June 5, 1934. W. J. DE REAMER 1,961,341

PACKING MATERIAL

Filed April 12, 1933

FIG 5

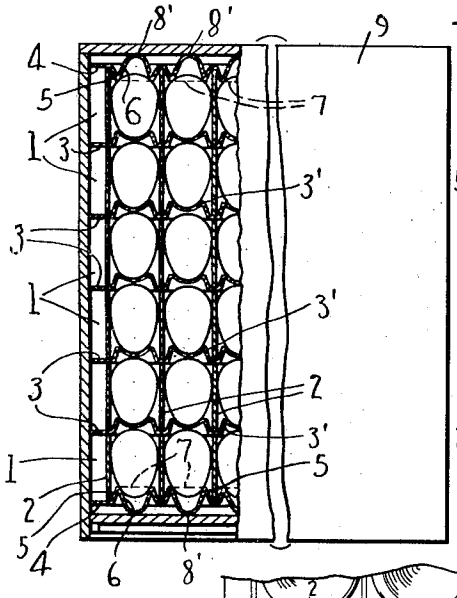


FIG 1

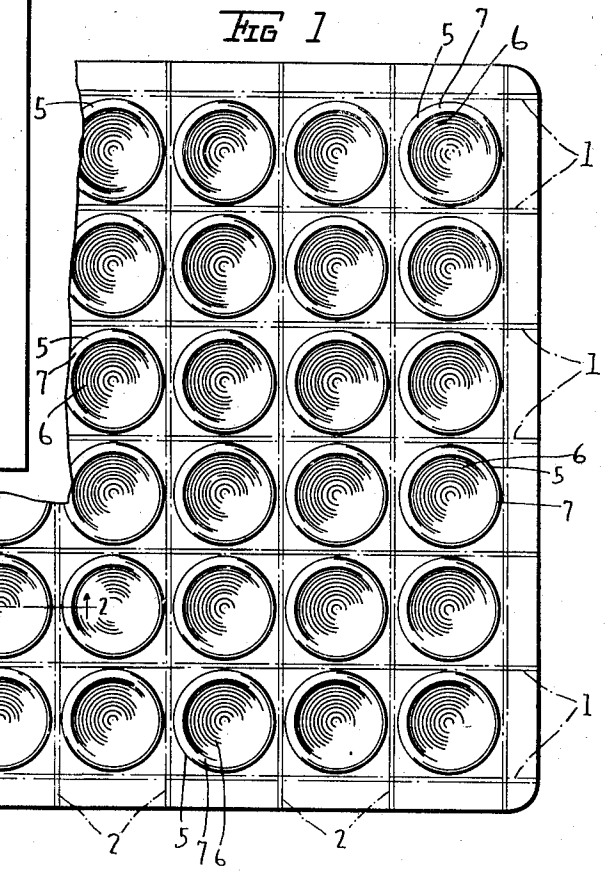


FIG 2

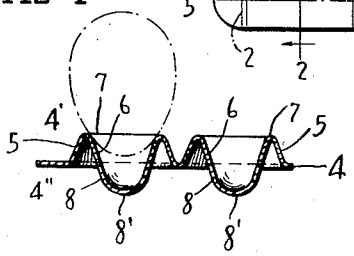


FIG 3

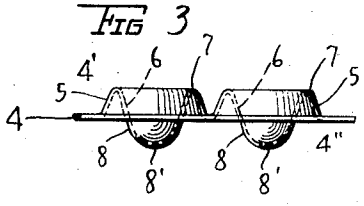
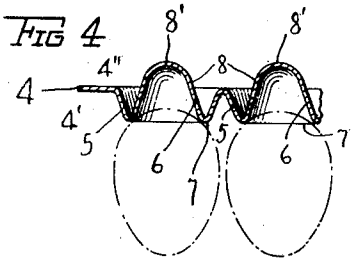


FIG 4



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UNITED STATES PATENT OFFICE

1,961,341

PACKING MATERIAL

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5 Claims. (Cl. 217—27)

This invention relates to pads for protecting fragile articles, it more particularly relating to a pad which is to be placed at the top and bottom of a shipping case and in the present case the pad is especially adapted for use in connection with cases and the fillers thereof employed for shipping eggs.

One of the objects of the invention is to provide a pad which will be simple in construction, economical in manufacture and effective in use.

A further object is to provide a pad for use in an egg shipping case which is in reality a combined pad and egg "flat" capable of not only effectively protecting the eggs when installed at the top and bottom of the case, but also of reducing the cost of packing the case by supplying in a single article the equivalent of the formerly used separate pad and flat.

A further object is to provide a pad so constructed that hollow projections are formed thereon which not only act to cushion the eggs but also serve as reservoirs to receive the embryo of broken eggs or of eggs which leak, and which also provide supports for the unbroken eggs such as will prevent the embryo from coming in contact with such eggs.

A further and more specific object is to provide a pad which is provided on one side thereof with article-receiving members, the walls of which are extended so as to project on the opposite side of the pad to provide cushioning members.

In the accompanying drawing:

Fig. 1 is a fragmentary top plan view of the improved pad.

Fig. 2 is a fragmentary section taken on the lines 2—2 and 2'—2' of Fig. 1.

Fig. 3 is an elevation looking at one edge of a portion of the pad.

Fig. 4 is a view similar to Fig. 2 except the pad is shown in an inverted position.

Fig. 5 is a view, partly in front elevation and partly in vertical section of an egg shipping case and its fillers and flats, and showing the improved pads in position therein.

Referring to the drawing and more particularly to Figs. 1 and 5, it will be seen that an ordinary method of packing is followed out to the extent that cells for each egg of a layer are provided by the use of well known intersecting and interlocking cross-strips or fillers of straw board or similar material designated at 1 and 2, shown fragmentarily in section and elevation in Fig. 5 and conventionally by dot-dash lines in Fig. 1, respectively. In the present instance each layer of eggs except the lowermost layer is supported on a moulded pulp egg flat 3 of well known construction such for instance as is shown and described in the patent to Koppelmann and Cooper No. 1,429,207, dated September 12th, 1922, while the flats are in turn supported on the fillers, the fillers for the lowermost layer of eggs resting on one of the improved pads, which is placed in the bottom of the shipping case, and which directly supports the eggs of the lowermost layer. Each flat is provided with rows of equally spaced raised egg-receiving members 3' and the strips forming the fillers occupy the spaces between these egg-receiving members so that the fillers will be held from lateral displacement. The pack, therefore, after the bottom pad is placed consists of alternate fillers and flats and over the uppermost layer, a second pad is deposited in an inverted position.

The pad is formed of pulp moulded by the suction process and consists of a flat sheet 4 of the same approximate size as each of the flats 3. On one side of the sheet 4 of the pad, denoted by 4', there is formed a plurality of projecting, hollow, annular egg-supporting members of such number and spacing as to provide that one such member is positioned at the center of each egg cell when the filler strips are placed on the pad; or, in other words, the filler strips will occupy the spaces between the egg-supporting members and be held against lateral displacement thereby in the same way described in connection with the flats 3.

Each egg-supporting member consists of an inwardly inclined annular outer wall 5 which projects laterally from one side of the pad for a suitable distance and is then continued at an inward incline toward the plane of the pad to form an inner wall 6. The bend between the walls indicated at 7 is of such diameter as to receive and support an egg, performing the same function as the cup-shaped members 3' of the flats 3. Each inner wall is continued at the same inclination to a point beyond the other side 4'' of the pad as indicated at 8 and is closed as at 8', so as to provide a hollow projection or leg which acts as a cushion and also as a reservoir to receive the embryo of broken or leaking eggs.

The height of the egg-supporting members and the depth of the cushioning projections is gauged so that each projects substantially an equal distance from their respective sides of the flat sheet. The supporting members are extended such that the eggs supported thereon are in an elevated position with respect to the flat sheet, so that the embryo of a broken or leaking egg will not come in

contact with adjacent unbroken eggs. The projections are extended not only for the cushioning effect obtainable by such construction, but also for the purpose of receiving the embryo of an unbroken egg, since each projection is hollow. By placing a pad at the top and bottom of the pack in the shipping case 9, with the upper pad inverted it will be seen that the hollow cushioning projections or legs will contact the top and bottom of the shipping case to thereby cushion the pack and that the lower pad will act to receive and support the eggs in the same manner as the intermediate flats 3, or when the case is inverted the upper pad will also act in like manner.

There is thus provided a pad which can be moulded in a single sheet which not only serves the purpose of an ordinary flat but also as a cushioning pad. The article forms in effect a combined flat and pad which can be moulded by a single operation with very little additional pulp over that employed in the intermediate flats 3 and with a very material saving of pulp and labor required to provide a separate pad and flat at the top and bottom of the pack.

Having thus described my invention, I claim:

1. In a packing pad for egg cases consisting of a flat sheet formed on one side thereof with a plurality of raised integral annular cup-shaped egg-receiving members each consisting of an outer wall and an integral inner wall, the diameter of said member at the point of juncture between the outer and inner walls being such as to receive and support an egg wholly above the pad, said inner wall being extended and converged so as to project on the opposite side of the pad to provide a cone-shaped cushioning member, the diameter of said cushioning member being considerably less than the diameter of the egg-supporting member.

2. In a combined pad and flat for an egg-shipping case which has a cellular filler, a flat sheet of material formed on one side thereof with a plurality of integral cup-shaped egg supports each adapted to be centrally positioned in a cell of the filler, each support formed of a projecting annular outer wall the direction of which is reversed to provide an annular inner wall, the dimensions of each support being such as to engage the end of an egg and support the egg wholly upon that side of the flat sheet, and cushioning members on the opposite side of said sheet each formed by a continuation of the inner wall of an egg support.

3. In a combined pad and flat for an egg case having a cellular filler member, a flat sheet of material formed on one side thereof with a plurality of integral cup-shaped egg-receiving members each adapted to be positioned centrally in a cell of the filler, each member being formed of an outer annular wall bent at an angle to provide an inner annular wall, said walls forming a cup-shaped support of such dimensions as to engage the end of an egg and support the egg wholly upon that side of the sheet, said inner wall being extended to form cushioning projections on the opposite side of the sheet, there being flat portions of the sheet between the outer wall of each egg-receiving member and the filler member.

4. A combined packing pad and flat for egg cases consisting of a flat sheet formed on one side thereof with a plurality of raised integral annular cup-shaped egg-receiving members each consisting of an outer wall and an integral inner wall, the diameter of each member being such as to engage an end of an egg and support the egg wholly on one side of the pad, said inner wall being extended so as to project on the opposite side of the pad to provide a cushioning member.

5. In a combined pad and flat for an egg shipping case which has a cellular filler, a flat sheet of material, a plurality of rows of integral, equally-spaced, annular cup-shaped supports on one side thereof, each support being adapted to be centrally positioned in a cell of the filler, the diameter of the cup of the support being such as to engage an end of an egg and support the egg wholly on that side of the flat sheet, and a plurality of rows of equally spaced cushioning members projecting from the opposite side of said sheet, the rows of egg-receiving supports being in line with the rows of cushioning members, the respective egg-receiving supports and cushioning projections of opposite rows being directly opposite each other.

WILLIAM J. DE REAMER.