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RECEPTACLE FILLER

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Fig. 1

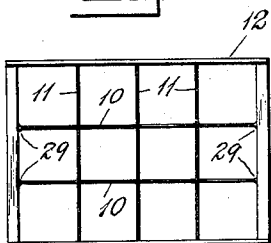


Fig. 2

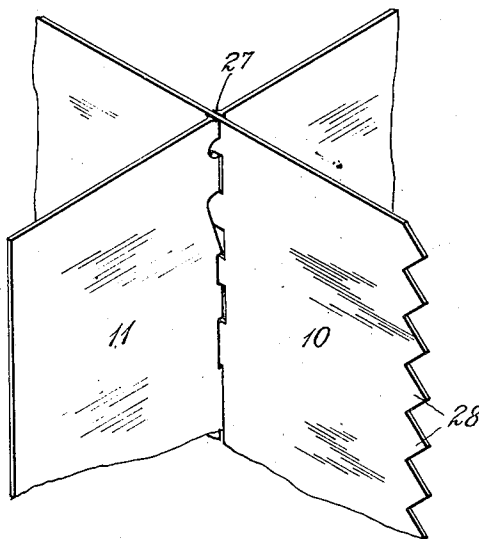


Fig. 3

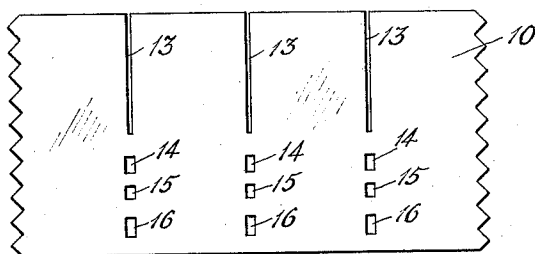
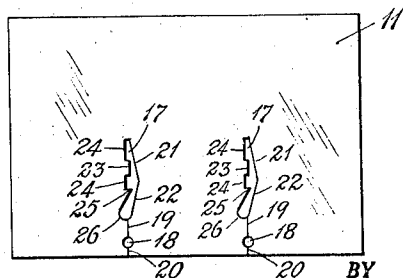


Fig. 4



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RECEPTACLE FILLER

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4 Claims. (Cl. 229—15)

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This invention relates to receptacle fillers and more particularly to fillers for dividing bottle receptacles, such as, beer cases, into compartments or cells for the bottles.

One of the objects of the invention is to provide an improved bottle case filler whose parts will remain in properly arranged and locked relation during the loading or unloading of the case and when the filler is removed from the case and then placed in reversed position therein.

Another object of the invention is to provide an improved bottle case filler whose parts may be readily assembled, will remain securely interlocked during the handling of the case or filler, and which may be readily replaced when damaged.

A further object of the invention is to provide an improved bottle case filler which may be properly fitted in cases having varying interior dimensions.

Other objects of the invention as well as the novel features of construction thereof, will become apparent after a perusal of the following description when read in connection with the accompanying drawings, in which Fig. 1 is a top plan view of a beer case provided with a filler made in accordance with the invention; Fig. 2 is a fragmental, perspective view, on an enlarged scale, of two of the strips employed in the filler; Fig. 3 is a side elevational view of one of the longitudinal strips or walls of the filler, and Fig. 4 is a similar view of one of the transverse partitions of the filler.

In the drawings, the reference numeral 10 designates the two longitudinal strips or walls of the filler, while the reference numeral 11 designates the transverse partitions, which together with the longitudinal strips 10 form a plurality of bottle cells or compartments when the filler is positioned in the beer case 12 (note Fig. 1). The strips 10 and 11 may be made of cardboard or any other suitable material. Preferably a cardboard material about one-sixteenth of an inch thick and impregnated or coated with a material which renders the cardboard waterproof is best suited for the purposes of the invention. Referring now to Fig. 3 of the drawings, it will be seen that the two longitudinal strips 10, each have a plurality of parallel slots 13, one for each of the three transverse partitions 11 and which extend

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inwardly from one edge of the strip a distance equal to at least one-half the width of the strips 11. In alignment with each of the slots 13, are a plurality of apertures 14, 15 and 16 which are spaced from the inner end of the slot 13 and from each other, the end or outer aperture 16 being also spaced from the other longitudinal edge of the strip 10. It will be noted from Fig. 3 of the drawings, that the apertures 14, 15 and 16 are rectangular in shape and are substantially greater in width than the width of their associated slot 13 in order to facilitate the assembly of the parts as will hereinafter become more clear.

The three transverse partitions 11 each have a pair of closed apertures 17 which extend from substantially the centre line of such partition toward an edge thereof, a distance greater than one-third the width of partition 11 (note Fig. 4). Intermediate each aperture 17 and such side edge of the partition 11 is a circularly-shaped aperture 18. The material of the partition intermediate the aperture 17 and the aperture 18 is cut by a slit 19 and the material of the partition intermediate the aperture 18 and the said side edge of the partition is cut by a slit 20, the slits 19 and 20 being in alignment. As can be seen more clearly from Fig. 4 of the drawings, the apertures 17 are irregular in form, each having one side formed by two straight walls 21 and 22 which are angularly disposed to each other so as to form an obtuse angle therebetween. Opposed to the wall 21 of each aperture 17 is a rectangular projection or locking tongue 23 which extends from a straight side wall 24 towards such wall 21. The wall 24 is substantially perpendicular to the longitudinal centre line of the partition 11 and extends outwardly beyond the wall 21 into the region of the wall 22. Formed at the outer end of wall 24 is a triangularly-shaped tongue 25 having an inner edge disposed at right angles to the side wall 24 and an outer edge which extends outwardly at an acute angle to wall 22 and across the lower end of wall 24 beneath the latter to merge into a curved wall 26 which connects the same with the lower end of the side wall 22. The slit 19 joins aperture 17 at approximately the juncture of walls 22 and 26.

In assembling the strips 10 and partitions 11, the partitions 11 are held at an acute angle with respect to the strips 10 and while so disposed,

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the partitions 11 are slid into the slots 13 with the tongues 23 and 25 moving over the aligned apertures until the tongue 23 is over the aperture 14, the hooked end of tongue 25 is over the aperture 15 and the side walls of the slit 19 are in the region of the aperture 16. The partition 11 is then turned to bring it into perpendicular position with relation to the strip 10 and so that tongue 23 will enter aperture 14, the hooked end of tongue 25 will enter aperture 15 and the side walls of slit 19 will come into abutting relation through aperture 16. It will be noted that the apertures 14, 15 and 16 are made sufficiently wide to permit this operation. Inasmuch as the side walls of slit 20 are normally in substantial engagement, this operation through the insertion of the material of strips 10 therebetween, will cause the side edges of slit 20 to become deformed in the manner indicated by the numeral 27 in Fig. 2 of the drawings and the spread deformed edges of such slit will engage in jamming relation with the opposite faces of the portion of strip 10 beyond the aperture 16. As a result of this construction, the partitions 11 will be maintained in proper perpendicular relation with the strips 10 and such partitions will be prevented from assuming during usage a position other than the perpendicular relationship with strip 10. It will be noted also from Fig. 2 of the drawings that the interlocking of tongues 23 and 25 and the side walls of the partition 11 defined by the slit 19 with the apertures 14, 15 and 16, is such that the assembled filler may be positioned in the case 12 with the interlocked portions thereof in the upper position, as shown in Fig. 2 of the drawings, or with such interlocked portions in reversed or lower position without any danger of the partitions falling off or separating from the strips 10 during usage. This interlocking action also enables the filler to be readily reversed in the case without any trouble and without danger of becoming disassembled, and whether in one position or the other, enables the filler to be readily removed from or placed in the casing during the washing and loading operations at the plant. When the filler is once properly positioned in the case, the deformed portions 27 will maintain the transverse sections in proper relation with respect to the strips 10, thus minimizing any danger of breakage of the bottles during the loading operation. This is of especial importance in the loading of beer bottles when explosions not infrequently occur, because the filled bottles are not set in the casing properly, due to an imperfection of the filler. It is also of importance in the unloading of the bottles in the case prior to the washing operation, because, unless the filler parts are properly aligned, the worker when removing the bottles from the case may also remove the entire filler or a portion thereof with them. As these unloading operations are carried out with great rapidity, time cannot be taken out at this stage of the process for replacement and the fillers or parts thus removed are usually thrown aside and wasted. As a brewery usually handles many thousands of cases a day, this loss over a year's time, is quite substantial.

It will be noted also from Figs. 2 and 3 of the drawings, that the strips 10 are provided at their ends with a row of triangularly-shaped projections 28 which form serrated end edges. The strips 10 are preferably made so that their overall length from the apexes of the triangular projection 28 at each end thereof is approximately

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the same as the longest interior longitudinal dimension which may be encountered in a case. If a case has smaller longitudinal dimensions, the apexes of the triangular projections 28 can be readily deformed in placing the filler therein to make it fit, as is indicated by the numeral 29 in Fig. 1 of the drawings. This deformation of the projections 28 has the added advantage that the strips 10 so deformed, will be snugly and securely fitted between the end walls of the case and cannot be readily dislodged from their proper position during usage.

What is claimed is:

1. A receptacle filler comprising two series of crossing strips, the strips of the first series each having a plurality of straight slots extending inwardly from one edge thereof and having three spaced apertures in alignment with each of said slots and spaced from the closed inner ends of such slots, the strips of the second series each having a plurality of elongated, irregularly-shaped apertures spaced from an edge thereof and extending in longitudinally spaced relation substantially perpendicularly to such edge, and having intermediate each of such elongated apertures and such edge a second aperture, a pair of locking tongues having square inner shoulders provided on one wall of each of said elongated apertures and adapted to interlock with two of said slot aligned apertures, a slit extending from each second aperture to the outer end of its associated elongated aperture and providing opposed tongues adapted to interlock with the third of said slot aligned apertures, and a slit extending from each second aperture to the adjacent edge of the strip.

2. A receptacle filler comprising two series of crossing strips, the strips of the first series each having a plurality of straight slots extending inwardly from an edge thereof and having a plurality of spaced apertures in alignment with each of said slots and spaced from the closed inner ends of such slots, the strips of the second series each having a plurality of elongated, irregularly shaped apertures spaced from an edge thereof and extending in longitudinally spaced relation substantially perpendicularly to such edge, and having intermediate each of such elongated apertures and such edge a second aperture, a locking tongue having a square inner shoulder provided on one wall of each of said elongated apertures and adapted to interlock with one of said slot aligned apertures, a slit extending from each second aperture to the outer end of its associated elongated aperture and having side walls adapted to interlock with another of said slot aligned apertures, and a slit extending from each second aperture to the adjacent edge of the strip.

3. A receptacle filler such as defined in claim 2 in which the space between the walls of said last-mentioned slit is less than the thickness of the strips of the first series and such walls are adapted to engage opposed face portions of the latter with a clamping action.

4. A receptacle filler comprising two series of crossing cardboard strips, the strips of one series each having a plurality of vertically disposed slots and aligned apertures, the strips of the other series having vertically disposed slits and tongues adapted to interlock with said apertures, the strips of one of said series each being constituted of a straight sheet of material free of fold lines throughout its entire area and having an overall longitudinal dimension approximately the same

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as the longest dimension to be met by such straight sheet between opposed walls of the type of receptacle which such sheet was designed to span, at least one vertical edge portion of each of such straight sheets being cut out to provide a series of longitudinally extending saw tooth projecting portions such as to enable such straight sheets to be readily and removably positioned in jammed relation between such receptacle walls spaced a distance less than the overall longitudinal dimension of such sheets.

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