July 3, 1962 W. M. EMERY 3,041,637

BACK RESTS

Filed May 23, 1960

FIG. 1

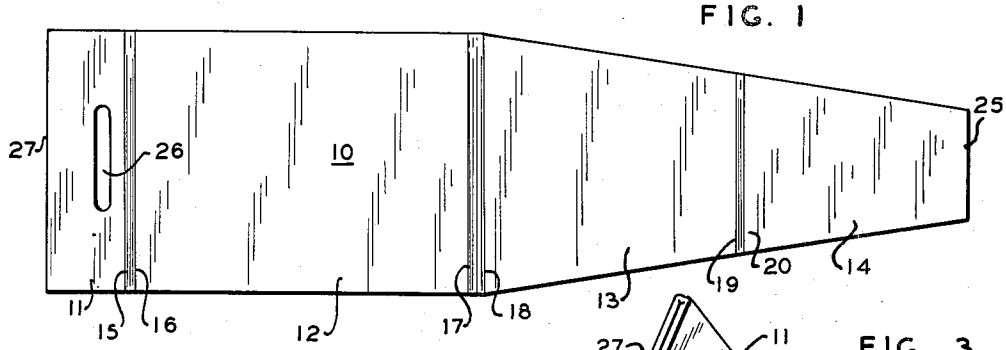


FIG. 2

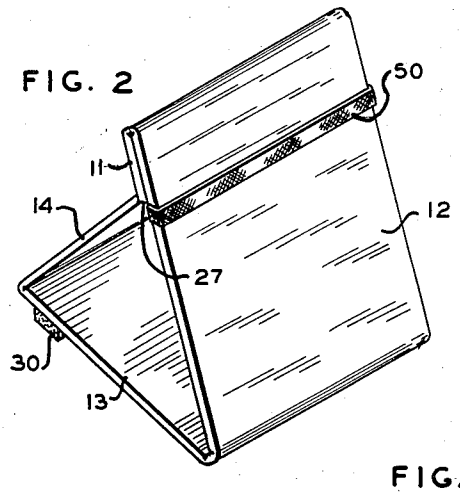


FIG. 3

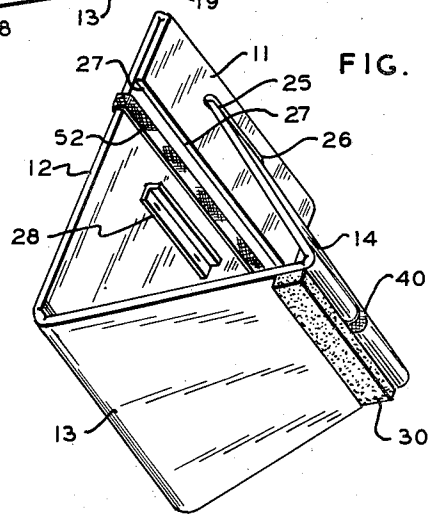


FIG. 5

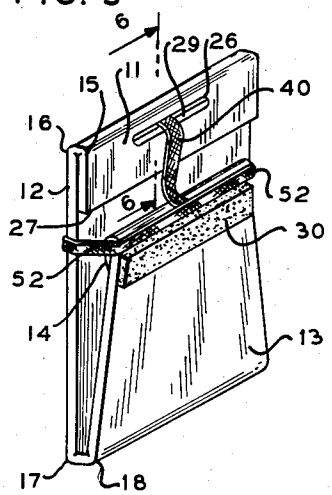


FIG. 6

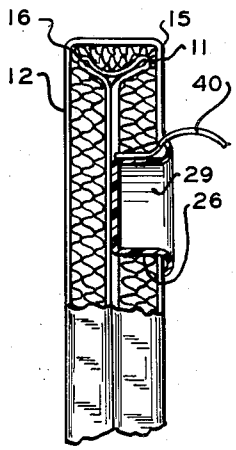
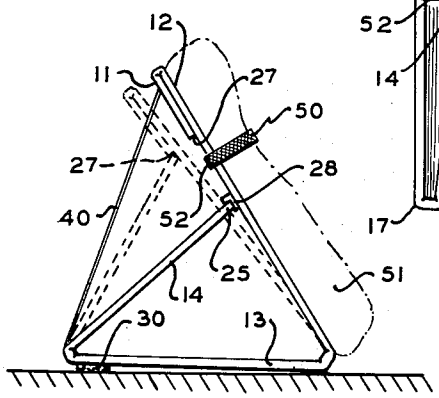


FIG. 4



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BACK RESTS

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4 Claims. (Cl. 5—327)

My present invention refers to a back rest designed primarily for use in bed but which is also popularly used while sitting on the floor watching TV etc.

Purposes of my invention include: (1) The creation of a simple, one piece design, light of weight, inexpensive to manufacture and ship, collapsable flat for handling, storing or shipping. (2) A back rest providing a choice of several angles for the support of the back according to posture preferred. (3) To provide a non-skid device which resists the normal tendency to slide away from the occupant. These and further objects will be amplified by reference to the following specification claims and drawings in which:

FIGURE 1 is a plan view of the one piece of board from which my very simple back rest is made,

FIGURE 2 is a front view of said piece after being folded as hereafter described,

FIGURE 3 is a bottom and back view of FIG. 2,

FIGURE 4 is a side view of the device of FIGURE 3, but in the most vertical of its three selective angles to recline,

FIGURE 5 is a back view showing the device compactly folded for storage or carrying, and

FIGURE 6 is a sectional view taken along line 6—6 of FIG. 5.

FIGURE 1 shows a one unitary die cut piece 10 of light weight artificial board, composed of top, bottom and intermediate layers, spaced apart by interconnecting structure to provide a high proportion of air spaces relative to solid parts. With such a board, I am able to combine integrally in one piece 10 certain strong stiff sections or panels, such as 11, 12, 13 and 14 and certain hinge or flexible sections indicated by lines 15 to 20 which also substantially represent the axes of the hinge functions of said flexible sections. Said sections are made flexible by crushing the previously described layers eliminating thereby the air space therebetween. This is done at the time the board 10 is die cut to size.

More specifically, the side end or the top section 11 is folded along lines or sections 15 and 16 and cemented permanently to section 12. Section 12 becomes the back supporting member of the back rest when the one piece 10 is further folded such as along lines or sections 17 to 20. Then section 13 becomes the bottom or base of the back rest and section 14 becomes the diagonal back prop. Note that all hinge sections fold upwardly in the same clockwise direction as shown in FIGURE 1, and that all hinge axis 15 to 20 are parallel to each other and before 10 is folded, all said hinge axes are in the same plane.

FIGURE 1 also shows that one piece 10 is tapered from an intermediate point which in this embodiment is approximately at 18 to small end 25.

Top section 11 has an elongated hole or slot 26 cut therein. When section 11 is folded against and cemented to section 12, then hole 26 is closed on one side but open on the other side. Accordingly, slot 26 becomes a very convenient finger hole for carrying or grasping the back rest, especially when folded as shown in FIG. 5. Also small end 25 of diagonal prop 14 fits into slot 26 as shown in FIG. 3 to form a stop for the back prop 14 when the back supporting section 12 is at its most reclining angle. As shown in broken lines in FIG. 4, the turned back edge 27 of section 11 forms an intermediate

stop for back prop 14 to provide an intermediate angle for the back supporting section 12.

As shown in FIGS. 3 and 4, a stop angle 28 is attached to rear surface of section 12 to provide a third selective inclination and the most vertical position for the back supporting section. It is obvious that by varying the proportions of the various sections or panels of my device and also the positions of the several stops such as 26, 27 and 28, a wide range of angles can be produced within the confines of my invention.

A pad 30 of plastic foam, having high frictional properties especially when resting on fabric is shown in FIGS. 2 to 5, and positioned on the under side of section 13 at a spot that becomes a principal pressure point when the back rest is leaned against, especially in the angular position shown in FIG. 4. This pad 30 tends to prevent the back rest from sliding away from the user and makes it, in most positions, practically unnecessary to rest the back rest against the wall or the head board of a bed.

FIG. 4 shows an elastic strap 40 that extends from slot 26 to pad 30. Strap 40 is sufficient to make one piece 10 after folding into a hollow triangle of three panels suitable for a back rest.

Elastic strap 50 as shown in FIGS. 2 and 4, is provided to hold any suitable, conventional pillow 51 in a comfortable position. This strap 50 is anchored to section 12 and continues as indicated as 52 in FIG. 3 and 5, in such a manner that it can be looped around the section 13 near pad 30 to hold it in position substantially against section 12 when folded as shown in FIG. 5.

It might be noted that the space between 17 and 18 is wide enough to allow section 14 to be positioned between sections 13 and 12 when the back rest is folded so as to stack the three panels with their faces substantially adjacent for convenient carrying while grasping slot 26.

As shown in FIG. 6, elastic tape 40 is attached to the under side of section 11 and passes out through slot 26, and slot 26 is covered by a flanged, shallow tray-like plastic cup 29 to cover any raw edges of board 10 and to provide a pleasant surface to contact with the fingers. Elastic tape 40 may also pass through suitable openings in cup 29.

The trim of the elastic and plastic of cup 29 and angle 28 which is also plastic are of matching colors in harmonizing contrast with board 10.

I also wish to emphasize that in my invention 10 can be one continuous, uninterrupted board, and requires no separately applied hinges and this feature contributes largely to the simplicity of my invention and because said hinge sections are not separately attached but like piano hinges, they extend for the full transverse width of one piece 10, they possess much more strength than separately applied hinges which are always points of weakness or establish foci of forces and factors of expense.

I claim:

1. A back rest having a basic triangular construction of three members comprising a base member with two opposite and parallel ends, a back supporting member hinged to one of said ends and a brace member hinged to said opposite end, said hinges and the relative length of said members being such as to provide for the loosely contacting of the upper rear side of the back supporting member intermediate of its ends by the end of the brace member and means sufficiently elastic to hold said two of said members in said contacting relationship and yet allow said triangular construction to be folded flat with the brace member between the back supporting member and the base member without disconnecting said elastic means.

2. A back rest having a basic triangular construction

of three members comprising a base member with two opposite and parallel ends, a back supporting member hinged to one of said ends and a brace member hinged to the opposite end, said hinges and the relative length of said members being such as to provide for the loosely contacting of the upper rear side of the back supporting member intermediate of its ends by the outer end of the brace member and means so mounted and sufficiently elastic as to hold said two of said members in said contacting relationship and yet allow said triangular construction to be folded flat with the brace member between the back supporting member and the base member.

3. A back rest having a basically triangular construction of three principal parts comprising a base with two parallel ends, a back supporting member hinged to one of said ends, and a brace member having a trapezoidal shape with its longer parallel side hinged to the opposite and parallel end of said base, and its shorter parallel side constituting an out board end suitable for contacting and bracing the rear of said back supporting member, said hinging and the relative lengths of said members being such as to arrange for said out board end of said brace member to contact the mid section of the upper rear surface of the back supporting member intermediate of its ends to brace said back supporting member at various locations to provide optional angles of repose.

4. A back rest having a basically hollow triangular construction of three principal parts comprising a base with two parallel ends, a back supporting member hinged to one of said ends, and a brace member having a trapezoidal shape with its longer parallel side hinged to the opposite and parallel end of said base, and its shorter parallel side constituting an out board end suitable for contacting and bracing the rear of said back supporting member, said hinging and the relative lengths of said members being such as to arrange for said out board end of said brace member to loosely contact the mid section of the upper rear surface of the back supporting member intermediate of its ends and elastic means sufficiently stressed to hold said members in said contact completing said basically triangular construction.

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