

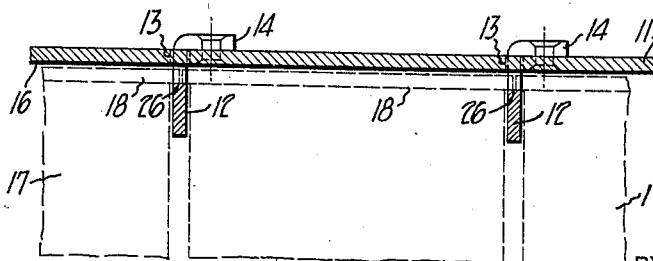
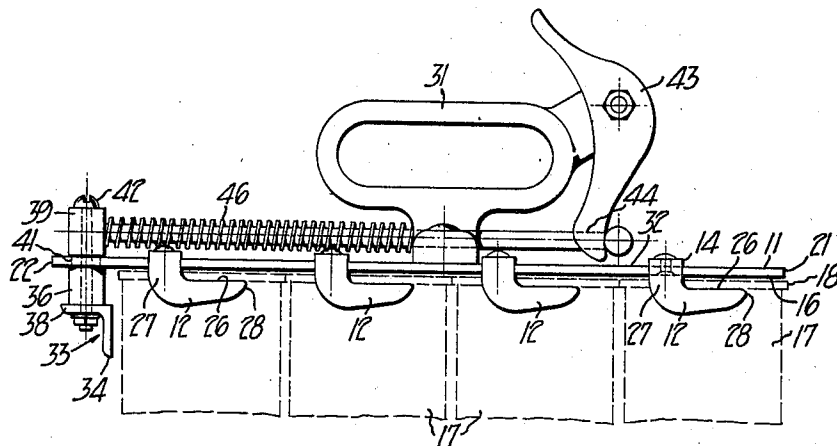
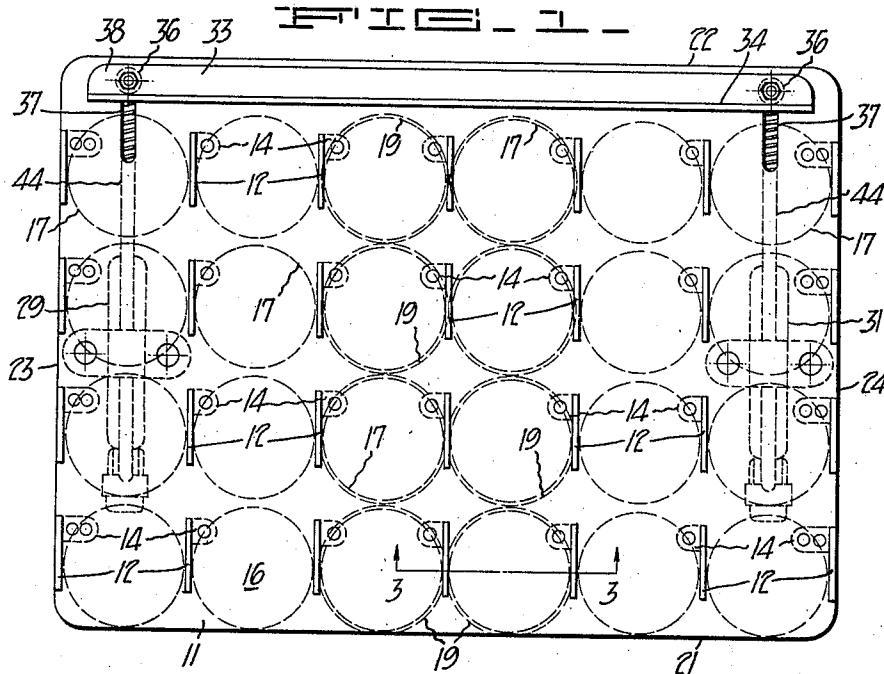
March 17, 1942.

P. AGRILLO ET AL
CONTAINER CARRIER

2,276,756

Filed March 31, 1939

2 Sheets-Sheet 1



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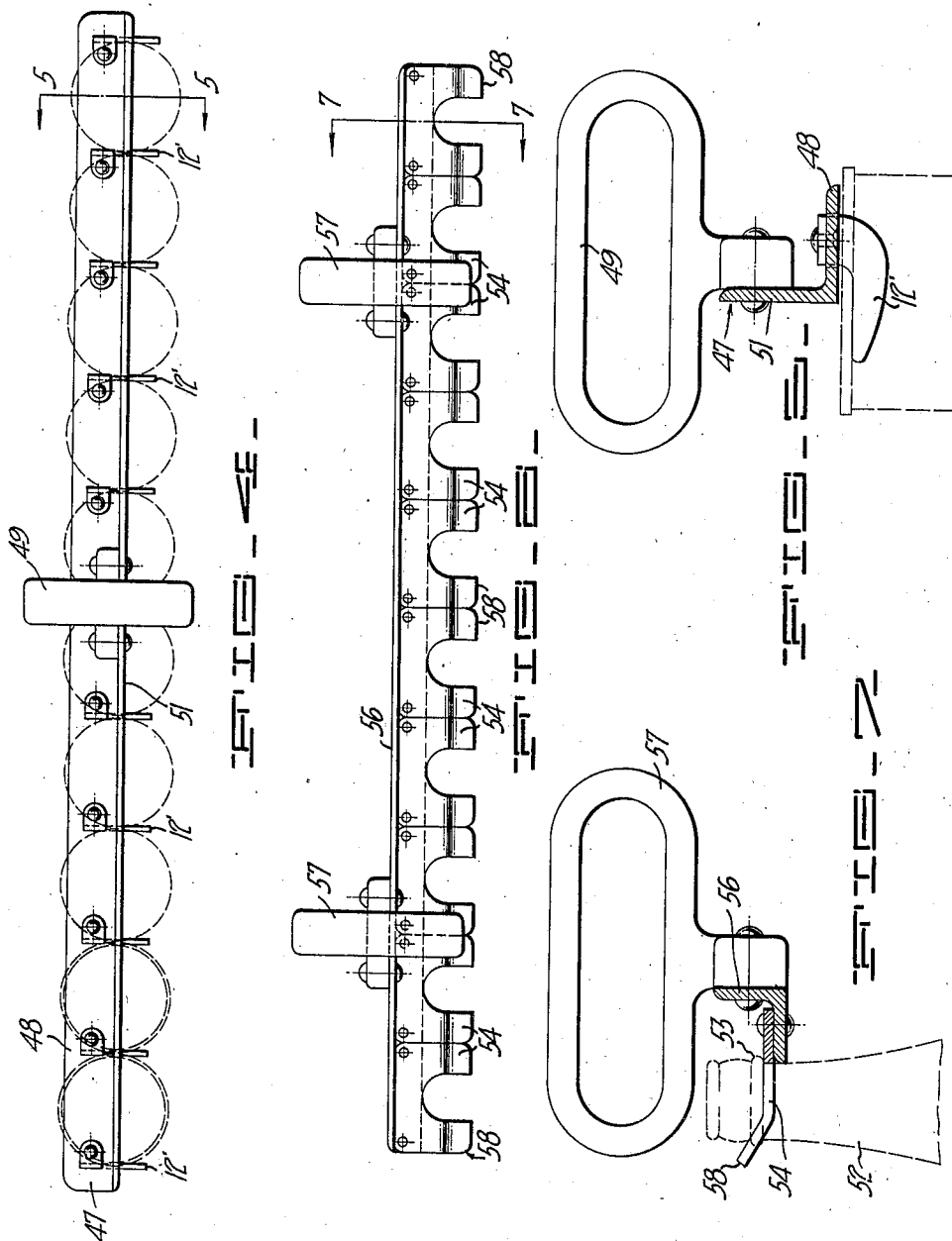
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CONTAINER CARRIER

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4 Claims. (Cl. 294—87)

The invention relates to lifting and carrying devices for containers such as cans, bottles or the like, wherein a plurality of containers are unitarily lifted and carried.

An object of the invention is to provide a lifting and carrying device of the character described which is substantially reduced in size and weight from devices which have been heretofore available and which will support and carry a substantially increased number of containers.

Another object of the invention is to provide a device of the character above which may be more simply and readily attached to a group of unsupported containers as compared with devices heretofore and wherein the containers may be simply and effectively released from the carrying device.

The invention possesses other objects and features of advantage, some of which, with the foregoing, will be set forth in the following description of the preferred form of the invention which is illustrated in the drawings accompanying and forming part of the specification. It is to be understood, however, that variations in the showing made by the said drawings and description may be adopted within the scope of the invention as set forth in the claims.

Referring to said drawings:

Figure 1 is a bottom plan view of a container carrier constructed in accordance with the present invention.

Figure 2 is a side elevation of the carrier illustrated in Figure 1.

Figure 3 is a vertical sectional view of the carrier taken substantially on the plane of line 3—3 of Figure 1.

Figure 4 is a plan view of a modified form of the invention.

Figure 5 is a vertical sectional view of the form of the invention illustrated in Figure 4 and is taken substantially on the plane of line 5—5 of Figure 4.

Figure 6 is a plan view of still another form of the invention.

Figure 7 is a vertical sectional view of the form illustrated in Figure 6 and is taken substantially on the plane of line 7—7 of Figure 6.

The device of the present invention is adapted for the lifting and carrying of containers provided with a circumscribing bead or the like which is customarily located at the ends of cans and adjacent the open neck end of bottles. The carrier consists briefly of a supporting member in combination with a plurality of depending hook-like members which are carried by the supporting member in fixed lateral spaced relation

substantially equal to the width of the containers adjacent the beads and which are adapted to straddle the containers under the beads so as to effectively engage the latter for lifting and carrying about. The device also provides for an engagement of the upper ends of the containers in conjunction with the engagement effected under the beads, whereby the containers are securely held against rocking upon the hook-like members upon tilting of the carrier device.

The device as depicted in Figures 1 to 3, comprises a plate 11 which is here shown of generally rectangular form and from which is depended a plurality of hook-like members 12 which are spaced from each other by substantially equal distances lengthwise and widthwise of the plate. In the present form of the invention, the members 12 are supported through openings 13 in the plate and are provided at their upper ends with offset ears 14 which are here riveted to the plate. The portions of the hook members 12 which extend to the under surface 16 of the plate through the openings 13 extend normal to the plate and then laterally with the greater dimension of the members parallel to the plane of the plate. The members 12 as here shown, may be formed of sheet metal stock, whereby the thickness of the members is substantially less than their width.

The form of the invention illustrated in Figures 1 to 3, is adapted for engagement with a rectangularly related group of containers such as the cans 17 here illustrated, which are set in side-by-side relation with the upper and lower end beads 18 and 19 of the cans in contact. The cans as here shown, are arranged in side-by-side rows, whereby each intermediate can is engaged at its beads with the adjacent can in each row and also with the adjacent can in an adjacent row. The thickness of the members 12 as here shown, is slightly less than twice the thickness of the upper can bead, whereby the members 12 may be entered into the space between the can bodies adjacent the beads. To this end the members 12 are mounted in alignment widthwise across the plate from side 21 to side 22 thereof with the members arranged in a common plane, so that the plate may be moved widthwise across the upper ends of the cans to engage each longitudinal row of members with each longitudinal row of cans. Also, as above indicated, the members 12 are spaced from each other longitudinally, that is from end 23 to end 24 of plate 11 by a distance approximately equal to but slightly greater than the width or diameter of the cans, so that

each adjacent pair of members will straddle a can and engage the side walls thereof adjacent the bead, whereby upon raising of the plate in the aforementioned position of the members relative to the cans, the top surface 26 of the hook members will engage under the beads of the cans to provide a support therefor for lifting and carrying the cans as a group.

The form of the members 12, as will be seen in Figure 2, is such that the upper surface 26 of the hook members is spaced below the under surface 16 of the plate 11 by a distance approximately equal to but slightly greater than the height of the beads 13 of the cans, whereby the surfaces 26 of the members may be engaged under the beads, while the plate surface 16 is superimposed over the top of the cans. By reason of this arrangement, portions of the can bead at diametrically opposed positions on the bead are carried on the supporting surface 26 of the members 12 and adjacent circumferential portions of the bead are engaged and stopped against movement by a vertical end portion 27 of the members extending from the surface 26 to the plate. Thus, the cans may be received between the members 12 and moved relative thereto away from the free or distal end 28 of the members towards the end surface 27, where the cans are held against further relative horizontal movement with respect to the members. As an added feature of support, however, the space between the upper surface 26 of the members and the under surface 16 of the plate is so limited as aforementioned, to approximately the vertical height of the bead, whereby the surface 16 functions to engage the upper end of the cans and hold the same securely against rocking on the supporting surfaces 26.

Preferably, a pair of handles 29 and 31 are mounted on the upper surface 32 of the plate to facilitate carrying of the plate with the containers supported thereunder.

As a further feature of the present invention, we provide for an ejecting means for releasing the containers as a group from the supporting device, and as here shown, this means consists in part of a member 33 mounted longitudinally along the under-side of the plate adjacent the edge 22 thereof and which is movable widthwise, that is towards the edge 21, so as to engage a longitudinal row of containers carried by the plate and displace such row as a unit towards the free ends 28 of the hook members. As will be understood, since the cans are held in an abutting relation of the beads, a movement of one row of cans by the member 33 will result in a simultaneous movement of the entire group of cans. As will be further understood, since the members 12 are spaced longitudinally by approximately the diameter of the cans, only a relatively short movement of the cans is necessary in order to disengage the beads thereof from the free ends of the hook members. The member 33 is here formed of angle-shape with one side 34 adapted to engage the row of cans as aforementioned and is supported in spaced relation from the under-side 16 of the plate by means of spacers 36 slidably carried in slots 37 in the plate and engaged with the other side 38 of the angle member. The spacer is connected at the upper side of the slot to bosses 39 which overlie the slot and preferably, a bushing 41 is connected between the spacers and the bosses and the whole assembly slidably connected by screws 42.

Means for manually displacing the member 33

here include levers 43 pivotally carried on handles 29 and 31 in position for ready manual engagement and which are connected by pull-rods 44 to the bosses 39. Preferably, a spring 46 is mounted on the pull-rods for normally holding the member 33 in retracted inoperable position. It will be understood from the foregoing that upon rocking of the levers, the member 33 will be drawn widthwise across the plate to engage the longitudinal row of cans adjacent to the member 33 to cause the movement of such row and the entire group of cans relative to the hook members towards the free ends of the latter, where the cans are disengaged. Ordinarily, where the cans are filled and the body of cans deposited on a supporting surface, the actuating of the levers will result in a movement of the plate relative to the cans and in this manner, the cans may be precisely located on the supporting surface or upon the tops of another group of cans without disturbing the location of the cans upon removing of the plate.

A modified form of the invention has been illustrated in Figures 4 and 5, wherein the lifting and carrying device is arranged to receive and support a single row of cans. As here shown, the device constitutes an elongated member 47 here in the form of an angle, and having depended from one side 48 of the angle a plurality of hook members 12' similar in form and positioning to members 12 in the first described embodiment. In this form of the invention the side 48 of the angle operates to provide an end support for the cans, so as to hold the latter against rocking upon the hook members 12'. A handle 49 is preferably secured to the upstanding side 51 of the angle to facilitate manual carrying of the unit. In this form of the invention, the hook members 12' are spaced longitudinally from each other by approximately the diameter or width of the container to be engaged so as to straddle the sides of the container under the beads by which the latter are lifted. Also, the hook members are preferably formed of flat stock as in the first embodiment, so as to engage between the side walls of adjacent cans when the beads of the cans are set in contacting relation.

A further form of the invention has been illustrated in Figures 6 and 7, wherein the device has been particularly arranged for lifting and carrying of bottles. As here shown, the bottles 52 are provided with circumscribing beads 53 adjacent the open neck end of the bottle and the device is formed with a plurality of bifurcated members 54 which are adapted to engage around the bottles under the beads, whereby upon lifting of the device, the members 54 will engage the under-side of the beads to lift and support the bottles. The members 54 are here shown secured to an elongated supporting member 56 in fixed longitudinally spaced relation and the member 56 is provided with a pair of handles 57 to facilitate the lifting and carrying of the device. As an important feature of this form of the invention, the outer end portions 58 of the members 54 are turned up in inclined relation to the remainder of the members, whereby upon lifting of the bottles with the neck portions thereof engaged in the open portion 58 of the bifurcated members, and tilting of the device, the outer turned-up ends 58 of the members will bind against the beads to securely hold the bottles in the bifurcated members.

We claim:

1. A device for lifting and carrying a plurality

of containers each having a circumscribing bead and arranged in side-by-side relation, a supporting member, a plurality of laterally spaced members carried by and depending from said first member and having a lateral spacing substantially equal to the width of said containers adjacent said bead and each of said second named members having a lateral thickness less than twice said bead thickness so as to enter the space between a pair of said containers positioned in side-by-side engagement of the beads thereon.

2. A device for lifting and carrying a plurality of containers each having a circumscribing bead, a supporting member, a plurality of hook members projecting from said first member and being spaced from each other by a distance slightly greater than the width of said container adjacent said bead for straddling said container adjacent said bead for supporting said container at the under side of said bead, and means carried by said first member and movable to engage containers carried by said second member to effect a relative displacement of said containers and hooks to move said containers from the free ends of said hooks.

3. A device for lifting and carrying a plurality of containers each having a circumscribing end bead and arranged in a rectangular formation of the containers in bead to bead contacting arrangement, a rectangular plate adapted to

overlie and engage the ends of said containers, a plurality of hook members depending from said plate in longitudinally and widthwise spaced relation from each other and being spaced in one direction from each other by a distance substantially equal to the width of said containers adjacent said beads and adapted to straddle said containers to engage the underside of said beads, handles carried at the upper side of said plate, means depending from said plate along one side thereof and adapted to engage a row of said containers and movable relative to said plate to displace said containers out of engagement from said second named members, and means engageable at said handles for so moving said first means.

4. A device for lifting and carrying a row of containers each having a circumscribing end bead, and comprising an elongated angle shaped member having a flat side adapted for engagement on the ends of said containers, a plurality of depending hook members carried by said side and extending laterally therefrom and being spaced from each other by approximately the width of said containers at said bead for straddling said containers and engaging the undersides of said beads, and a handle carried by the other side of said channel shaped member.

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