

Sept. 8, 1959

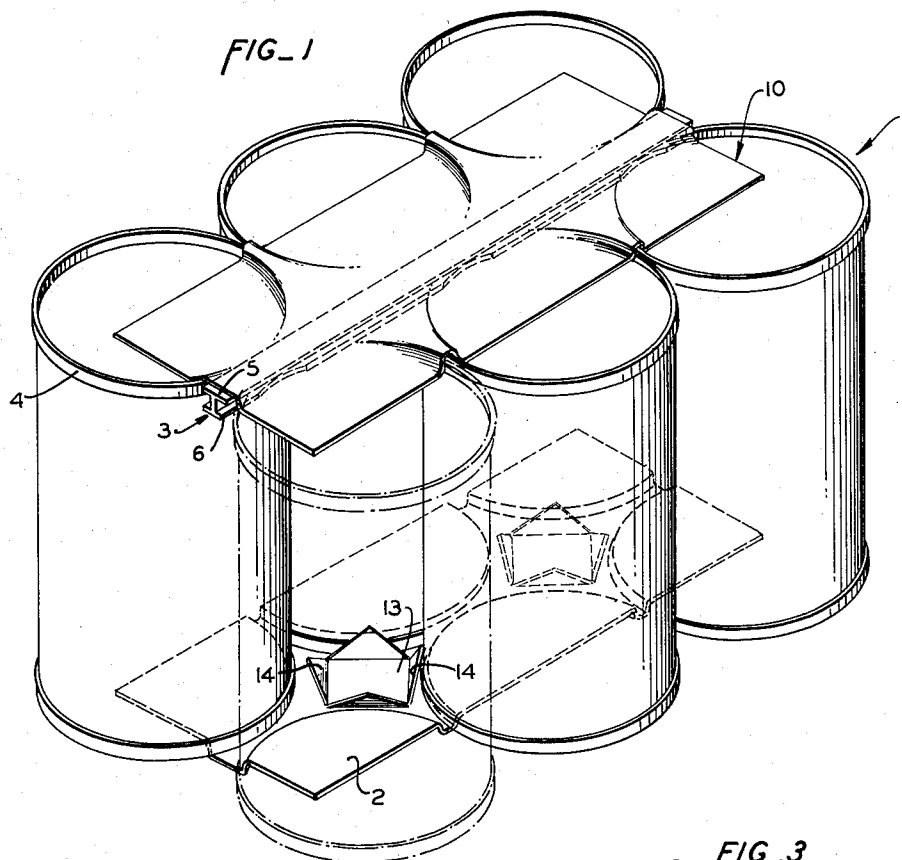
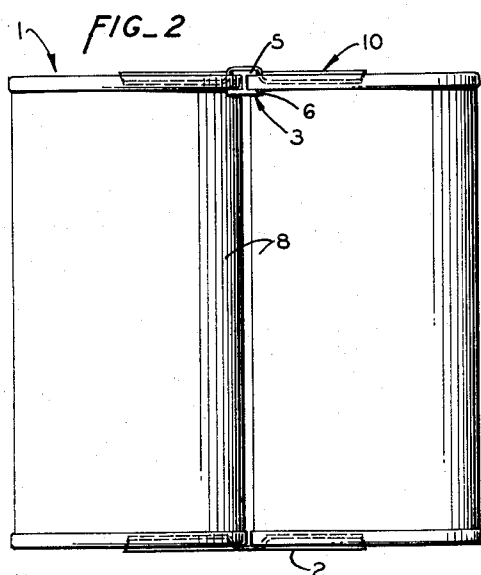
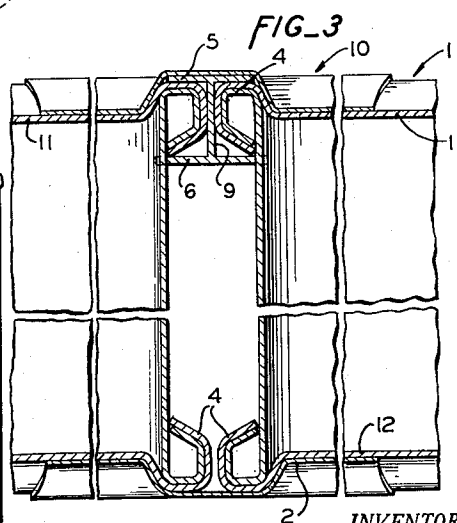
R. L. BRUNSING

2,903,128

CAN PACKAGE

Filed Aug. 13, 1956

3 Sheets-Sheet 1



2' INVENTOR.
REX L. BRUNSING

BY

Boyle, Mohler & Wood
ATTORNEYS

Sept. 8, 1959

R. L. BRUNSING
CAN PACKAGE

2,903,128

Filed Aug. 13, 1956

3 Sheets-Sheet 2

FIG-4

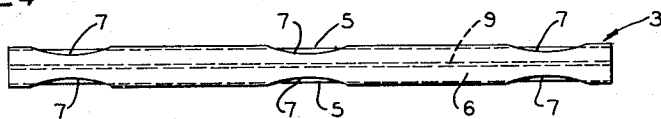


FIG-5

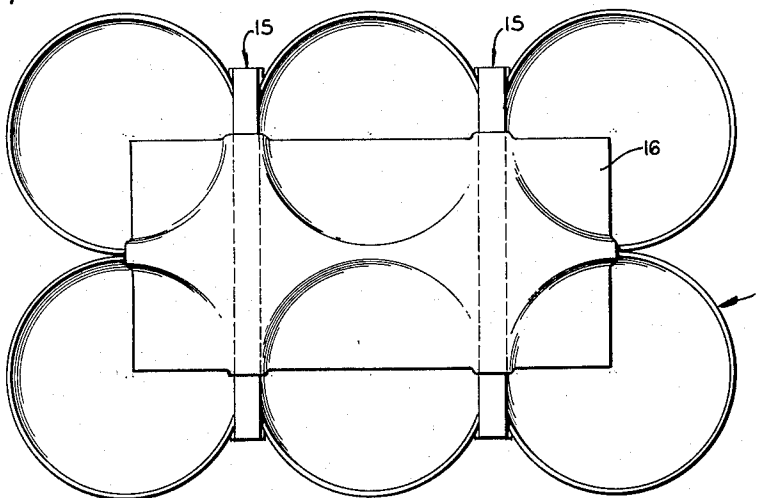
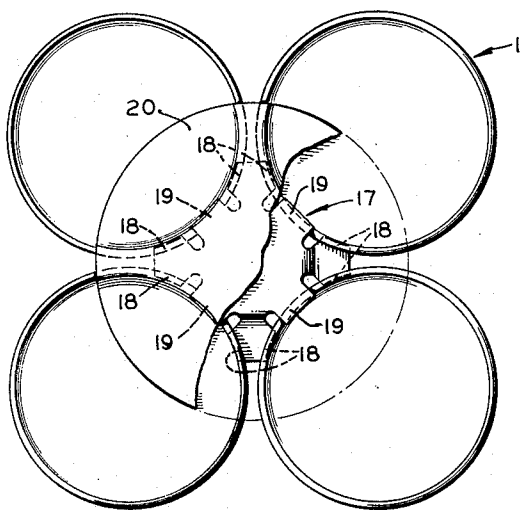


FIG-6

INVENTOR.
REX L. BRUNSING

BY

Boyer, Mohler & Wood

ATTORNEYS

Sept. 8, 1959

R. L. BRUNSING
CAN PACKAGE

2,903,128

Filed Aug. 13, 1956

3 Sheets-Sheet 3

FIG-7

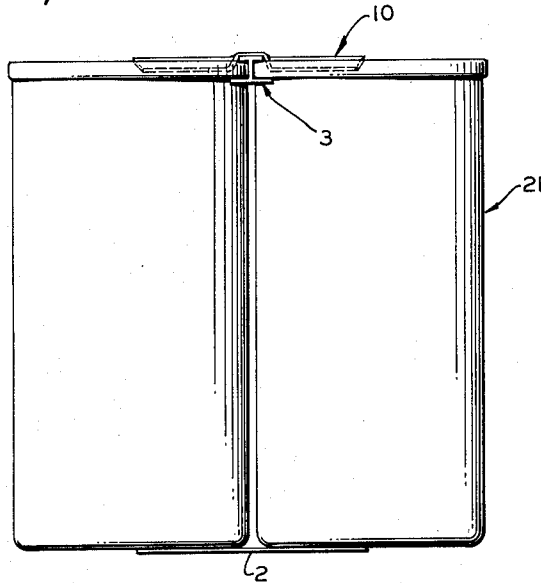
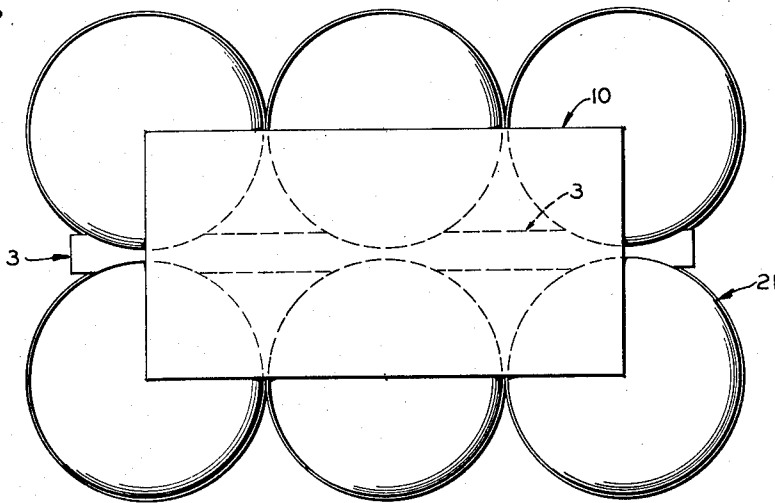


FIG-8



INVENTOR.
REX L. BRUNSING

BY

Baykan, Mohler & Wood
ATTORNEYS

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2,903,128

CAN PACKAGE

Rex L. Brunsing, San Francisco, Calif.

Application August 13, 1956, Serial No. 603,711

10 Claims. (Cl. 206—65)

This invention relates to a can package, or to a package that is made up of a plurality of cans, and one of the objects of the invention is the provision of a package in which the structure of the cans is employed to hold them rigidly together as a unit, but which cans may be readily separated from the package for use with no more effort than is required to strip off a piece of adhesive tape.

Another object of the invention is the provision of a package made up of a plurality of rows of cans that are held together as a solid unit for handling and for shipment, and which cans are exposed for display purposes and may be quickly separated from each other with no more effort than is required to strip off a piece of adhesive tape.

Heretofore it has been suggested that cans be held together as a unit in a group of three in a single row, or in a group of six arranged in two rows of three in each row, by clipping them together at their opposite ends with rigid connectors. These connectors have heretofore been crimped over the chimes of the cans at their opposite ends and the separation of the cans from the group has required the application of considerable force in order to uncrimp the connectors.

Another disadvantage of using rigid connectors that are crimped to the chimes is that when one or more cans are removed from the group, the connectors remain crimped to the remaining cans and form projections that may strike the hand to cause scratches or cuts.

A still further disadvantage from the use of connectors of the above described type is the relatively high cost of applying them to the cans.

Prior to the use of rigid connectors that are crimped to the chimes of the cans, it was suggested that a rigid connector be used at only one of the ends of the cans and which connector would not be crimped to the chimes, but would engage over the chimes so as to hold the cans together when the latter were vertical, but which cans could be swung to one side and out of engagement with the connector. It was suggested that a band or cord enclose the group of cans at the ends of the latter remote from the connector to prevent accidental swinging of the cans and their accidental release from the connector.

The above suggestion was found objectionable for the reason that the cans became separated from the connectors in handling a group of cans and such separation frequently occurred from jolting in transit, and also the groups of cans could not be stacked, nor could the connectors be applied economically and with certainty, and furthermore, the encircling of the group of cans with a band or cord was unsightly and in some instances would obscure or partially obscure the labels on the cans.

The present invention provides a can package in which the labels on the cans are wholly exposed, thus giving the appearance of merely separate cans in neat rows, but actually, the cans are rigidly held together in groups. Nothing extends around the cans, and nothing is crimped over the chimes, yet the cans in each group cannot rotate

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relative to each other, nor can they move axially relative to each other, nor can they move apart laterally. However, by merely stripping off a strip of adhesive tape from engagement with the heads of the cans at one of their ends, all of the cans of the group are freed for independent removal from the group. The means employed to accomplish the above result is economical, simple and readily adopted to quantity packaging by automatic machinery.

Other objects and advantages will appear in the description and in the drawings.

In the drawings, Fig. 1 is a perspective view of a group of cans in a package, with the near can of the group removed to show the structure employed.

Fig. 2 is an end view of the group of cans of Fig. 1.

Fig. 3 is an enlarged sectional view taken along line 3—3 of Fig. 1.

Fig. 4 is a bottom plan view of a member adapted to be used in the package for holding the cans against axial movement relative to each other.

Fig. 5 is a reduced size top plan view showing a slightly different structure from that of Fig. 1.

Fig. 6 is a top plan view showing a still further modification of the structure of Fig. 1.

Fig. 7 is an end view of a group of cans having chimes at their upper ends only, and which cans are connected together as a unit.

Fig. 8 is a top plan view of the structure of the package of Fig. 7.

In detail, the package illustrated in Fig. 1 comprises six cans 1 arranged in two rows with three cans in each row.

One method of forming the package is to deposit the six cans onto the ever tacky adhesive on the upwardly facing side of a strip of relatively tough, flexible tape 2 with the cans in side by side substantially engaging relation. Thus the cans will be instantly held by the adhesive in their proper relationship against rotation and also against lateral movement relatively. This is important since the labels on the cans preferably are arranged to uniformly face oppositely outwardly of the rows of cans and to be fully visible from either side of the group.

The cans in the rows may be tilted slightly away from each other so that a space will be provided between the rows at the upper ends of the cans, and then a relatively rigid I-strip 3 is positioned between the adjacent chimes 4 of the rows of cans at their upper spaced ends. The I-strip preferably has wider upper flanges 5 than the lower flanges 6 so the lower flanges will readily pass the chimes 4 but the upper flanges 5 will engage the upper surfaces of the chimes 4.

The lower flanges 6 are preferably cut away along their edges at 7 to provide arcuate edges that correspond in curvature to the curvature of the cylindrical sides 8 of the cans, and these recesses or curved edges are at opposite sides of the web 9 of the I-strip.

Once the I-strip is positioned between the upper ends of the cans, said upper ends may be permitted to move toward each other so the chimes 4 will engage opposite sides of the web 9 with the sides 8 of the cans fitting in the arcuate recesses 7. The spacing between the flanges 5, 6 is substantially equal to the vertical thickness of the chimes 4, hence said flanges will be substantially in engagement with the upper and lower axially facing surfaces of the chimes when the cans are vertical.

Whether or not the web 9 is apertured for actual engagement of the adjacent chimes on the adjacent cans is not material since the thickness of the web 9 is too little to make any noticeable difference in spacing between the upper and lower ends of the cans.

The upper surface of the upper flanges 5 may be ad-

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herently connected with the downwardly directed adhesive surface of a tape 10 that is substantially the same as tape 2 to lower the I-strip between the upper ends of the cans, and which strip extends oppositely from the I-strip to adherently engage the upwardly facing surfaces of the heads 11 of the cans.

The lower surfaces of the lower heads 12 are adherently secured to the tape 2, and if desired, after the tape 2 and 10 are in engagement with the oppositely outwardly facing surfaces of the heads 11, 12, said tape may be further firmly pressed against the upper and lower ends of the cans by any suitable pressing means so that the tape will firmly engage the outer surfaces of the heads 11, 12 up to the chimes, and will also engage the radially inwardly facing sides of the chimes and their axially outwardly facing surfaces.

The I-strips may, of course, be deposited on the cans with the chimes 4 between the flanges of the strip 3, and the tape 10 may be thereafter applied against the heads 11 and the upwardly facing sides of flanges 5.

The foregoing combination provides a rigidly connected group of cans that can be handled as a unit free from looseness or relative movement between cans, or between the cans and strip 3.

In actual practice, the package of cans as above described may be shipped, stored, displayed and otherwise handled with the I-strip 3 lowermost, and tape 2 may be cross cut to provide finger openings 13 between the cans. Thus in the case of two rows of three cans in each row, two finger openings 13 will be provided into which the thumb and forefinger may be inserted for lifting and for carrying the cans of the group. If there were only four cans in the group, then there would be only one opening 13.

The openings 13 may be cut out of the tape, but where cross slits or cross cuts are used, there will be formed four tabs 14 that may be adhered to the lateral sides of the cans around each opening, which structure provides smooth sided openings and which further contributes to the rigidity of the package.

Preferably the tape 2, 10 extends substantially half way across the heads 11, 12, although it may fully cover the heads or it may extend only about a third of the way across each head.

The ends of the tape at the ends of the rows may extend only to the points where the end cans of the rows meet, hence there will be practically no exposed or free adhesive surfaces, since virtually all of the adhesive surfaces of each adhesive tape will be in engagement with the cans.

To use the cans or to separate them from the unitary group, it is only necessary to strip off the tape from one of the ends of the cans and the latter may be readily removed individually by merely detaching them from the tape at the opposite ends of the cans. Or the tape at both ends of the cans may be stripped off, and as the I-strip 3 does not hold the cans once the tape 2 is removed, the I-strip can be removed and the cans will be free for individual use.

One advantage from the present invention is the fact that the tape provides for printing, if desired, and also provides a relatively soft cushion for supporting the cans on a polished or delicate surface irrespective of which of the ends of the cans is lowermost and this is accomplished without the use of the relatively expensive cartons. Where no such relatively soft surface is provided, the cans or strip 3 would be likely to mar, scratch or to indent a delicate or polished surface were the package placed on such surface. However, the tape insures against this occurrence.

In Fig. 5 the I-strips 15 extend transversely of the two rows of cans at one of their ends only. These I-strips have the same cross sectional contour as strips 3, and a length of tape similar to tape 16 extends over the opposite ends of the cans in the same manner as tape 2. Obviously

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a group of four cans, with only two in each row, would be provided if only one I-strip 15 were used.

Fig. 6 shows a member generally designated 17 that has spaced pairs of lower flanges 18 adapted to engage the side of each can of a multiple of four at their adjacent sides below the chimes 4 and a small flange 19 between each such pair extends over the upper or axially outer side of each of such chimes. In this structure a single circular piece of tape 20 may extend over the member 17 and also over heads 11 on the cans, while a similar tape may secure the other ends of the cans together.

Obviously any number of cans in adjacent multiples of four may be secured together in this manner, and tape 16 such as used in Fig. 5 may be used where six or more cans are secured together.

Figs. 7 and 8 show an I-strip 3 the same as in Fig. 1 securing the cans 21 of two rows together. These cans 21 have chimes 22 at one of their ends only.

Tape 10, the same as in Figs. 1 and 5 may secure the chimed ends of the cans together, while a tape 2 the same as in Fig. 1 may secure the opposite ends of the cans together. Where a spacer may be used between the unchimed ends of cans 21, it is not found to be necessary. The space between said unchimed ends is so small that the tape extending across the spaces between the adjacent cans will not become distorted even when substantial compressive pressure is placed on opposite sides of the group. The fact that the tape extends along and is adhered to the curved end or outer surface of the chimes materially contributes to this desired result since there is no length of tape of uniform width extending across the spaces between the cans, and where the free tape between cans is of progressively changing width the tape resists bending along any one line.

When the tape is stripped from either end of any group of cans, the only thing that prevents the cans from being freely separated from the group is the adhesive force of the tape on the other end, which is relatively slight, and which can be overcome by merely tilting the opposite end of the can outwardly of the group in a natural motion. Or the user may merely strip off whichever tape is lowermost and then strip off the other tape and any one or more of the cans may be separated from the remainder since the I-strips or members 17 are not crimped to the cans and do not hold the cans together. They merely function to prevent axial movement of the cans relative to each other and are very important for this purpose, but once the tape holding them in position is removed, strips 3 and 15 and members 17 are loose and are not secured to the cans.

I claim:

1. A can package comprising; a plurality of upright cans in side by side substantially engaging relation each having opposed heads, cylindrical side walls connecting said heads, and chimes at one of the corresponding ends of said cans projecting radially and axially outwardly thereof providing oppositely directed axially facing surfaces and radially inwardly facing surfaces on said chimes, rigidly connected relatively rigid means substantially in engagement with said axially facing surfaces on said chimes holding said chimes substantially coplanar, said means being free from laterally holding relation with said radially inwardly facing surfaces thereby permitting movement of said chimes apart in the plane of the latter, flexible means adherently connected with said rigidly connected means and with the heads of the cans adjacent thereto holding said cans against said movement of said chimes in the plane of said chimes and holding said rigidly connected means in said position substantially in engagement with said axially facing surfaces of said chimes.

2. A can package comprising; a plurality of upright cans in side by side substantially engaging relation each having opposed heads, cylindrical side walls connecting said heads, and chimes at one of the corresponding ends

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of said cans projecting radially and axially outwardly thereof providing oppositely directed axially facing surfaces and radially inwardly facing surfaces on said chimes, rigidly connected relatively rigid means substantially in engagement with said axially facing surfaces on said chimes holding said chimes substantially coplanar, said means being free from laterally holding relation with said radially inwardly facing surfaces thereby permitting movement of said chimes apart in the plane of the latter, flexible means adherently connected with said rigidly connected means and with the heads of the cans adjacent thereto holding said cans against said movement of said chimes in the plane of said chimes and holding said rigidly connected means in said position substantially in engagement with said axially facing surfaces of said chimes, and flexible means in adherent engagement with the heads on said cans that are at the ends of the latter opposite to said chimes holding said last mentioned ends against movement away from each other.

3. A can package comprising; a plurality of upright cans in side by side substantially engaging relation each having opposed heads at their opposite ends, cylindrical side walls connecting said heads, and chimes at one of the corresponding ends of said cans projecting radially and axially outwardly of said cans providing oppositely directed axially facing surfaces and radially inwardly facing surfaces on said chimes, separate flexible means detachably secured to said heads at the opposite ends of said cans holding said cans together as a unit against movement apart in directions at right angles to their axes, and relatively rigid means disposed between adjacent pairs of said cans and extending over said axially facing surfaces substantially in engagement therewith and detachably secured to said flexible means holding said cans against axial movement relative to each other, said rigid means being free from holding relation with said cans upon removal of said separate means therefrom and from said heads whereby said cans will be free for individual removal from the remainder upon said removal of said separate means.

4. A can package comprising; a row of upright cans in side by side substantially engaging relation each can having opposed heads, and chimes at one of the corresponding ends of said cans projecting radially and axially outwardly thereof providing upwardly and downwardly directed axially facing surfaces and radially inwardly facing surfaces on said chimes, rigidly connected upper and lower means disposed between the cans of said row respectively extending over and below the chimes on said adjacent cans substantially in engagement with said axially facing surfaces thereon and free from holding relation with said radially inwardly facing surfaces, and a sheet of adhesive tape in adherent but releasable engagement with said upper means and with the heads of the cans adjacent thereto holding said upper means against the upwardly directed axially facing surfaces of said chimes and holding said lower means between said cans and securing the ends of said cans at said upper and lower means against movement apart.

5. A can package comprising; a row of upright cans in side by side substantially engaging relation each can having opposed heads, and chimes at one of the corresponding ends of said cans projecting radially and axially outwardly thereof providing upwardly and downwardly directed axially facing surfaces and radially inwardly facing surfaces on said chimes, rigidly connected upper and lower means disposed between the cans of said row respectively extending over and below the chimes on said adjacent cans substantially in engagement with said axially facing surfaces thereon and free from holding relation with said radially inwardly facing surfaces, and a sheet of adhesive tape in adherent but releasable engagement with said upper means and with the heads of the cans adjacent thereto holding said upper means against the upwardly directed axially facing surfaces of

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said chimes and holding said lower means between said cans and securing the ends of said cans at said upper and lower means against movement apart, and a sheet of adhesive tape in adherent but releasable engagement with the heads of said cans at their ends remote from said upper and lower means securing said last mentioned ends of the cans together against movement apart.

6. A can package comprising; a row of upright cans in side by side substantially engaging relation each can having opposed heads, and chimes at one of the corresponding ends of said cans projecting radially and axially outwardly thereof providing upwardly and downwardly directed axially facing surfaces and radially inwardly facing surfaces on said chimes, rigidly connected upper and lower means disposed between the cans of said row respectively extending over and below the chimes on said adjacent cans substantially in engagement with said axially facing surfaces thereon and free from holding relation with said radially inwardly facing surfaces, and a sheet of adhesive tape in adherent but releasable engagement with said upper means and with the heads of the cans adjacent thereto holding said upper means against the upwardly directed axially facing surfaces of said chimes and holding said lower means between said cans and securing the ends of said cans at said upper and lower means against movement apart, said lower means including a portion thereof curved to conform to the curvature of said cylindrical sides and in engagement with said cylindrical sides of adjacent cans in said row.

7. A can package comprising; a pair of straight parallel rows of upright cans in side by side substantially engaging relation each can having opposed heads, cylindrical side walls connecting said heads, and chimes at one of the corresponding ends of said cans projecting radially and axially outwardly thereof providing oppositely directed axially facing surfaces and radially inwardly facing surfaces, rigidly connected, vertically spaced upper and lower members respectively extending over and below said axially facing surfaces of the chimes on the cans of said rows and substantially in engagement with said axially facing surfaces and free from holding relation with said radially inwardly facing surfaces holding said cans against axial movement of said cans relative to each other while permitting movement of the cans of one row laterally of their axes away from the cans of the other row, said lower members including portions thereon engaging the cylindrical sides of said cans at points therearound for positioning the cans of one row in alignment perpendicular to the lengths of said rows and for holding the cans in said rows so aligned, means separable from said members in detachable engagement therewith and with the heads of the cans adjacent to said chimes holding said cans against said portions of said lower members and holding the ends of the cans at said chimes and in one row against movement laterally of the axes of said cans in direction away from the corresponding ends of the cans of the other row.

8. A can package comprising; a pair of straight parallel rows of upright cans in side by side substantially engaging relation each can having opposed heads, cylindrical side walls connecting said heads, and chimes at one of the corresponding ends of said cans projecting radially and axially outwardly thereof providing oppositely directed axially facing surfaces and radially inwardly facing surfaces, rigidly connected, vertically spaced upper and lower members respectively extending over and below said axially facing surfaces of the chimes on the cans of said rows and substantially in engagement with said axially facing surfaces and free from holding relation with said radially inwardly facing surfaces holding said cans against axial movement of said cans relative to each other while permitting movement of the cans of one row laterally of their axes away from the cans of the other row, said lower members including portions thereon engaging the cylindrical sides of said cans at

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points therearound for positioning the cans of one row in alignment perpendicular to the lengths of said rows and for holding the cans in said rows so aligned, means separable from said members in detachable engagement therewith and with the heads of the cans adjacent to said chimes holding said cans against said portions of said lower members and holding the ends of the cans at said chimes and in one row against movement laterally of the axes of said cans in direction away from the corresponding ends of the cans of the other row, and means detachably secured to the axially outwardly facing surfaces of heads of the cans that are remote from said members connecting the ends of said cans at said last mentioned heads against movement axially of the axes of said cans away from each other.

9. A can package comprising; a pair of straight parallel rows of upright cans in side by side substantially engaging relation each can having opposed heads at their opposite ends and cylindrical side walls connecting said heads, the sides and ends of the cans of said rows defining the outline of adjacent spaces respectively enclosed by cans from said rows which spaces open outwardly of said rows axially of the cans thereof, a sheet of adhesive tape adherently secured to the heads of the cans in said rows at each of the opposite ends of said cans for holding said cans in said rows in said substantially engaging relation against movement of said cans relative to each other perpendicular to their axes, openings formed in the sheet of adhesive tape at one of the ends of said cans

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at said adjacent spaces to provide a pair of finger openings for the fingers of a hand, and means held by the cans at their opposite ends and by the tape at said opposite ends in engagement with said cans for holding said cans of said rows against axial movement thereof relative to each other.

10. A package comprising; a pair of parallel rows of upright cans in side by side relation, a horizontally extending strip of material of generally I shape in cross sectional contour providing oppositely outwardly and laterally opening channels at opposite sides of said strip, the cans of said rows having radially outwardly projecting chimes at one of their corresponding ends extending into said channels, said chimes having oppositely directed surfaces substantially in engagement with the sides of said channels, and a strip of adhesive tape adherently secured to the upper side of said strip and to the upper ends of said cans holding said chimes in said channels and holding said cans against rotation about their respective axes relative to each other.

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