March 18, 1958 H. G. GENTRY 2,827,165

PAPERBOARD WRAPPER FOR CANS AND THE LIKE

Filed Aug. 9, 1956 3 Sheets-Sheet 1

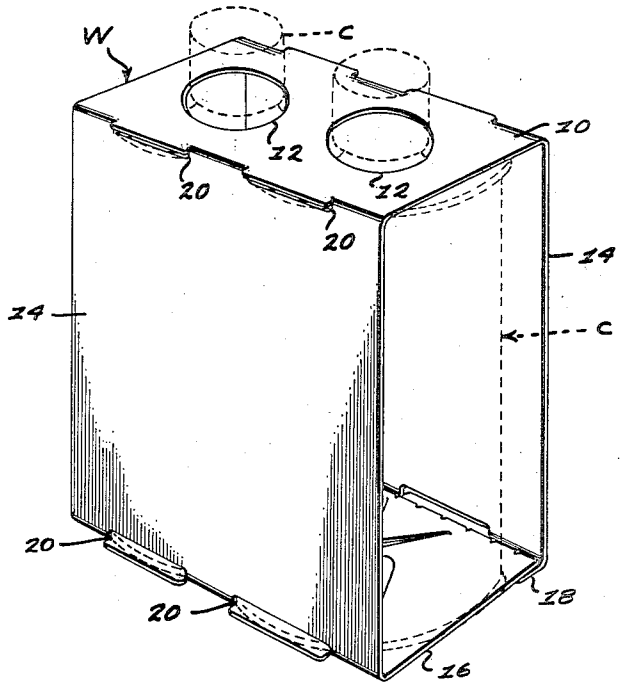


Fig. 1

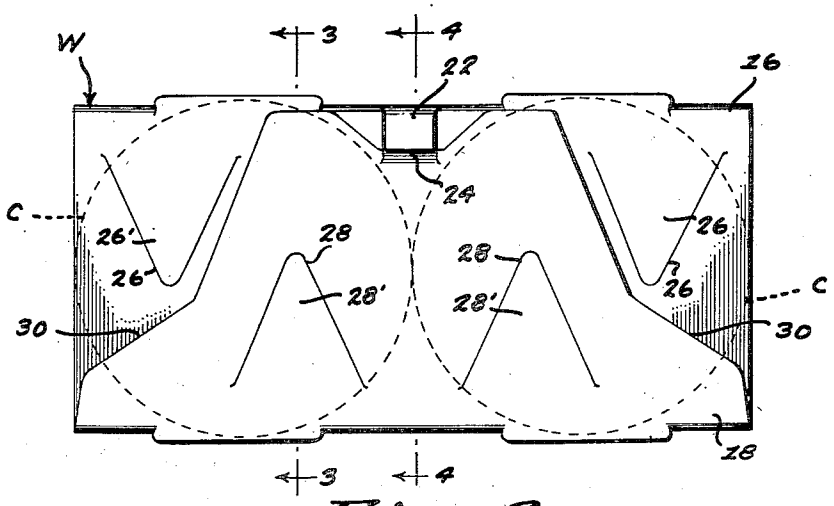


Fig. 2

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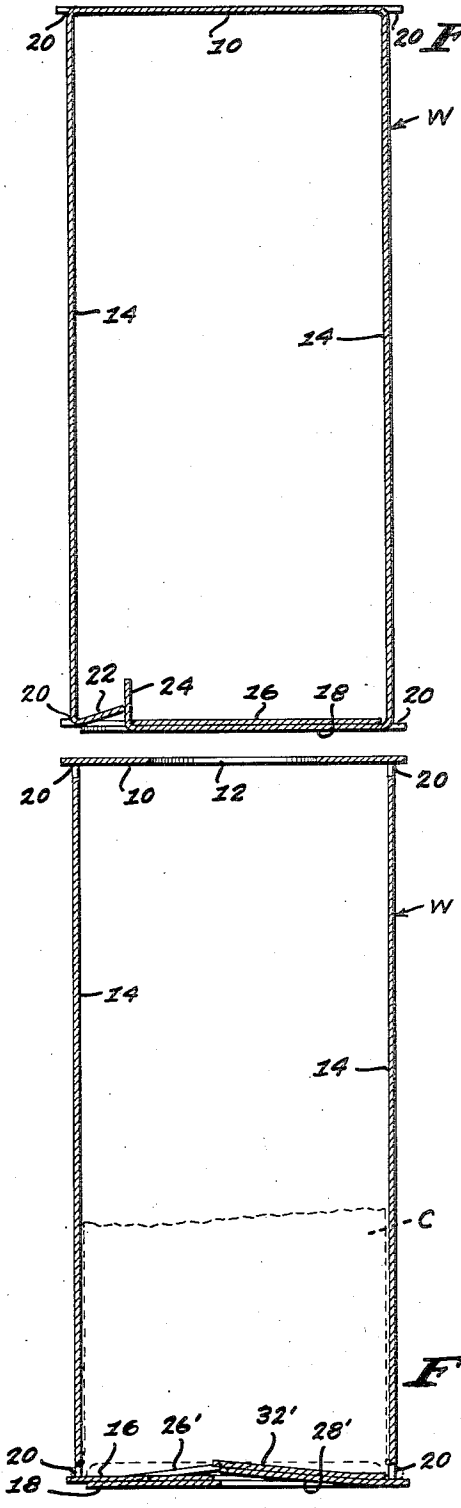
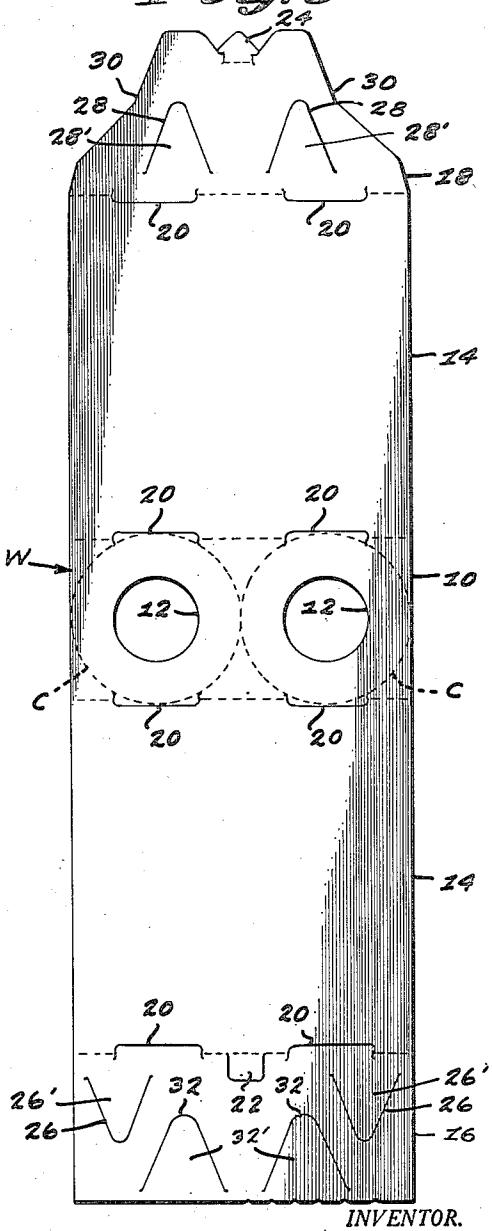


Fig. 4

Fig. 3

Fig. 5



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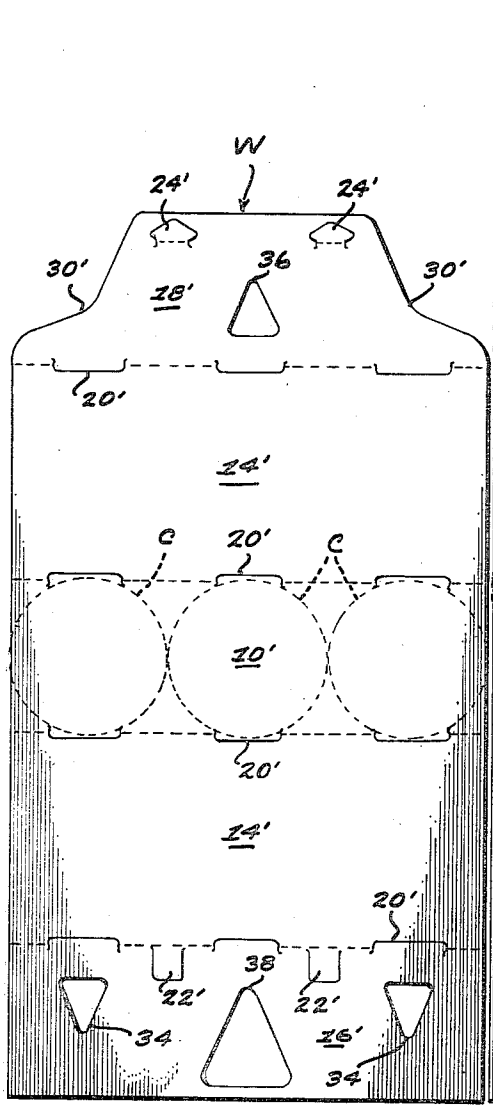


Fig. 6

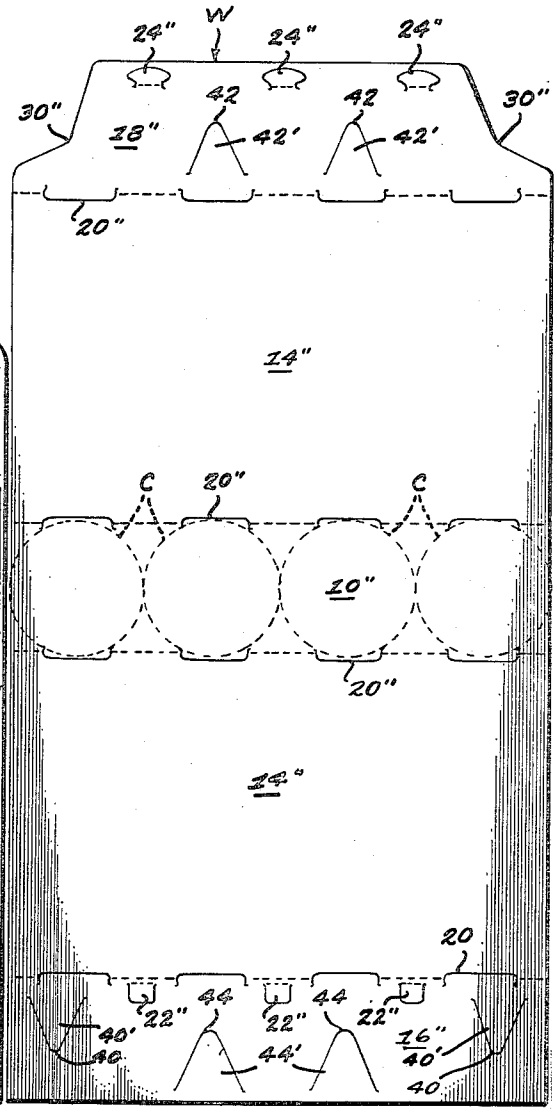


Fig. 7

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2,827,165

PAPERBOARD WRAPPER FOR CANS AND THE LIKE

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Application August 9, 1956, Serial No. 602,968

9 Claims. (Cl. 206—65)

This invention relates to paperboard wrappers of the type adapted for packaging cylindrical objects, such as cans, by folding about a group of cans or the like to form an open-ended package, and more specifically to a wrapper of this sort arranged particularly for packaging a group of cans arranged in a single line or row.

The paperboard wrapper of the present invention constitutes a modification of the form of wrapper disclosed and claimed in copending application Serial No. 459,918, filed October 4, 1954, now Patent No. 2,786,572, in which the disclosure relates primarily to a wrapper formed to package two rows of cans or the like, with end portions of the wrapper proportioned to overlap medially of the package at an end of the cans therein and arranged to be secured by locking tabs at the space resulting medially in the package from the cylindrical form of the cans, and with apertures formed in the respective wrapper end portions at locations falling within the diameter of cans in the package so as to provide for gripping these end portions to draw the wrapper tightly about the cans being packaged therein and to hold the end portions in proper overlapping relation until secured by the locking tabs.

The wrapper of the present invention, because it is arranged particularly for packaging a single row of cans or the like, is formed with end portions that are proportioned to overlap completely across an end of the cans in the group to be packaged so as to allow formation of the locking tabs adjacent a side of the package in alignment with the space therein resulting from the cylindrical form of the cans, which results only adjacent the sides of the package when a single line or row of cans is being packaged. In providing completely overlapping wrapper end portions for this purpose, however, further special provision must be made to allow for gripping of the end portions effectively so as to draw the wrapper tightly about the row of cans being packaged and hold the end portions in place properly while they are being secured in accordance with the disclosure of the above noted copending application, and the wrapper of the present invention is arranged to particular advantage for accomplishing these purposes as described in further detail below in connection with the accompanying drawings, in which:

Fig. 1 is a perspective view of a paperboard wrapper embodying the present invention as it appears secured about a package group of cans or the like;

Fig. 2 is a bottom plan view corresponding generally to Fig. 1;

Fig. 3 is a transverse vertical section taken substantially on the line 3—3 in Fig. 2;

Fig. 4 is a further transverse sectional detail taken substantially on the line 4—4 in Fig. 2;

Fig. 5 is a plan view of the blank for the wrapper shown in Fig. 1;

Fig. 6 is a plan view of modified form of blank arranged for packaging a greater number of cans in a row than the blank shown in Fig. 5; and

Fig. 7 is a plan view of a further modified blank arranged for packaging a still greater number of cans in a row.

Referring now in detail to the drawings, the paperboard wrapper of the present invention illustrated in Fig. 1, as indicated generally by the reference character W, comprises a top wall panel **10** which may be arranged with clearance apertures **12** for accommodating the tops of necked cans C such as are represented by broken lines in Fig. 1, or this top wall panel **10** may be otherwise arranged in any suitable manner to be gripped or held for carrying at handhold apertures or the like (not shown), although a single line package of the type formed with the wrapper W of the present invention is usually narrow enough in width to be carried comfortably without requiring any special carrying means. At the opposite side edges of the top wall panel **10**, a pair of side wall panels **14** is foldably hinged, and a pair of bottomed lap panels **16** and **18** is foldably hinged at the respective bottom edges of the side wall panels **14** and proportioned to overlap completely across the bottom end of the cans C. The resulting wrapper W forms a rectangular four-sided package having the ends thereof entirely open as seen in Fig. 1.

The top wall panel **10**, side wall panels **14**, and bottom lap panels **16** and **18** comprise portions of a unitary blank (see Fig. 5) which is rectangular in form and is transversely scored to arrange these portions in a foldably hinged series, with all of the portions having an equal length (i. e., a length corresponding to the blank width) that is substantially equal to the multiple diameter of the cans C in the row to be packaged, as illustrated in Figs. 2 and 5. The bottom lap panels **16** and **18** when overlapped form a bottom wall having a width equal to that of the top wall panel **10** and corresponding with the diameter of the cans C, and the side wall panels **14** are proportioned in correspondence with the height of the cans C, so as to arrange the wrapper W for enclosing a single line or row of the cans C as previously mentioned, each side wall panel **14** being suitably notched adjacent its foldably hinged edges to provide positioning slots for the cans C along each side wall **14** as indicated at **20**.

The wrapper W as arranged in the above noted manner is adapted to be folded and secured about a load or package group of cans C during a packaging operation, the lap panels **16** and **18** being formed with respectively aligned retaining and locking tabs **22** and **24** for interlocking engagement to secure the wrapper W in the manner disclosed and claimed in the above noted copending application Serial No. 459,918. In this connection, reference should also be made to U. S. Patent No. 2,751,730, issued June 26, 1956, and to copending application Serial No. 593,604, filed June 25, 1956, for further details of the packaging operation and of the manner in which the retaining and locking tabs **22** and **24** are interlocked to secure the wrapper W. In the present case, the locking tab **24** is formed adjacent the free edge of the outer lap panel **18** so as to locate it at the space within the wrapper W between the cans C that results from their cylindrical form, as shown best in Fig. 2, and thereby allow the locking tab **24** to be extended from the lap panel **18** in which it is formed inwardly through the other lap panel **16** at the opening formed therein by the respectively aligned retaining tab **22**, as illustrated in Fig. 3.

The bottom half laps **16** and **18** are each further formed with apertures **26** and **28** at which they may be gripped to draw the wrapper W tightly about the cans C to be packaged therein and to hold the lap panels **16** and **18** in proper overlapping relation for extension of the locking tab **24** to securing position, in the manner disclosed at length in the above noted copending application Serial No. 593,604. The apertures **26** and **28** preferably have a generally triangular form with an

apex thereof extending toward the free edge of the lap panel **16** or **18** in which they are formed and aligned in the direction in which these lap panels **16** and **18** must be drawn to tighten the wrapper W about the cans C, so that a wedge shaped opening is provided at the apertures **26** and **28** which may be gripped to apply tightening pressure to the best advantage.

Also, the apertures **26** and **28** are advantageously formed with the entire area thereof occupied by slit tabs **26'** and **28'** that are arranged to remain hinged on the wrapper W along the base or side of the triangular apertures **26** and **28** that is opposite the above mentioned extending apex thereof. In this way, it is possible to avoid removing waste cutouts in the blank for the wrapper W and thereby lessen substantially the difficulty of maintaining the blanks free of these waste cutouts which can cause considerable trouble in handling the blanks through a subsequent packaging operation.

The lap panels **16** and **18** are also specially formed according to the present invention for providing clearance at all of the apertures **26** and **28** to allow gripping of the wrapper W thereat. For this purpose, the outer lap panel **18** has the ends thereof notched as illustrated in Figs. 2 and 5 at **30** to clear the apertures **26** in the lap panel **16**, and the inner lap panel **16** is formed with enlarged clearance openings or aperture **32**, which may have slit tabs **32'** remaining hinged therein, and which are positioned to register the enlarged form thereof with the outer lap panel apertures **28** so as to allow extension of a gripping means (not shown) through the apertures **28** adequately for applying gripping pressure thereat. In this connection, it may be noted that the slit tabs **26'**, **28'** and **32'** that may be allowed to remain hinged within the apertures **26**, **28** and **32** are simply foldably displaced inwardly of the wrapper W by a gripping means when applied at any of these apertures, all of the apertures **26**, **28** and **32** being located to fall within the diameter of a can C packaged within the wrapper W so that clearance for such inward displacement is provided by the conventional recessed end structure of a can C or the like, as illustrated in Fig. 4.

Figs. 6 and 7 illustrate the manner in which the blank shown in Fig. 5 may be adapted to form a wrapper W arranged for packaging a greater number of cans C in a row, the Fig. 6 blank being arranged for packaging a row of three cans C, and the Fig. 7 blank a row of four, while the Fig. 5 is formed for only two cans C. The blanks in Figs. 6 and 7 are both arranged in substantial correspondence with the Fig. 5 blank, both having respective top wall panels **10'** and **10''**, with pairs of side wall panels **14'** and **14''** foldably hinged thereon and pairs of lap panels **16'** and **18'**, and **16''** and **18''**, foldably hinged on the side wall panels, as well as positioning slots **20'** and **20''** spaced along the hinged edges of the side wall panels **14'** and **14''**.

The blanks in Figs. 6 and 7 are, however, varied in proportions from the blank in Fig. 5 to illustrate the flexibility of the wrapper W for any variation in can size. Also, the Fig. 6 blank, being arranged to accommodate a row of three cans C, is formed with two sets of respectively aligned retaining and locking tabs **22'** and **24'**, and the Fig. 7 blank with three sets of retaining and locking tabs **22''** and **24''** in relation to the row of four cans C it is arranged to package, so that these tabs in each case are aligned with the spaces between the cans C and are increased in number as the length of the row increases.

In addition, it should be noted that the Fig. 6 blank is shown formed with gripping apertures **34** and **36** in the respective lap panels **16'** and **18'** that have no slit tabs remaining hinged therein to illustrate the possibility of forming the gripping apertures in this way if desired. The outer lap panel **18'** in Fig. 6 is notched at **30'** so as to clear the gripping apertures **34** in the inner lap panel **16'**, and this inner lap panel **16'** has an enlarged registering aperture **38** formed therein to provide gripping clearance at the outer lap panel aperture **36**, this aperture **36** and the enlarged aperture **38** both being located to fall within the diameter of the middle can C of the row to be packaged, while the inner lap panel apertures **34** are located at the respective end cans C. The Fig. 7 blank has gripping apertures **40** and **42** arranged in the lap panels **16''** and **18''** thereof with slit tabs **40'** and **42'** remaining hinged therein, with the lap panel **18''** notched at **30''** and the lap panel **16''** formed with an enlarged registering aperture **44** and slit tabs **44'** therein, as in the Fig. 5 blank, but has these apertures spaced to fall within the diameters of separate cans C in the row to be packaged, as in the Fig. 6 blank.

The present invention has been described in detail above for purposes of illustration only and is not intended to be limited by this description or otherwise except as defined in the appended claims.

I claim:

1. A package of cylindrical objects, such as cans, said package comprising a four-sided wrapper with open ends and a row of said objects enclosed thereby, said wrapper comprising a substantially rectangular paperboard blank scored transversely and transversely folded about said objects and having its end portions overlapped completely across an end of said objects with means securing said wrapper portions together, each of said end portions having at least two apertures formed therein to allow gripping of said end portions by forces acting in opposite directions for drawing said wrapper tightly about said objects and holding said end portions in proper overlapping relation for securing, the outer overlapped end portion being notched to expose the apertures in the inner overlapped end portion for gripping of said wrapper thereat.

2. A package of cylindrical objects as defined in claim 1 and further characterized in that said apertures are triangular in form with an apex thereof extending toward the free edge of the end portion in which it is formed and aligned in the direction in which said end portion must be drawn to tighten said wrapper about said objects.

3. A package of cylindrical objects as defined in claim 2 and further characterized in that said apertures are formed with the entire area thereof occupied by slit tabs remaining hinged to said wrapper along the base of said apertures opposite said apex.

4. A package of cylindrical objects as defined in claim 1 and further characterized in that said apertures are formed in said end portions at locations falling within the diameter of objects enclosed by said wrapper.

5. A package of cylindrical objects as defined in claim 1 and further characterized in that the apertures formed in the inner of said overlapped end portions are located within the diameter of objects at the ends of the row enclosed in said wrapper, the apertures in the outer of said overlapped end portions are located inwardly of said first mentioned apertures within the diameter of at least one object enclosed in said wrapper, and said inner overlapped end portion is formed with enlarged clearance openings registering with the apertures in said outer overlapped end portion.

6. A package of cylindrical objects, such as cans, said package comprising a four-sided wrapper with open ends and a row of said objects enclosed thereby, said wrapper comprising a substantially rectangular paperboard blank scored transversely and transversely folded about said objects and having its end portions overlapped completely across an end of said objects and secured thereat by means comprising at least one locking tab formed at the free edge of the outer of said overlapping end portions in alignment with the space in said package resulting from the cylindrical form of said objects and aligned with an opening cut out in the other of said end portions, said

locking tab in securing position being extended from the end portion in which it is cut out inwardly through the other end portion at the opening formed therein, and each of said end portions being formed with apertures therein to allow gripping of said end portions by forces acting in opposite directions for drawing said wrapper tightly about said objects and holding said end portions in proper overlapping relation for extension of said locking tab to securing position, said apertures being formed in said end portions at locations falling within the diameter of objects enclosed by said wrapper, and the outer overlapped end portion being notched to expose the apertures in the inner overlapped end portion for gripping of said wrapper.

7. A paperboard blank forming a four-sided wrapper with open ends to package a row of cylindrical objects, such as cans, said blank having an elongated rectangular form and having four transverse score lines therein spaced for defining a first panel arranged centrally with respect to the length of said blank, a pair of panels foldably hinged at opposite edges of said first panel, and a pair of lap panels foldably hinged respectively at the edges of said pair of panels opposite said first panel edges, said blank having a width corresponding to the multiple diameter of the objects in said row to be packaged, the score lines defining said first panel being spaced in correspondence with the diameter of said objects, the score lines defining said pair of panels being spaced in correspondence with the height of said objects, and said pair of lap panels each being proportioned in a width corresponding substantially with that of said first panels for overlapping completely across an end of said objects and securing thereat, each of said lap panels being formed with apertures therein for gripping to draw said wrapper tightly about said objects and hold said lap panels in proper overlapping relation for securing, the lap panel adapted for overlapping exteriorly being notched to expose the apertures in the other lap panel and thereby allow gripping of said wrapper at said last mentioned apertures.

8. A paperboard blank forming a four-sided wrapper with open ends to package a row of cylindrical objects, such as cans, said blank having an elongated rectangular form and having four transverse score lines therein spaced for defining a first panel arranged centrally with respect

to the length of said blank, a pair of panels foldably hinged at opposite edges of said first panel, and a pair of lap panels foldably hinged respectively at the edges of said pair of panels opposite said first panel edges, said blank having a width corresponding to the multiple diameter of the objects in said row to be packaged, the score lines defining said first panel being spaced in correspondence with the diameter of said objects, the score lines defining said pair of panels being spaced in correspondence with the height of said objects, and said pair of lap panels each being proportioned in a width corresponding substantially with that of said first panel, one of said lap panels having at least one locking tab formed at the free edge thereof in alignment with the space between said objects that results from the cylindrical form thereof when packaged in a row, said locking tab being aligned with an opening cut out in the other of said lap panels, whereby said locking tab may be extended from the lap panel in which it is formed inwardly through the other lap panel of said pair at the opening formed therein for securing said lap panels in overlapped relation and maintaining said row of objects tightly enclosed within the wrapper formed by said blank, and each of said lap panels being formed with apertures therein for gripping to draw said wrapper tightly about said objects and hold said lap panels in proper overlapping relation for securing, the lap panel formed with said locking tap being notched to expose the apertures in the other lap panel and thereby allow gripping of said wrapper at said last mentioned apertures upon overlapping of said lap panels.

9. A paperboard blank as defined in claim 8 and further characterized in that said other lap panel is formed with enlarged clearance openings registering with the apertures in the lap panel formed with said locking tab.

References Cited in the file of this patent

UNITED STATES PATENTS

2,559,948	Currie	July 10, 1951
2,588,791	Andrews	Mar. 11, 1952
2,646,202	Gibbons	July 21, 1953
2,708,066	Caraher	May 10, 1955
2,721,689	Nye	Oct. 25, 1955
2,768,741	Currie	Oct. 30, 1956