May 14, 1957 H. G. ZASTROW 2,792,146

CAN CARRIER

Filed March 14, 1956 3 Sheets-Sheet 1

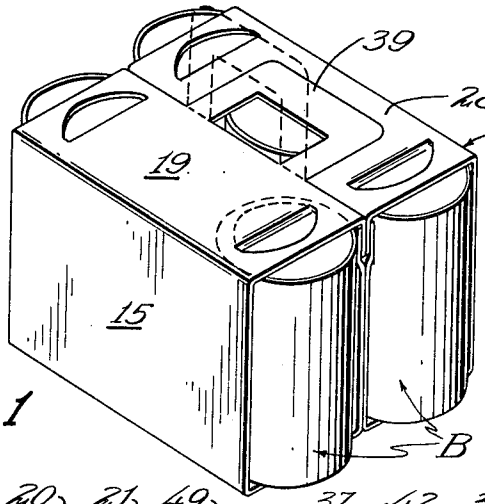


Fig. 1

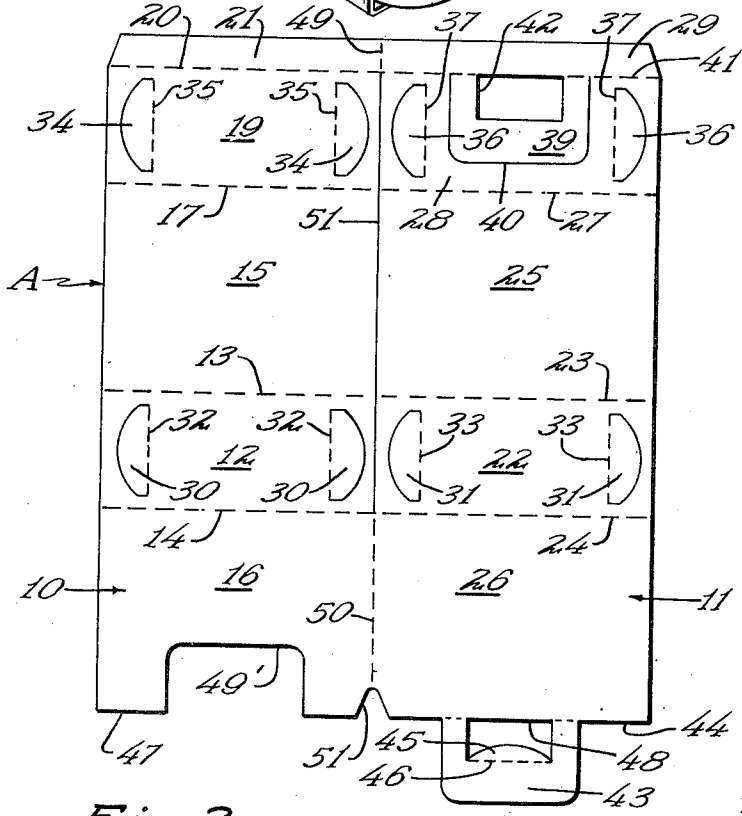


Fig. 2

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CAN CARRIER

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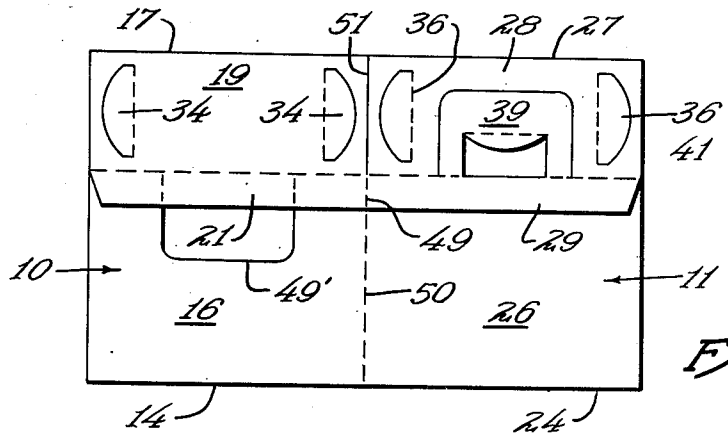


Fig. 3

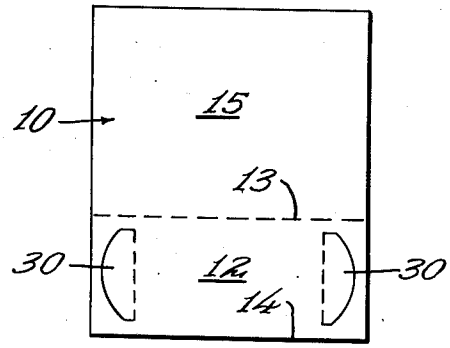


Fig. 4

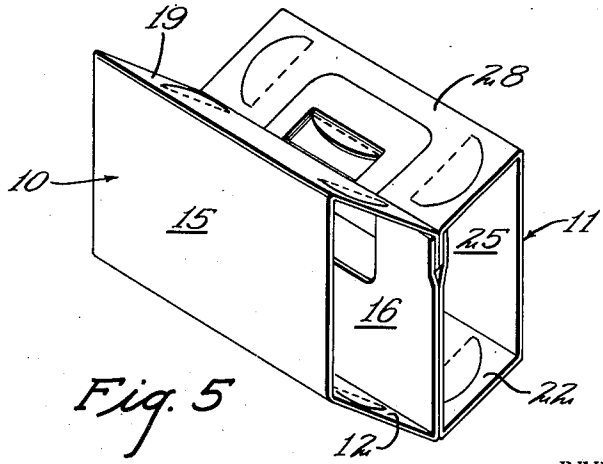


Fig. 5

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CAN CARRIER

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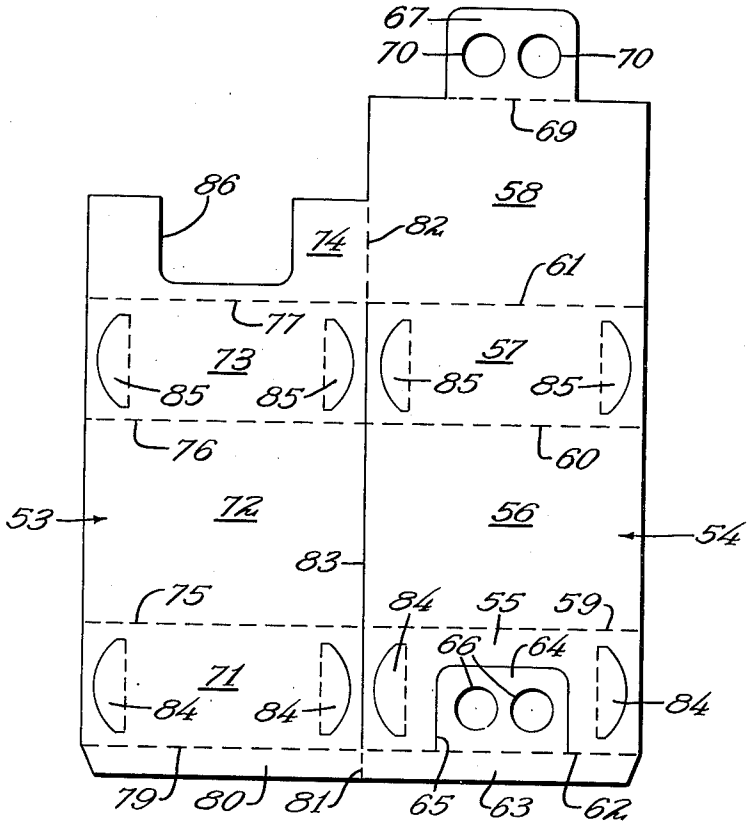


Fig. 6

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CAN CARRIER

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12 Claims. (Cl. 220—112)

This invention relates to an improvement in can carriers and deals particularly with an inexpensive carrier for a plurality of cans and which is provided with a carrying handle.

Various types of can cartons have been produced for use in carrying a plurality of cans of a product. Many such cartons have been produced for carrying six cans of beer. In this type of carton, the cans are often held in place by tabs which are cut from the paperboard forming a can encircling sleeve so that the end cans of series actually project from the ends of the sleeve. Many such carriers have been provided which are provided with a carrying handle. However, for the most part, the carriers embodying a carrying handle have been considerably more expensive than the sleeves not provided with a handle and in the interest of economy, the carrying handle has been eliminated from many of the forms of construction. This is particularly true when the can cartons are used to contain soft drinks or other such products which are relatively inexpensive.

An object of the present invention resides in the provision of a can carrying carton which is relatively inexpensive in cost and which embodies a carrying handle. The handle is formed of two thicknesses of paperboard, one thickness of which is cut from a top panel of the carton. The other lamination of material forming the handle, forms an extension of an intermediate partition panel and normally underlies or overlies the handle portion which is cut from the top panel.

A feature of the present invention resides in the strength of the particular handle which is employed. In the past, it has been common practice to form such a handle through the use of a pair of hingedly connected handle panels, each of which is hingedly connected to a corresponding top wall panel. An intermediate partition panel extends between these two handle panels and provides a further support for the carton contents. In order that the handle panel may fold flat upon the top of the carton for storage and shipment, it has been necessary to stitch or staple the handle panels together, these stitches extending through notches in the intermediate partition panel so that this partition panel may slide relative to the handle panels when the handle is folded against the top of the carton. This results in a costly operation, both from the standpoint of paperboard and also from the standpoint of manufacture.

A feature of the present invention lies in the fact that the carrier is formed by two sleeve-like portions which are hingedly connected together and which are adhered or otherwise secured in side by side relation. As both of the carton sections are formed with rectangularly arranged walls, this arrangement results in a double thickness partition between the two sections. A handle projection is provided along the upper edge of one of these partition panels and which is designed to underlie or overlie an adjoining top wall panel. The top wall panel which is adjacent to this projecting handle portion, is also cut to provide a registering handle portion which may

be hinged upwardly. When both of these side by side handle portions are hinged upwardly, they form continuations of vertically extending portions of the carrier. As a result, the weight of the cans and their contents is supported by a pair of handle members, both of which are hingedly connected to a part of the center partition structure. As a result, the handle is stronger than it could otherwise be if the handle were pivotally connected to a top panel of the carton.

A further feature of the present invention resides in the fact that the projecting handle portion on the central partition structure requires no additional paperboard to produce. The blanks for forming the cartons are formed in pairs and the handle projection of one carton dovetails into a notch in a partition panel of the second carton so that an economy of stock is effected.

A further feature of the present invention resides in the provision of a can carrier which includes two side by side tubular portions, each of which is foldable into flat relation. With this arrangement, the carrier may be more readily opened than with most types of construction and the mechanical handling of the cartons is simplified.

These and other objects and novel features of the present invention will be more clearly and fully set forth in the following specification and claims.

In the drawings forming a part of the specification:

Figure 1 is a perspective view of a can carrier showing the construction thereof while the carrier is in use.

Figure 2 is a diagrammatic view showing the blank from which the carrier is constructed.

Figure 3 is a view showing the carrier in partially folded condition.

Figure 4 is a plan view of the carrier in completely folded condition, the carrier being flat for shipment or storage.

Figure 5 is a perspective view showing the carrier in partially opened position.

Figure 6 is a diagrammatic view showing the blank of a modified form of construction.

The can carrier A is constructed of the blank best illustrated in Figure 2 of the drawings. The blank includes two main sections indicated in general by the numerals **10** and **11** and which are hingedly connected together. The section **10** includes a bottom panel **12** which is foldably connected along parallel fold lines **13** and **14** to wall panels **15** and **16** respectively. The panel **16** forms a partition panel while the panel **15** forms an outer wall panel.

The outer wall panel is foldably connected along a fold line **17** to a top panel **19**. This top panel **19** is foldably connected along a fold line **20** to a glue flap **21**, which is designed to overlap the partition wall panel **16** and be secured thereto.

The section **11** is somewhat similarly formed. Section **11** includes a bottom wall panel **22**, which is foldably connected along parallel fold lines **23** and **24** to an outer side wall panel **25** and a partition wall panel **26** respectively. The upper edge of the outer side wall panel **25** is connected along a fold line **27** to the top panel **28**. This top panel **28** is foldably connected along a line of fold to a glue flap **29**.

A pair of tabs **30** are foldably connected to the bottom wall **12** along parallel fold lines **32**. A similar pair of tabs **31** are foldably connected to the bottom panel **22** along parallel fold lines **33**. Similar tabs **34** are foldably connected along fold lines **35** to the top panel **19**. A fourth pair of tabs **36** are foldably connected to the top panel **28** along parallel fold lines **37**. All of the tabs mentioned are designed to fold out of the planes of the panels in which they are formed and to fold inwardly to engage into the recessed ends of cans positioned between the

tab containing walls to hold the cans such as the cans B in position.

A handle 39 is cut from the top panel 28. The outer edge of the handle portion 39 is defined by a U-shaped cut line 40, which terminates at the fold line 41 between the top panel 28 and the glue flap 29. A generally rectangular aperture 42 is cut from the center of the handle 39 to permit the fingers to be inserted through the handle. In actual practice, the handle 39 is usually connected to the body portion of the top panel 28 by extremely narrow areas of connection so that this handle portion 39 will remain in the plane of the top panel 28 unless pulled therefrom. However, the areas of connection are very slight so that the handle portion may be easily pivoted and the U-shaped cut line 40 is practically continuous.

A handle projection or second handle portion 43 is connected to the upper edge 44 of the partition panel 26. This handle portion 43 is substantially contiguous with the handle portion 39 when the carrier is assembled and may or may not be attached thereto. Furthermore, the handle portion 43 may overlie the handle portion 39 or may underlie the same depending upon whether the glue flaps 21 and 29 are adhered to the inner or outer surfaces of the partition panels 15 and 25 respectively.

The handle portion 43 is provided with an aperture 44 extending therethrough which generally alines with the aperture 42 of the handle portion 39. If desired, a short flap 45 may be connected along an edge of the aperture 44 by a fold line 46 so as to fold through the aperture 42. This arrangement provides a folded surface which is grasped by the hand in lifting the carrier and makes the carrier easier to carry.

As the partition panels 16 and 26 are adhered in surface contact in the finished form of the carrier, the upper edge 47 of the partition panel 16 is provided with a notch 49 similar in outline to the handle portion 43. This permits two carrier blanks to be cut from a rectangular sheet with virtually no waste stock. As a result, the handle portion 43 does not require any more paperboard than if this handle portion were eliminated.

The glue flaps 21 and 29 are hingedly connected along a fold line 49. The partition panel 16 is foldably connected to the partition panel 26 along a fold line 50, which is alined with the fold line 49. A cut line 51 extends between the fold lines 49 and 50 and separates the top panels 19 and 28, the outer wall panels 15 and 25, and the bottom wall panels 12 and 22. The upper edges 44 and 47 of the partition wall panels 16 and 26 are notched in alinement with the fold line 50 as indicated at 52. This notch simplifies the folding operation along the area where the glue flaps 21 and 29 overlap these partition panels 16 and 26.

In the formation of the carton or carrier A, the partition wall panels 16 and 26 are folded along the alined fold lines 14 and 24 so that these partition panels overlie the bottom panels 12 and 22 and portions of the side wall panels 15 and 25. The top panels 19 and 28 are also folded along the alined fold lines 17 and 27 so that the glue flaps 21 and 29 overlap the partition panels 16 and 26 and the handle portion 43 substantially registers with the handle portion 39. The glue flaps are adhered in this overlapping relation and if desired, the handle portions 39 and 43 may also be adhered together. It will be seen that if the partition panels 16 and 26 are first folded and the top panels 19 and 28 are subsequently folded, the handle portion 43 will lie inwardly of the handle portion 39. Similarly, if the top panels 19 and 28 are first folded and the partition panels 16 and 26 are folded, subsequently, the handle portion 43 will lie outwardly or above the handle portion 39. Usually, the inner of the two handle portions is slightly smaller than the upper or outer handle portion so that these handle portions may be pivoted upwardly even though they are not exactly in register.

When the glue flaps have been secured, the carton is in the condition illustrated in Figure 3 of the drawings. From this position, the two sections of the carton are folded one above the other by folding the blank along the adjoining fold lines 49, 50. Any desired areas of the partition wall panels 16 and 26 may be coated with adhesive prior to this folding operation so that the two partition panels will be adhered in surface contact. If the glue flaps 21 and 29 lie above the partition panels 16 and 26 when the carton is in the condition illustrated in Figure 3, adhesive is also normally added to these glue flaps so that these parts will also be adhered in surface contact.

When the carton has been completely folded, it appears as in Figure 4 of the drawings. Both sections 10 and 11 of the carton are in flat folded condition with the top panels 19 and 28 in substantial surface contact. In erecting the carton for use, the two sections are folded along their parallel fold lines until the two sections are in tubular relation. The various tabs may then be folded out of the plane of the panels in which they are located and the cans inserted. The tabs hold the cans from coming out of the ends of the tubular sections. When the cans are in place, the entire carrier is in rectangular form.

While the cartons are being packed with cans and while they are being stored and shipped, the handle portions normally remain folded down in substantially the plane of the top panels of the carrier. When it is desired to use the handle, the fingers are inserted through the alined openings 42 and 44 and the handle portions are folded upwardly into the dotted line position illustrated in Figure 1 of the drawings. The handle may then be used for carrying the carton. The handle is particularly strong even though the two handle portions may not be adhered together as both of these handle portions form an extension of a vertical part of the central partition structure, one handle portion being an extension of a partition panel itself and the other portion being hingedly secured to the glue flap 29.

In Figure 6 of the drawings, I disclose a modified form of carrier construction. This construction is very similar to that previously described but has the advantage of requiring less paper stock to construct. In the arrangement illustrated in Figure 6, the carrier blank B is shown as including two main sections 53 and 54. The section 54 includes a top panel 55, a side wall panel 56, a bottom wall panel 57, and a partition wall panel 58. These panels are connected along parallel fold lines 59, 60 and 61. The top panel 55 is connected along a fold line 62 to a glue flap 63. A handle 64 is defined by a U-shaped cut line 65 which terminates on the fold line 62 connecting the top panel 55 with the glue flap 63. This handle 64 is provided with finger openings or a single finger opening 66 to accommodate the fingers of a hand.

A second handle panel 67 is foldably connected to the partition wall panel 58 along a fold line 69. This handle 67 is shaped similarly to the handle 64 and is provided with a finger opening or openings 70 which are designed to register with the opening or openings 66 in the handle portion 64.

The carton section 53 is shown as including a top panel 71, a wall panel 72, a bottom panel 73, and a partition panel 74. These panels are connected along parallel fold lines 75, 76 and 77 which aline with the previously described fold lines 59, 60 and 61 respectively. The top panel 71 is foldably connected along a fold line 79 to a glue flap 80. This glue flap 80 is alined with the previously described glue flap 63 and is foldably connected thereto along a fold line 81. A second fold line 82, which is alined with the fold line 81 connects the partition panel 58 with the partition panel 74. A cut line 83 extends between the bottom panels 57 and 73 between the side wall panels 56 and 72, and between the top panels 55 and 71. The cut line 83 is alined with the fold lines 81 and 82.

The top panels 55 and 71 are provided with flaps or tabs 84 similar to those previously described and which are designed to extend into the recessed ends of cans to

hold the cans engaged in the carrier. A similar series of tabs or flaps 85 are provided in the bottom panels 57 and 73 and provide a similar action.

It will be noted that the blank B is very similar to the previously described blank with the exception of the fact that the partition wall panel 74 extends only when half of the total height of the partition wall 58. This partition wall 74 is notched as indicated at 86, this notch being similar in shape to the outline of the handle portion 67. Accordingly, when two of the blanks are dovetailed together, an amount of paperboard equal to one-half of the height of the partition wall 58 is conserved. This saving of paperboard is extremely important in a construction of the type in question as it is of high grade in order to serve its intended purpose and as the carriers must be made at extremely low cost, particularly where they are used for the carrying of six cans of a soft drink, such as root beer or the like.

In accordance with the patent statutes, I have described the principles of construction and operation of my carrier, and while I have endeavored to set forth the best embodiments thereof, I desire to have it understood that obvious changes may be made within the scope of the following claims without departing from the spirit of my invention.

I claim:

1. A can carrier blank including a series of four panels including a top panel, an outer wall panel, a bottom panel, and a partition wall panel foldably connected along parallel fold lines, a glue flap hingedly connected to said top panel and foldable into surface contact with said partition wall panel, a second section hingedly connected to said first series of panels and including a top panel, an outer wall panel, a bottom panel, and a partition wall panel foldably connected along parallel fold lines, the panels of said second section being similar in size to the first mentioned series of panels and being in side by side relation thereto, a glue flap hingedly connected to the top panel of said second section and foldable into overlapping relation with the partition wall panel of said second section, a handle portion hingedly connected to the edge of said partition wall panel of said second section opposite the fold line connecting said last named partition panel to said last named bottom panel, and a generally similar handle portion cut from the body portion of the top panel of said second section and foldably connected to the glue flap of said second section, said handle portions being substantially contiguous when the glue flap of said second section is in overlapping relation with the partition wall of said second section, the first mentioned partition wall and the partition wall of the second section being hingedly connected together.

2. The construction described in claim 1 and in which the first mentioned partition wall panel includes a notch in the edge thereof opposite the edge hingedly connected to the bottom panel, said notch being similar in outline to the outline of the handle portion projecting from the partition wall panel of the second section.

3. The construction described in claim 1 and including tabs cut from the body of said top and bottom panels and foldable with respect to these panels along generally parallel fold lines.

4. A blank for forming a handled carton, the blank being generally rectangular in form and including a first and second section in side by side relation, both sections being divided by four parallel lines of fold extending continuously across both sections, the fold lines dividing the sections into a glue flap, a top panel, an outer wall panel, a bottom panel, and a partition wall panel in sequence, a projecting handle portion projecting from the edge of the partition panel of one of said sections which is opposite the line of fold connecting this partition panel to a corresponding bottom panel, and a second handle portion cut from the body of the top panel of said one section and foldably connected to the glue flap of said one section, said handle portions being in superimposed relation when said two sections are folded into tubular formation.

5. The construction described in claim 4 and in which the partition wall panels of said two sections are foldably connected together and said bottom panels, said outer wall panels, and said top panels are separated by a cut line.

6. The construction described in claim 4 and including tabs in said top and bottom panels foldable out of the planes of said top and bottom panels.

7. A can carrier including two side by side tubular sections each including a top panel, an outer wall panel, a bottom panel, and a partition wall panel, and a glue flap connecting said top panel to said partition wall panel, said partition wall panels being foldably connected along one vertical edge thereof, a handle portion hingedly connected to the upper edge of one of said partition panels, and a second handle portion hingedly connected to one of said glue flaps and cut from the body of one of said top panels, said handle portions being foldable upwardly from said partition walls in side by side relation.

8. The construction described in claim 7 and including tabs cut from the top and bottom panels and foldable inwardly and rearwardly out of the plane of said top and bottom panels.

9. The construction described in claim 7 and in which said handle portions are adhered together.

10. A can carrier for carrying cans having recessed ends, the carrier including two tubular sections secured in side by side relation, each of said sections including a top panel, an outer wall panel, a bottom panel, and a partition wall panel, and a glue flap hingedly secured to each said top panel and foldable into overlapping relation with a corresponding partition wall panel and secured thereto, means securing said partition wall panels in substantial surface contact, a handle portion hingedly connected to one of said partition wall panels and folded into surface contact with one of said top panels, said one top panel having a second handle portion hingedly cut from the body thereof and secured to the glue flap attached to said one top panel, said handle portions being foldable in unison.

11. A blank for forming a handle carton, the blank being generally rectangular in form and including a first and second section in side by side relation, both sections being divided by four parallel lines of fold extending continuously across both sections, the fold lines dividing the sections into a glue flap, a top panel, an outer wall panel, a bottom panel, and a partition wall panel in sequence, a projecting handle portion projecting from the edge of the partition panel of one of said sections which is opposite the line of fold connecting this partition panel to a corresponding bottom panel, a second handle portion cut from the body of the top panel of said one section and foldably connected to the glue flap of said one section, the handle portions being in superimposed relation when the two sections are folded into tubular formation, the partition panel of said other section being substantially one-half the height of the partition panel of said one section.

12. The construction described in claim 11 and in which the partition panel of said other section includes a notch in its upper edge which is generally similar in outline shape to the projecting handle portion projecting from the partition wall of said one section.

No references cited.