superimposed on the base sheet and located substantially centrally thereon is a body or pad of less dimension than the sheet in the form of a bag containing a filler of fibrous material, such as excelsior, which builds up the covering to a relatively thick content but is capable of being flexed or bent with the base sheet for wrapping around the corners of the automobile door or other similar article for which the wrapper is intended. Mounted on one of the projecting side margins of the base sheet is a member formed of paper material which is relatively thick and resistant to impression. This member is preferably formed of a laminated assembly of corrugated cardboard strips having the plane of the strips extending perpendicularly to the plane of the base sheet. The member is preferably adhesively or otherwise secured to the

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base sheet to form an integral assembly therewith in order that it may be conveniently applied to and removed from an automobile door. The corrugated cardboard member is located on the base sheet and is of such a dimension that when applied to an automobile door it will be positioned against the bottom side of the door rearwardly of the depending flange thereof.

Various other objects, advantages and meritorious features of the invention will become more fully apparent from the following specification, appended claims and accompanying drawings wherein:

Fig. 1 is a top plan view of a preferred form of the invention especially designed for protecting automobile doors in shipment and showing the layout of the parts of the wrapper prior to assembly on an automobile door,

Fig. 2 is an inside view of an automobile door showing the wrapper of this invention installed thereon,

Fig. 3 is a vertical cross sectional view through the door of Fig. 2 taken along line 3—3 thereof,

Fig. 4 is a horizontal cross sectional view through the door of Fig. 2 taken along line 4—4 thereof,

Fig. 5 is an enlarged fragmentary sectional view of a side portion of the door of Fig. 2 taken along line 5—5 of Fig. 2, and

Fig. 6 is an enlarged fragmentary sectional view of the bottom portion of the door and wrapper thereof illustrating the manner in which the corrugated member protects the bottom edge of the door.

The drawing illustrates a preferred form of the invention and its manner of attachment to an automobile door. It is understood that the arrangement of the parts illustrated in the preferred embodiment of the invention may be varied or altered depending upon the construction of the automobile door or other similar article for which the wrapper is designed. The covering or wrapper comprises a flexible base sheet 10, preferably formed of creped paper, which will normally be of rectangular formation illustrated in Fig. 1. Mounted centrally on the base sheet 10 and being secured thereto by adhesion or other suitable means is a pad 12. As shown in Fig. 1, the pad is of less dimension than the base sheet so that the marginal portions of the latter project beyond all four sides of the pad. The pad is preferably a bag or sleeve composed of kraft paper shaped into the form of an elongated relatively flat tube. The opposite ends of the tube of which the pad is formed are closed

and sealed by paper tape such as that indicated at 14 in Fig. 1. Within the interior of each bag or sleeve there is provided a fibrous mass of material, such as excelsior, which is indicated at 16 in the sectional views of the drawing. The excelsior body fills out each bag or sleeve and is of a thickness greater than the combined thicknesses of the base sheet and the walls forming the bag. However, it is preferred that the thickness of the excelsior filler 16 be limited to such an extent that it may be readily flexed with the bag walls and the base sheet for partial wrapping around the edges of the door or other article protected, as will be later described in connection with Figs. 4 and 5.

In the illustrated form of the invention, the base sheet or layer 10 is preferably approximately 60 lb. by weight paper and creped 25% to 30%. The kraft paper making up the bag or sleeves 12 is preferably approximately 30 lb. weight material although it may be lighter or heavier if desired. The excelsior filler 16 forms a cushion and because of the nature of the material and its limited thickness it may be readily bent or folded with the base sheet and the walls of the bag.

As previously described, the excelsior filled bag 12 is superimposed on the base sheet 10 and secured by adhesion thereto. The bag is of a smaller size than the base sheet and when centrally located thereon, as shown in Fig. 1, the marginal portions of the base sheet project therebeyond.

Mounted on the lower projecting marginal portion 18 of the base layer 10 and on the same side thereof as the bag 12 is an elongated relatively rigid member 20 which extends approximately the length of the bag and is disposed in slightly spaced parallel relationship thereto as shown in Fig. 1. The member 20 is formed of paper material and is preferably composed of a laminated assembly of alternate flat and corrugated paper strips as shown at 22 in Fig. 6. The crests of the corrugated strips are adhesively secured to the flat strips as in conventional corrugated paper board construction. The corrugated paper board member is mounted on the base sheet 10 with the plane of the alternate flat and corrugated paper strips extending perpendicular to the plane of the base sheet. In this manner, the member 20 is capable of resisting strong compressional forces or strains imposed substantially perpendicular to the plane of the base sheet. As hereinafter described in more detail, the height of the corrugated cardboard member 20 is greater than the depth of the bottom flange of the automobile door.

The door protective covering is provided on the upper marginal portion 24 thereof with a pair of laterally disposed cuts or slits 26—26 which extend parallel to one another and perpendicular to the upper edge of the base sheet 10. The slits open out through the upper edge of the base sheet 10 and terminate short of the bag 12. The two slits 26—26 cooperate together to form a flap portion 28 which, as described hereinafter, is capable of being folded through the window opening of the automobile door upon which the protective covering is installed.

Figs. 2 to 6 inclusive show the installation of the protective covering or wrapper of the present invention upon an automobile door. The door is generally indicated at 30 in Fig. 2. It may be formed as shown of a large front panel 32 and a rear panel 34, the two panel sections being spaced from one another as best shown in Fig. 4. The back panel 34 of the door has a lateral dimension less than the front panel 32 and is provided with narrow oppositely disposed side wall sections 36—36 which connect the back panel to the front panel 32. The side wall sections 36—36 are disposed inwardly of the front panel 32 and their outer extremities are bent to follow the front panel to form therewith the laterally projecting flanges 38—38 on the opposite sides of the door. The back panel 34 is provided with a narrow forwardly extending bottom wall section 40 which serves to connect the back panel to the front panel. The bottom wall section 40 is disposed on a level above the lower edge of the front panel and its outer extremity may be bent downwardly together with the bottom portion of the front panel to form a downwardly projecting flange 42 on the door. The abutting portions of the wall sections 36—36 and 40 are usually welded to the front panel 32 to form a hollow interior for the door. It is understood that automobile door constructions vary, but in most conventional automobile doors the side flanges 38—38 and the bottom flange 42 result from whatever construction is followed.

As in conventional automobile door constructions, the upper end of the door frame 30 is provided with an opening 44, shown in Figs. 2 and 3 which is normally closed by a window pane. The door is provided in its hollow interior with a conventional handle operated appliance for raising and lowering the window.

When installed on an automobile door, the pad side of the protective covering material is brought up against the exteriorly finished outer or front side of the panel 32. The pad 12 preferably has a vertical dimension substantially equal to if not slightly greater than the vertical dimension of the outside panel 32 of the door. The pad 12 preferably has a lateral dimension greater than the transverse dimension of the front side 32 of the door so that the opposite side portions of the pad may be rolled or curled around the side flanges 38—38 in the final assembled position of the cover on the door as shown in Figs. 2 and 3. The longitudinal dimension of the corrugated cardboard member 20 is preferably longer than the bottom wall section so that when installed its opposite end portions 46—46 may be folded upwardly around the lower corners of the door as shown in Fig. 2. After the covering material has been brought up flat against the front side of the door with the pad 12 interposed between the front panel 32 and the backing sheet 10, the upper flap portion 28 of the base sheet 10 is folded inwardly through the window opening and allowed to fall downwardly along the inside of the door as shown in Figs. 2 and 3.

The projecting side margins of the base sheet 10 together with the opposite side edge portions of the pad 12 are folded around the flanges 38—38 of the door as best shown in Figs. 4 and 5. The folded marginal portions of the base sheet may be brought around to the back side of the door in overlapping relation to the flap portion 28 as indicated in Fig. 2. The bottom portion of the protective covering material is folded around the bottom flange 42 of the door and relatively flat against the back side of the rear panel 34. This will bring the corrugated cardboard member 20 against the back side of the flange 42 and into abutting engagement with the bottom wall 40 in the manner shown in Figs. 3 and 6.

The relationship of the cardboard member 20 to the bottom portion of the door is best illus-

trated in Fig. 6. The planes of the alternate flat and corrugated strips 22 of the member 20 extend perpendicular to the wall 40 and as previously mentioned are able to withstand considerable crushing pressures or strains imposed thereon. Moreover, as best shown in Fig. 6, the vertical dimension of the corrugated member 20 is such that it extends downwardly beyond the lower edge of the flange 42 of the door. In this manner, the door may be supported in upright position on the corrugated member 20 for shipment or storage and the load and any stresses imposed thereon are taken directly by the member.

After the protective covering has been installed upon the automobile door in this manner, it is secured to the door by any suitable means such as the flat flexible metal straps 48 indicated in Fig. 2. Two such straps may extend through the window opening 44 of the door and secure the top and bottom sections of the covering material to the door. Two more of these straps 48 may extend transversely to the door securing the side margins of the covering material thereof. In lieu of metal straps, the protective covering may be secured to the door by wire or rope in a similar manner as that illustrated in Fig. 2.

What I claim is:

1. A cushioning pad assembly for protecting articles in shipment comprising, in combination, a flexible and stretchable sheet of paper forming the base layer of the assembly, a relatively flat bag of tear resistant paper entirely surrounding and enclosing a relatively thick mass of fibrous material, said bag being secured to the upper surface of the base layer and being so disposed thereon that at least one marginal portion of the base layer projects beyond one side edge of the bag, and a member secured to the upper surface of said projecting marginal portion in spaced relation to the bag and composed of corrugated cardboard strips compactly assembled together.

2. A cushioning pad assembly for protecting articles in shipment comprising, in combination, a flexible and stretchable sheet of paper forming the base layer of the assembly, a relatively flat bag of tear resistant paper entirely surrounding and enclosing a relatively thick mass of fibrous material, said bag being secured to the upper surface of the base layer and being so dimensionally proportioned with respect to the base layer that at least one marginal portion of the latter projects beyond one side edge of the bag, and a relatively rigid member secured to the upper surface of said projecting marginal portion and extending in spaced substantially parallel relation to the adjacent edge of the bag, said member being composed of alternate strips of flat and corrugated cardboard paper extending perpendicular to the plane of the base layer.

3. A cushioning pad assembly for protecting articles in shipment comprising, in combination, a flexible and stretchable sheet of paper forming the base layer of the assembly, a relatively flat bag of tear resistant paper entirely surrounding and enclosing a relatively thick mass of fibrous material, said bag being secured to the upper surface of the base layer and being so dimensionally proportioned with respect to the base layer that at least two opposite marginal portions of the latter project beyond the opposite side edges of the bag, one of said marginal portions being provided with laterally spaced apart parallel slits forming a central flap portion, and a relatively rigid member secured to the upper surface of the opposite marginal portion of the base layer and extending in spaced parallel relation to the adjacent edge of the bag, said member being composed of corrugated cardboard strips compactly assembled together and extending perpendicularly to the plane of the base layer.

4. A cushioning pad assembly for protecting articles in shipment comprising, in combination, a flexible sheet of paper forming the base layer of the assembly, a relatively flat yielding bag having the walls thereof formed of tear resistant paper and having the interior thereof filled with a relatively thick mass of yieldable material, said bag being of less size than said base layer and being secured to the central portion of one side of the base layer, and an elongated relatively rigid member secured to another portion of the same side of the base layer and extending in spaced substantially parallel relation to the adjacent edge of the bag, said member being formed of corrugated cardboard strips extending in planes perpendicular to the plane of the base layer and capable of resisting compressional forces directed perpendicularly toward the base layer.

5. A cushioning pad assembly for protecting an automobile door comprising, in combination, a flexible and stretchable sheet of paper forming the base layer of the assembly, a relatively flat bag of tear resistant paper entirely surrounding and enclosing a relatively thick mass of yieldable material, said bag having a dimension less than that of the base sheet and being secured to the central portion of the upper surface of the latter so that at least two opposite marginal portions of the base sheet project beyond the opposite side edges of the bag, one of said marginal portions having a pair of laterally spaced apart slits extending substantially parallel to one another and forming a flap adapted to be folded within the window opening of an automobile door, and a relatively rigid member of cardboard material secured to the upper surface of the opposite marginal portion of the base layer and extending in spaced substantial parallel relation to the adjacent edge of the bag, said member adapted to abut the bottom side of the automobile door to which the assembly is applied and serve as a load supporting member for the automobile door.

6. A cushioning pad assembly for protecting an automobile door comprising, in combination, a flexible and stretchable sheet of paper forming the base layer of the assembly, a relatively thick bag of tear resistant paper entirely surrounding and enclosing a relatively thick mass of fibrous material, said bag having a dimension less than that of the base sheet and being secured to the central portion of the upper surface of the latter so that at least two opposite marginal portions of the base sheet project beyond the opposite side edges of the bag, one of said marginal portions having a pair of laterally spaced apart slits extending substantially parallel to one another and forming a flap adapted to be folded within the window opening of an automobile door, and an elongated relatively rigid member secured to the upper surface of the opposite marginal portion of the base layer and extending in spaced substantially parallel relation to the adjacent edge of the bag, said member comprising a laminated assembly of alternately flat and corrugated cardboard strips extending perpendicularly to the plane of the base layer and adapted to abut the

underside of the automobile door to serve as a load sustaining support therefor.

7. A protective wrapping for an automobile door comprising, in combination, a flexible sheet of creped paper forming the base layer and having a dimension greater than the body portion of an automobile door, a bag of kraft paper entirely surrounding and enclosing a relatively thick mass of fibrous material, said bag being of less dimension than said base layer and being secured to the central portion of the base layer so that marginal portions of the latter project from all four side edges of the bag, one of said marginal projecting portions being provided with a pair of laterally spaced substantially parallel slits extending from the adjacent edge of the base layer and terminating short of the bag, said slits cooperating to form a central flap in said marginal projecting portion which is adapted to be folded into the window opening of an automobile door upon which the wrapping is applied, and an elongated member secured to the upper surface of the marginal projecting portion opposite to said slitted marginal portion and extending in slightly spaced substantially parallel relation to the adjacent side edge of the bag, said member being a laminated assembly of alternate flat and corrugated cardboard strips extending perpendicular to the plane of the base layer and rising to a height greater than the depth of the bottom flange of an automobile door so as to take the load of the door when supported in upright position.

8. A cushioning pad assembly for protecting an automobile door comprising, in combination, a flexible sheet of paper forming the base layer of the assembly, a relatively flat and relatively thick yieldable pad having an overall dimension less than that of the base sheet secured to a central portion of the upper surface of the latter so that at least two opposite marginal portions of the base sheet project beyond the opposite side edges of the pad, one of said marginal portions having spaced apart slits disposed within the projected lateral margins of said pad and forming a flap adapted to be folded within the window opening of an automobile door, and a relatively elongated rigid member of a width less than half that of said pad secured to the upper surface of the opposite marginal portion of the base layer in spaced relation to the adjacent edge of the pad and in vertical alignment therewith, said member adapted to abut the bottom side of the automobile door to which the assembly is applied and serve as a load supporting member for the automobile door.

MICHAEL P. WILLIAMS.

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