Dec. 10, 1935. F. DEGEMEYER 2,023,518

PACKING FOR BOTTLES

Filed Oct. 18, 1932

Fig. 1

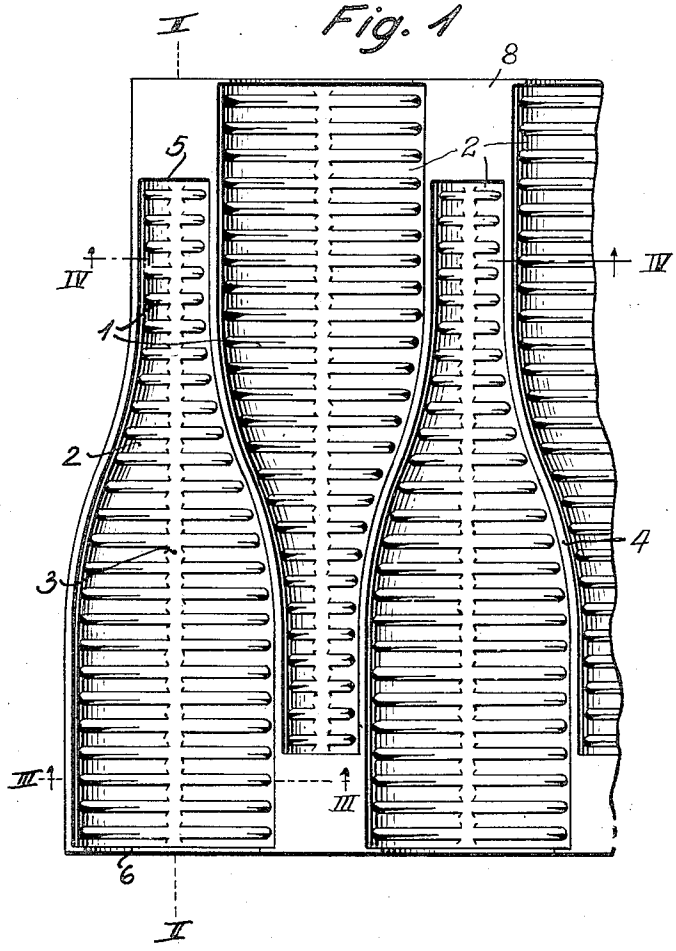


Fig. 2

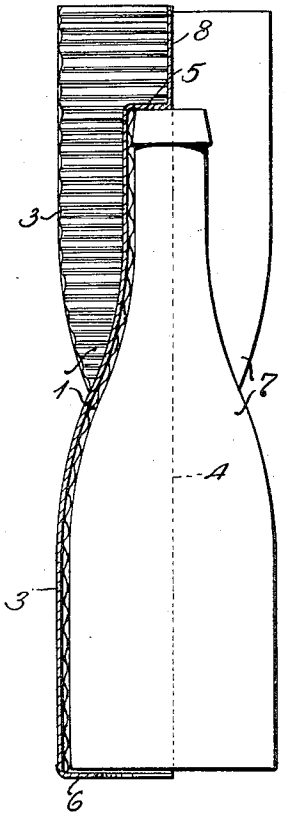


Fig. 3

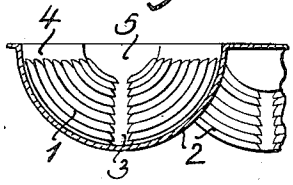
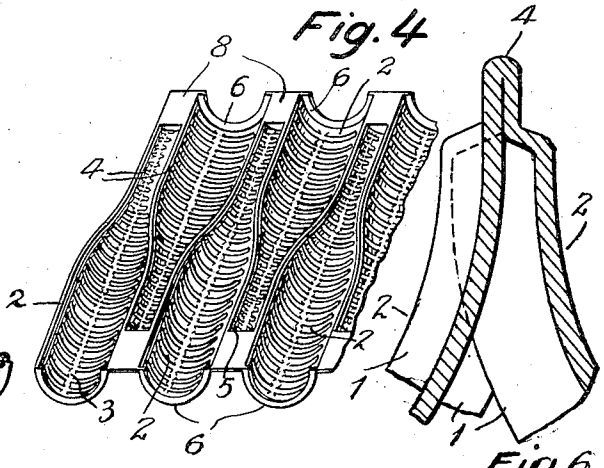


Fig. 4



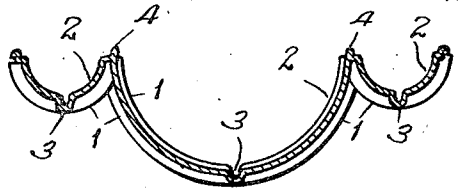


Fig. 5.

Fig. 6

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PACKING FOR BOTTLES

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Application October 18, 1932, Serial No. 638,434
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5 Claims. (Cl. 217—26.5)

This invention relates to a packing for bottles and of the kind comprising a pair of pressed complementary shells of cardboard or the like having a row of bottle-shaped depressions turned alternately in opposite directions and formed in said depressions with reinforcement flutings.

One object of the invention is to increase the strength of the packing, and the invention consists in this respect in arranging the flutings of contiguous depressions in a relatively staggered position and in interrupting the flutings so as to form a plain, straight rib in the centre of each depression and a plain, intact edge between two contiguous depressions.

A further object of the invention is to ensure a better protection for the bottles, and in this respect the invention consists in forming the shells with end supports for the bottles so as to prevent longitudinal as well as transverse displacement of the latter.

Fig. 1 of the accompanying drawing represents a plan view of part of the packing shell according to the invention,

Fig. 2 is a section on the line II—II of Fig. 1 including a bottle,

Fig. 3 is a section on the line III—III of Fig. 1,

Fig. 4 is a perspective view on a reduced scale of part of a shell,

Fig. 5 illustrates in cross-section, the overlapping of the flutings of contiguous depressions along a line corresponding to 5—5 in Fig. 1 in a modification having no end flanges, and

Fig. 6 is an enlarged detailed cross-sectional view of the packing strip, similar to Fig. 5, at and near the edge between contiguous depressions.

The packing comprises a pair of complementary shells which may be interconnected and which are pressed into shape from cardboard or other, preferably yieldable, sheet material and formed each with a row of bottle-shaped depressions 2, turned alternately in opposite directions. This sheet material may be formed by a plurality of webs of paper sheeting reinforced and glued together by such adhesive material as a sodium silicate solution. Only one of the shells is shown in the drawing. Each depression is formed with reinforcements in the form of transverse flutings 1, extending along the complete length of the depression and across substantially the complete width of the packing strip. In accordance with the invention, the flutings or corrugations are interrupted so as to leave a straight plain rib 3 in the centre of each depression as well as a plain, intact boundary edge 4 between two contiguous depressions wherewith to meet the corresponding edge of the complementary shell. To increase the reinforcement, the flutings of contiguous depressions are relatively staggered as shown in Fig. 1, the apices on the inside of one depression being preferably centrally interposed between corresponding apices of the contiguous depressions. The ribs in the deepest portions of the depressions as well as the plain edges at the tops thereof serve to impart a desired degree of flexibility to the packing strip without affecting the permanence or stability of the flutings. Thereby an effective cushioning of frangible articles is obtained by means of the packing strip according to the invention after repeated use thereof. The flutings in each depression, although interrupted by the rib 3, are in continuous alignment and are not displaced upon opposite sides of the rib. This feature results in a stronger as well as more economical manufacture.

To prevent longitudinal displacement of the bottles 7, end supports are provided consisting of a semi-annular flange 6 for the bottom end of the bottle and a semi-circular plate 5 for the top end thereof (Figs. 2, 4). A flat plateau 8 extends from the plate 5 to the edge of the packing strip. Although these features are desirable, they are not essential for the realization of the basic advantages of the instant invention.

Figs. 5 and 6 are enlarged sectional views of a packing strip having no end flanges. The mutual confinement of the bottles by the tapered portions of the depressions is adequate to maintain the bottles in place. In this embodiment a distinctly plain, raised edge 4 is formed between the depressions which absolutely precludes any deforming effects upon the offset reinforcing flutings upon a flexing of the strip. With the corrugations or flutings displaced in adjacent depressions, the juncture thereof at any edge 4 between the depressions presents no weak points which are conducive to a breaking in a direction transverse to the longitudinal axis of the depressions.

By these modifications of the packing, the bottles will be effectively prevented from clashing and breaking even if the packing case should be rolled over or subjected to shocks.

I claim:

1. A packing strip for bottles comprising a formed unitary paper sheet having a contiguous row of bottle-shaped depressions facing in alternately opposite directions with the boundary edges of each depression common with the boundary edges of adjacent depressions, corru-

gations extending transversely of the longitudinal axes of the bottle-shaped depressions from points adjacent said boundary edges, said corrugations being in alignment in each depression and displaced with respect to the corrugations in adjacent depressions, and merging into the plain boundary edges at the juncture of adjacent depressions.

2. A packing strip for bottles comprising a formed unitary paper sheet having a contiguous row of bottle-shaped depressions facing in alternately opposite directions with the boundary edges of each depression common with the boundary edges of adjacent depressions, corrugations extending transversely of the longitudinal axes of the bottle-shaped depressions from points adjacent said boundary edges, said corrugations being in alignment in each depression and displaced with respect to the corrugations in adjacent depressions, and merging into the plain boundary edges at the juncture of adjacent depressions, said corrugations being furthermore interrupted in their course between adjacent boundary edges to form at least one rib disposed symmetrically in each depression.

3. A packing strip for bottles comprising a formed unitary paper sheet having a contiguous row of bottle-shaped depressions facing in alternately opposite directions, with the boundary edges of each depression common with the boundary edges of adjacent depressions, uniform corrugations extending transversely of the longitudinal axes of the bottle-shaped depressions from points adjacent said boundary edges, each of said corrugations having an interrupted portion at the deepest portion of the depressions whereby a rib is formed in each depression, with the corrugations on the opposite sides thereof in alignment, said corrugations furthermore being displaced in adjacent depressions.

4. A packing strip for bottles comprising a formed unitary paper sheet having a row of contiguous bottles-shaped depressions facing in alternately opposite directions with the boundary edges of each depression common with the boundary edges of adjacent depressions, uniform corrugations consisting of alternate ribs and grooves extending transversely of the longitudinal axes of the bottle-shaped depressions from points adjacent said boundary edges, each of said corrugations having an interrupted portion at the deepest portion of the depressions whereby a longitudinal rib is formed in each depression, with the series of ribs and grooves of said corrugations on the opposite sides of said longitudinal rib in respective alignment, said corrugations furthermore being displaced in adjacent depressions so that the ribs in one depression are in alignment with the grooves in adjacent depressions and the grooves in said one depression are in alignment with the ribs in adjacent depressions, said ribs and grooves of adjacent depressions merging into the plain boundary edges at the juncture of said depressions.

5. A packing strip for bottles comprising a formed unitary paper sheet having a contiguous row of bottle-shaped depressions facing in alternately opposite directions with the boundary edges of each depression common with the boundary edges of adjacent depressions, substantially uniform corrugations extending transversely of the longitudinal axes of the bottle-shaped depressions from points adjacent said boundary edges, said corrugations being in alignment in each depression and displaced with respect to the corrugations in adjacent depressions, and merging into the plain boundary edges at the juncture of adjacent depressions.

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