

Jan. 19, 1965

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3,166,227

PROTECTIVE PADS FOR PACKING

Filed March 22, 1962

2 Sheets-Sheet 1

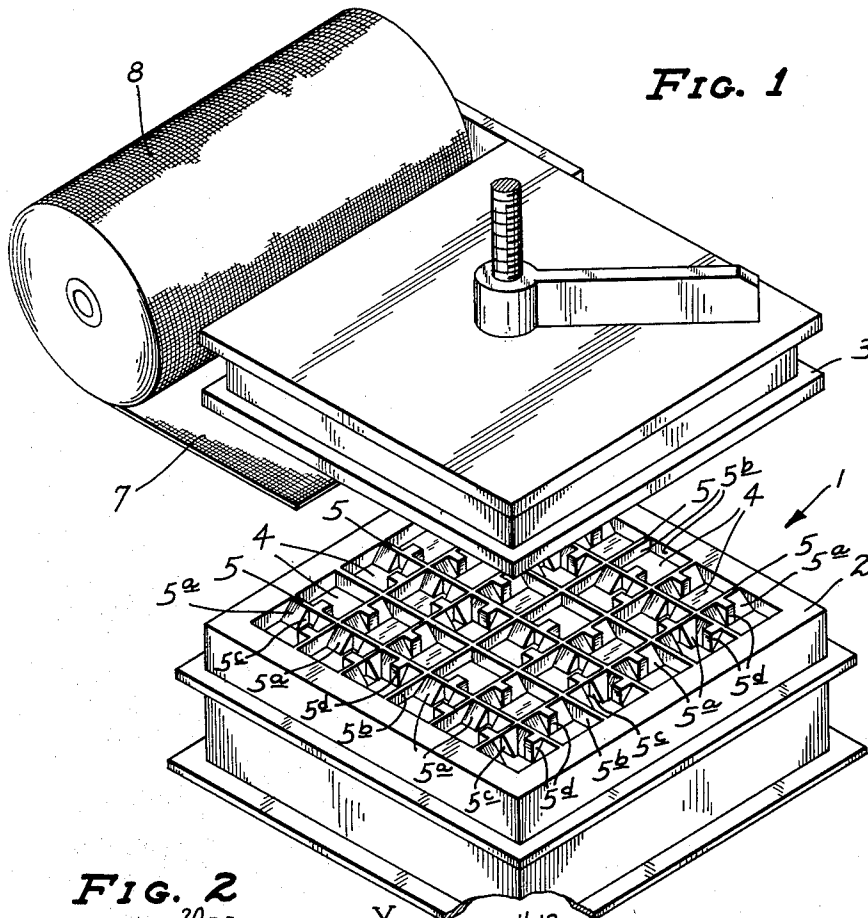


FIG. 1

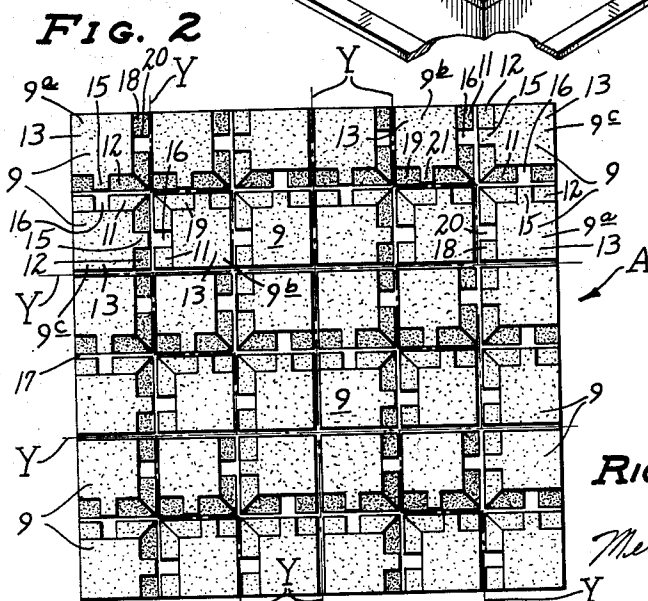


FIG. 2

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FIG. 3

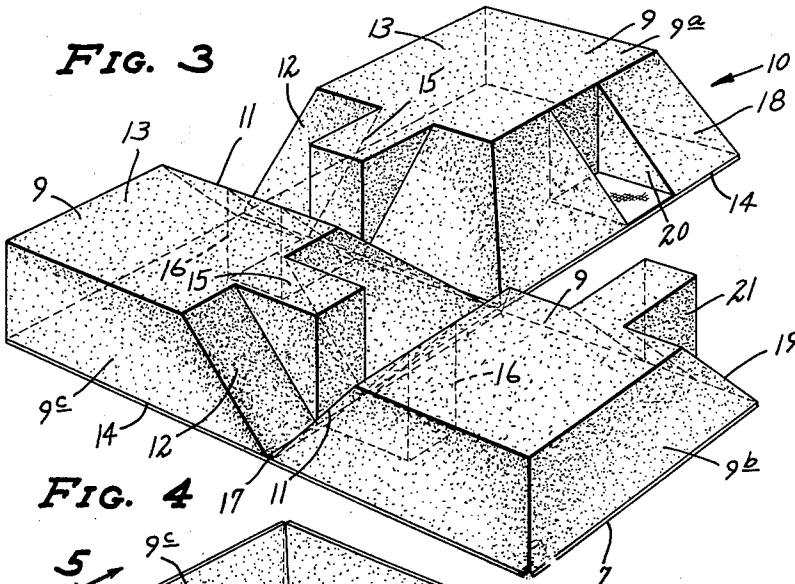


FIG. 4

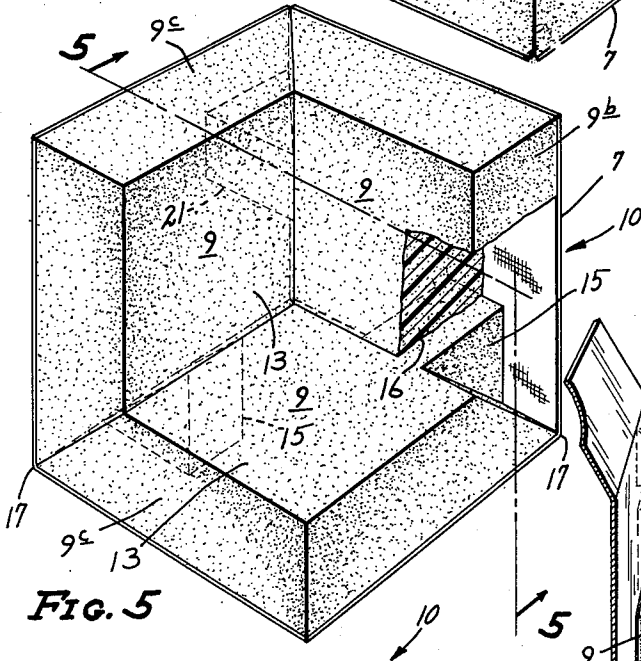


FIG. 5

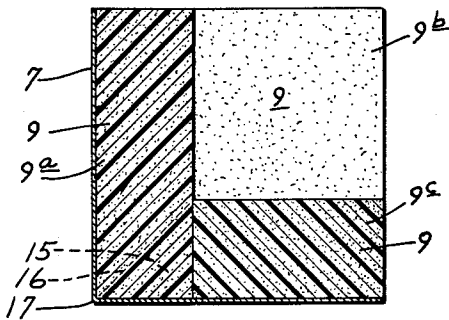
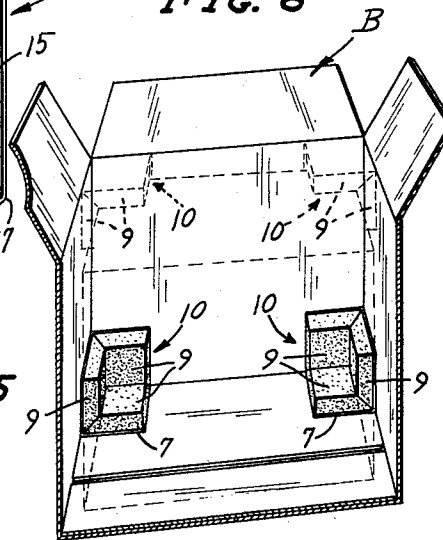


FIG. 6



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PROTECTIVE PADS FOR PACKING

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3 Claims. (Cl. 229—14)

My invention relates generally to the packaging art and more specifically to the production of compressible protective pads utilized in packaging.

More specifically, my invention relates to novel packaging pads, such as corner pads, which may be produced in flat form to facilitate shipment and storage and which may be readily assembled on the job as required.

Still more specifically, my invention relates to novel multi-piece angular packing pads, such as corner pads, which may be molded from expandable "polystyrene," expandable polyethylene, polyester, polyether, epoxy foams, and other synthetics commonly used as protective cushioning materials.

A still further object of my invention is the provision of devices of the type immediately above described which may be produced in large numbers in blanket form for flat storage and shipment, and which may be readily separated from said blanket, in the desired form, as required.

A still further object of my invention is the provision of devices of the type immediately above described in which the cooperating pad elements may be formed during the molding process upon a flexible sheet which, when the individual devices are cut away from the blanket, serves as a hinge between the cooperating pad sections.

The above and still further objects of my invention will become apparent from the following detailed specification, appended claims and attached drawings.

Referring to the drawings wherein like characters indicate like parts throughout the several views:

FIG. 1 is a schematic view in perspective illustrating a form of apparatus utilizable in the production of my novel cushioning pads;

FIG. 2 is a view in top plan of a blanket comprising a plurality of pad-forming elements from which a number of my novel cushioning pads may be formed;

FIG. 3 is a view in perspective of a three section corner pad separated out from the blanket of FIG. 2;

FIG. 4 is a view corresponding to FIG. 3 but showing the pad elements in their assembled relationship, some parts being broken away and some parts being shown in section;

FIG. 5 is a view in vertical section taken on the line 5—5 of FIG. 4; and

FIG. 6 is a sectional view in perspective of a packing carton showing my novel corner pads in operative position therein.

Referring initially to FIG. 1, the reference character 1 indicates in its entirety a conventional molding press the base plate thereof being identified by the numeral 2 and the platen by 3. As shown, the base plate 2 is formed to provide a plurality of longitudinally and laterally spaced cavities 4 which are separated by wall-forming partitions 5. For a purpose which will hereinafter become apparent, certain of the side walls 5a of the partitions 5 are beveled at 45° angles with respect to the flat bottoms 6 of the cavities 4, whereas other side walls 5b extend substantially at right angles thereto. Furthermore, and for a purpose which will hereinafter become apparent, certain of the double side walls 5a are provided with lug forming recesses 5c, whereas others thereof are provided with recess forming lugs 5d. When each of the cavities 4 is filled to a desired level with expandable polyethylene, "polystyrene," epoxy foams or the like, a flexible sheet or webbing 7, preferably the full width of the

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mold, is drawn thereover from a suitable source such as a roll 8. The platen 3 is then lowered into clamping engagement with the base plate 2 with the sheet 7 therebetween, and suitable heat is applied to the mold to expand the plastic within the recesses. During this curing process, each generally rectangular pad element 9 is made to adhere firmly to the backing sheet 7 to form a blanket identified by reference character A in FIG. 2.

While my invention relates generally to angular packing pads of varying shapes, I hereinafter, for purposes of illustration, describe packing pads which form the corner of a cube. Such pads, in accordance with my invention, comprise three identical pad elements 9a, 9b and 9c which are tied together by the backing sheet 7 to form a unitary structure, identified in its entirety by the numeral 10. As shown, the pad elements 9b and 9c have side wall portions 11 which are beveled at 45° to provide mitered joints with the similarly beveled side wall portions 12 of the pad elements 9c, 9a, respectively, when the parallel front and back surfaces 13, 14, respectively, of each cooperating pair of pads are disposed in the angularly disposed operative position of FIG. 4.

Preferably, and as shown, each of the side wall portions 12 is provided with a central lug 15 which is snugly frictionally received within a cooperating recess 16 in the wall 11. This feature is of importance in holding the cooperating pairs of pad elements 9 in their operative angular position when they are initially placed into position, as shown in FIG. 6. The flexible backing 7 between the pad elements 9, which provides a hinge for swinging movements of one with respect to the other, is identified by the numeral 17.

As shown in FIG. 3, when three pad elements 9 are secured together in angular relationship to form a corner of a cube, the side wall 18 of the pad element 9a and the side wall 19 of the pad element 9b are likewise beveled at 45°, the former being provided with a recess 20 whereas the latter is provided with a cooperating lug 21.

In the blanket A of FIG. 2, wherein a large number of unitary structures 10 are formed, the lines of severance therebetween are identified by y. For purposes of facilitating severance, the lines y of course may be perforated or otherwise weakened. As above indicated, a number of blankets A may be shipped in flat form to the ultimate user, such as the manufacturer of television sets or the like. The user, in turn, stores them in flat form and tears them off along the severance lines y when needed, at which time the pad elements 9 are swung into their operative angular positions with the lugs 15, 21 associated with beveled walls 12, 19 snugly received within the recesses 16, 20 of the cooperating beveled walls 11—18. FIG. 6 illustrates a pair of the assembled units 10 in operative position inside of a carton B. The eight corners of a television set, not shown, are receivable one each within one of said assembled units 10. In this manner the set is afforded maximum protection against shock during handling occasioned by shipment and storage.

Angular packaging pads of various shapes, such as L-shape, channel-shape, and even box shape, may be formed in accordance with my present invention. However, in each case it is the novel relationship of the one or more hingedly connected cooperating pairs of pad elements 9 which makes it possible to form the pads in blanket form for storage and shipment and subsequent severance and assembly as needed.

What is claimed is:

1. In a device of the class described,

(a) a pair of cooperating pad elements having opposed front and back surfaces and substantially abutting side edge portions,

(b) a flexible sheet-like backing member attached to

- said back wall surfaces and providing a hinge connection between said pad elements,
- (c) said side edge portions being beveled to provide a mitered joint when said pad elements are disposed at right angles to each other, providing resilient cushioning material throughout all surfaces of said corner pad,
- (d) one of said pad elements defining a recess in the beveled edge portion thereof,
- (e) and the other of said pad elements having a lug extending outwardly from its beveled edge portion and frictionally received in said recess when said pad elements are disposed at substantially right angles to each other to frictionally hold said pad elements in said angularly disposed relationship.

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2. The structure defined in claim 1 in which said pad elements are formed from compressible foam-like plastic.
3. The structure defined in claim 1 in which said pad elements are formed from compressible foam-like plastic in which said backing member completely covers the back wall surfaces of said pad elements.

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