

SRI LANKA STANDARD 800 : 1987

**SRI LANKA STANDARD CODE FOR
STYLES OF FIBREBOARD BOXES**

SRI LANKA STANDARDS INSTITUTION

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Gr.12

Draft Sri Lanka Standard
CODE FOR STYLES OF FIBREBOARD BOXES

FOREWORD

This Sri Lanka Standard was authorized for adoption and publication by the Council of the Sri Lanka Standards Institution on 1987-11-18, after the draft, finalized by the Drafting Committee on Paper and Board, had been approved by the Chemicals Divisional Committee.

Fibreboard boxes are widely used for the packaging of variety of commodities such as light fragile articles, products in glass bottles, cartons and packets, hardware items, textiles, footwear, small livestock, domestic appliances, precision instruments and perishables including wet produce.

This code will assist the users and the manufacturers of fibreboard boxes in selecting styles of boxes and internal fitments suitable for their packaging requirements. Furthermore, this code provides guidance on effective closure of boxes and a manufacturing description for different styles in code numbers and symbols.

All values given in this code are in SI units.

In the preparation of this code, the assistance obtained from the publications of the British Standards Institution, the Bureau of Indian Standards, the European Corrugated Board Manufacturers' Federation and the European Solid Board Case Manufacturers' Association is gratefully acknowledged.

1 SCOPE

This code gives various styles of fibreboard boxes and fitments and methods of closure of fibreboard boxes.

2 DEFINITIONS

For the purpose of this code the following definitions shall apply:

2.1 box blanks : Individual boxes in the flat after cutting and creasing and the strippings have been removed before being folded over for glueing stitching or making up.

2.2 crease : An indentation in the fibreboard to give the line of fold.

2.3 manufacturer's joint : Parts of the box which are joined together by the manufacturer by taping, stitching ^(stapling) or glueing.

2.4 score : A light cut through the surface of the board to give the line of fold.

2.5 slit-score : A line of short cuts through the board alternating with uncut board ties.

3 GENERAL DESCRIPTION

The choice of a box is dependent to a large extent on the commodity to be packed, their mass, fragility and shape, storage, handling and transport requirements and climatic conditions to which the box is exposed.

Where the contents do not conform to the shape or dimensions of the box, internal fitments and/or cushioning materials are required to restrict internal movement and to provide support to the box. Where fitments are necessary, selection of the style of the fitment to be used is as important as the choice of the box.

Fibreboard boxes may be printed in a wide variety of colours and designs. However, heavy solid printing areas tend to reduce compression strength of boxes manufactured from corrugated fibreboard.

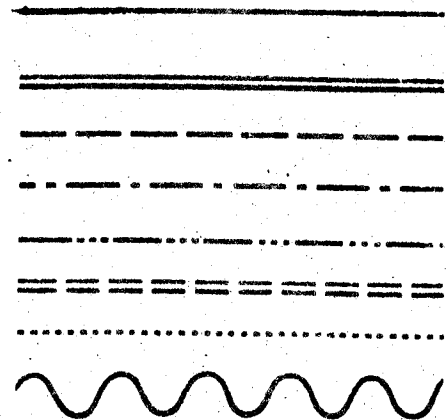
4 SYMBOLS AND ABBREVIATIONS

The following symbols and abbreviations are used in this code:

4.1 Cuts, scores and slits

- a) Contours of erected boxes cutting lines of box blanks
- b) Slotted cuts
- c) Crease lines (inward bend)
- d) Crease lines (outward bend)
- e) Slit-score lines
- f) Double score lines
- g) Perforation lines
- h) Soft edge cutting lines

Symbol



4.2 Manufacture's joint

- a) ^(stapled) Stitched joint
- b) Taped joint
- c) Glued joint

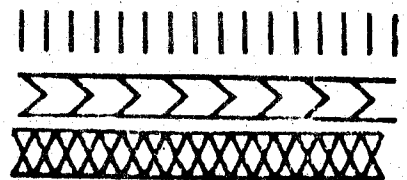
Abbreviation

S

T

G

Symbol



4.3 Openings

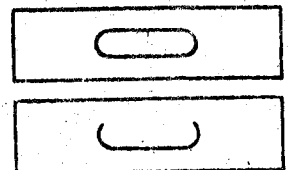
- a) Handholds stripped: Type P
- b) Handholds non-stripped: Type U

Abbreviation

P

U

Symbol



4.4 Internal dimensions of the box

	<u>Abbreviation</u>
a) Length - the longer dimension at the opening	L
b) Breadth - the shorter dimension at the opening	B
c) Height - the dimension from the top of the opening to the base measured, where applicable from inner flap to inner flap	H

When measuring and ordering boxes, internal dimensions are given in the following order (see Note) :

L x B x H

NOTE - Abbreviation h denotes the height of top part (and bottom part where necessary) of a telescope type box when the height is less than the height of the box. When measuring and ordering such boxes, dimensions are given in the following order :

L x B x H/h

5 STYLES OF FIBREBOARD BOXES

The styles given in Appendix A are of the basic types of fibreboard boxes which belong to six basic type groups. Four figure code number is given to each basic type. The first two figures of the code number refer to the basic type group and the other two figures refer to the basic type within a given basic type group.

5.1 Basic type groups of boxes

5.1.1 Slotted type boxes; type 02

Slotted type boxes consist of basically one piece with a stitched, taped or glued manufacturer's joint and top and bottom flaps. They are shipped flat, ready to use and require closing, using the flaps provided.

5.1.2 Telescope type boxes; type 03

Telescope type boxes consist of more than one piece and are characterised by a lid and/or bottom telescoping over the body of the box.

5.1.3 Folder type boxes; type 04

Folder type boxes usually consist of only one piece of board. The bottom of the box is hinged to form two or all side walls and the cover. The boxes can be set up without stitching or taping. Locking tabs, handles, display panels etc., can be incorporated in the design.

5.1.4 Slide type boxes; type 05

Slide type boxes consist of several pieces of liners and sleeves sliding in different directions into each other. This group also includes outside sleeves for other cases.

5.1.5 Rigid type boxes; Type 06

Rigid type boxes consist of two separate end pieces and a body and require stitching or a similar operation before they are used.

5.1.6 Ready glued boxes; Type 07

Ready glued boxes consist of basically one piece, are shipped flat and ready to use by simple setting up.

6 STYLES OF INTERIOR FITMENTS

All the styles of interior fitments given in Appendix B belong to one basic type group; Type 09. Four figure code number is given to each style. The first two figures of the code number refer to the basic type group and the other two figures refer to the specific style of the fitment. Depending on the purpose for which the interior fitments are used, they are referred to as follows :

6.1 Inside liner

Inside liner is a creased sheet of fibreboard inserted into a box as lining to give additional strength or cushioning. Styles 0904 to 0913, 0920, 0921 and 0929 are used as inside liners.

6.2 Pad

Pad is a flat board fitment used to provide a simple pad at the top and/or bottom of a box or to separate articles and/or layers of articles (see Note). Styles 0900 to 0903 are used as pads.

NOTE - Multilayer pads are also used for cushioning, locating and blocking voids around articles packed.

6.3 Slotted interlocking partitions or cells

Partitions or cells are used to separate the packed units and to absorb shock. They are normally constructed of solid fibreboard or corrugated fibreboard with the fluting running vertically. Styles 0930 to 0935 are used as slotted interlocking partitions or cells.

6.4 Die cut fitments

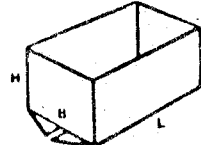
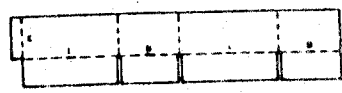
Die cut fitments are produced in wide variety of styles for special purposes, usually to locate and prevent movement of the articles packed. Styles 0940 to 0976 are used as die cut fitments.

7 MANUFACTURING DESCRIPTION

7.1 Basic types

A construction style of a box belonging to a basic type should be described as follows :

EXAMPLE

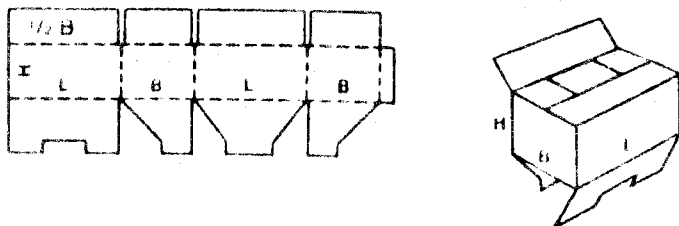


A box having the basic Type 0200 with stitched manufacturer's joint(s) is described as 0200;S.

2.2 Combined types

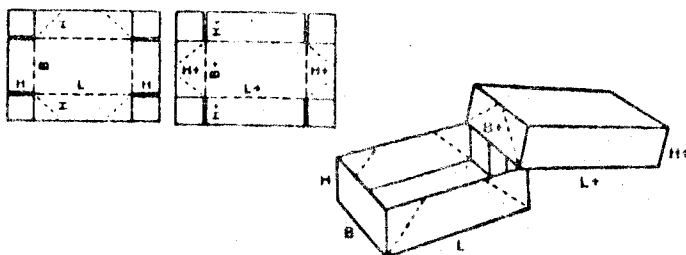
When the ultimate construction style is a combination of two or three basic types, the box should be described as follows:

EXAMPLE 1



A box having top flaps as 0201 and bottom flaps as 0215 is described as 0201/0215 (Top flaps/bottom flaps).

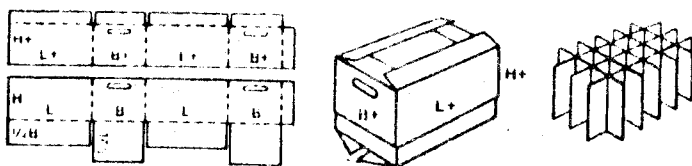
EXAMPLE 2



A box having a basic type principally of Type 0303 but the diagonal bend of the top part is at the end panel (BH) and that of the bottom part is at the long panel (LH) is described as 0303 BH/LH.

When the diagonal bends of both parts are on the end panel, it is described as 0303 BH/BH.

EXAMPLE 3



A box having a basic type principally of Type 0320, stitched manufacturer's joint (S), handholds of Type P, but the top part has flaps as 0209 and the bottom part has flaps as 0204, and a partition of Type 0933 for 6 x 4 cells is described as 0320, Top 0209; Bottom 0204; S; P; Partitions 0933, 6 x 4 or 0320 (0209/0204); S; P; 0933, 6 x 4.

8 METHODS OF CLOSURE

Correct and effective closure of the boxes is as important as the construction of the box itself. Proper closure improves considerably the strength and stability of the box and its ability to withstand the handling during transportation and storage. The following methods of closure may be used singly or in conjunction with one another.

NOTE - Users are advised to consult relevant regulations of each country as requirements for closure may differ in certain countries.

8.1 Glueing

The adhesive should be applied to provide an effective seal over at least 40 per cent of the contact area of the flaps with each other.

8.2 Taping

One of the following methods should be used for closing boxes by taping.

8.2.1 All seams should be covered with gummed paper or other suitable adhesive tape applied over the whole length of each seam and fixed to the body of the box (see Fig. 1 (a)).

8.2.2 Pressure sensitive tape or reinforced paper tape should be applied over the seams of the top and bottom flaps to extend not less than 50 mm over each end of the box (see Fig. 1 (b)).

8.2.3 The lid should be secured to the body portion of boxes of type group; O3, by suitable adhesive tape of a width not less than 48 mm, applied along the length of all edges (see Fig. 1(c)).

8.2.4 As an alternative to 8.2.3 the lid should be secured to the body portion of boxes of type group; O3, by several lengths of adhesive tape (see Fig. 1(d)).

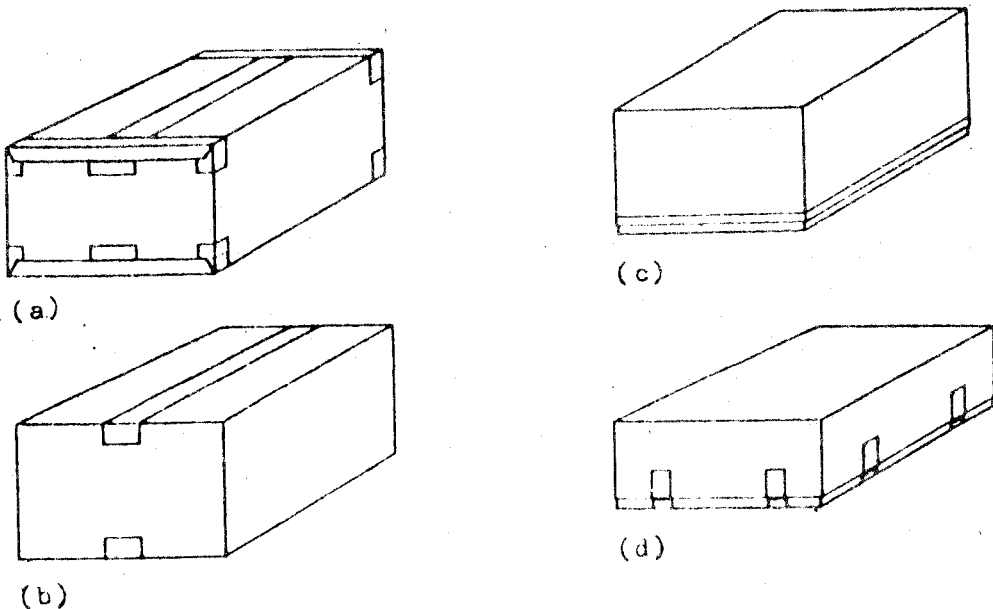


FIGURE 1 - Methods of taping

8.3 Stitching and stapling

The following methods should be used for closing boxes by stitching and stapling.

8.3.1 The bottom flaps of fibreboard boxes should be fastened by metal stitches applied along all exposed flap edges in contact with the other flaps at intervals of not more than 65 mm and those nearest the corners being not more than 25 mm from each corner. Portable stitching equipment can be used for closing the four top flaps (see Fig. 2).

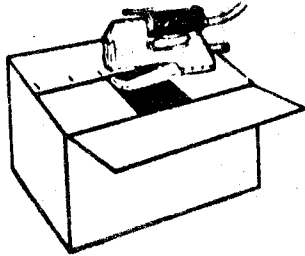
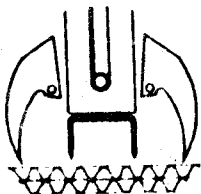


FIGURE 2 - Closure by portable stitching equipment

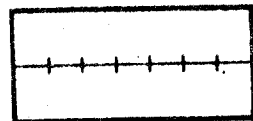
8.3.2 Flaps of the box should be fastened by wide crown staples (see Fig. 3(a) and (b)) applied across the centre seam of the box (see Fig. 3(c)) at intervals of not more than 100 mm. The first and the last staple should be not more than 25 mm from the end of the seam.



(a)



(b)



(c)

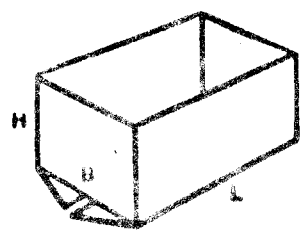
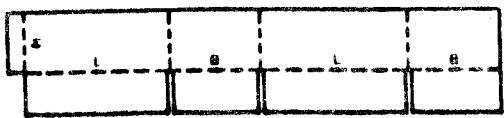
FIGURE 3 - Closing by stapling

8.4 Use of flat band, oval or flat wire tensional steel strapping, non metallic strapping or cording

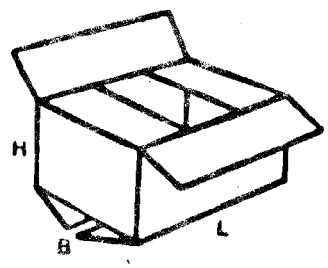
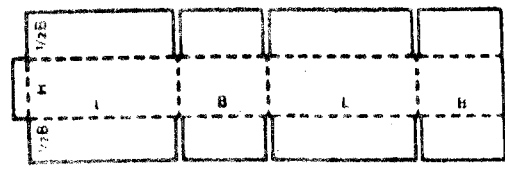
The mass of the contents is taken into consideration when selecting bands, straps or cords for closing boxes. These methods may be used in conjunctions with the methods given in 8.1, 8.2 and 8.3 or alone in special applications where the package allows tensioning to be effective.

APPENDIX A
STYLES OF FIBREBOARD BOXES

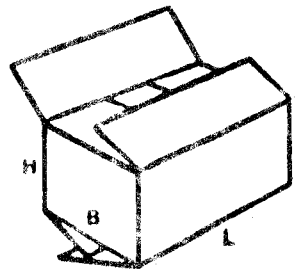
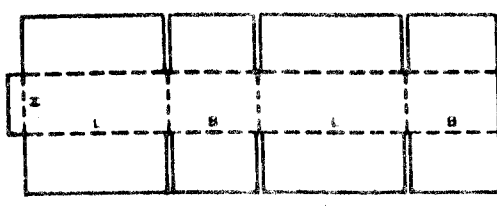
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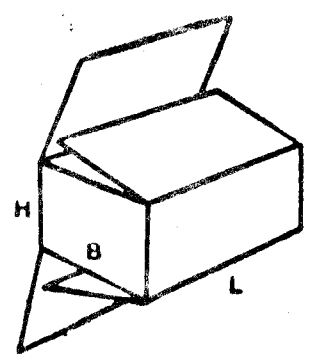
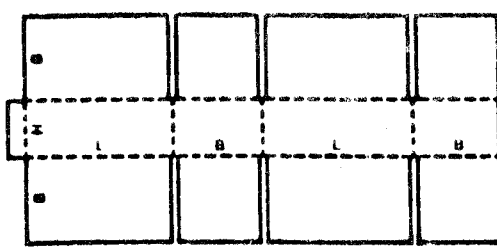
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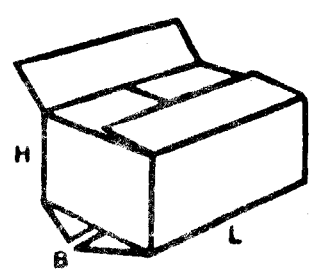
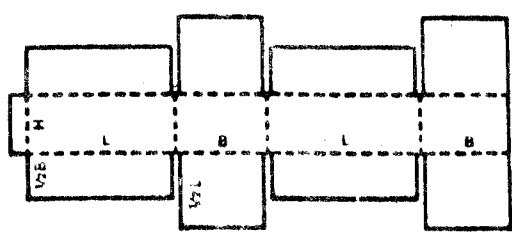
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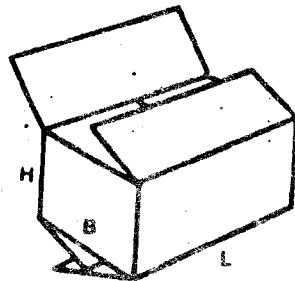
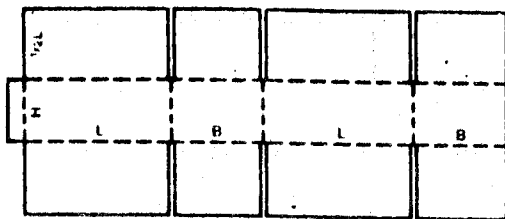
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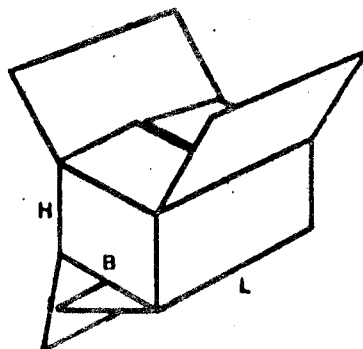
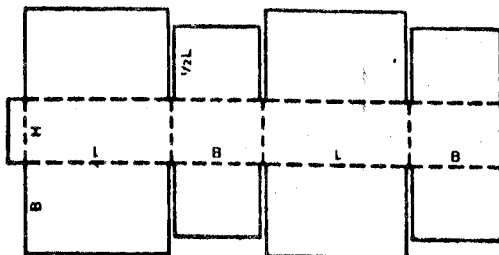
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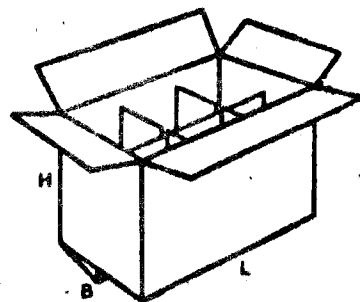
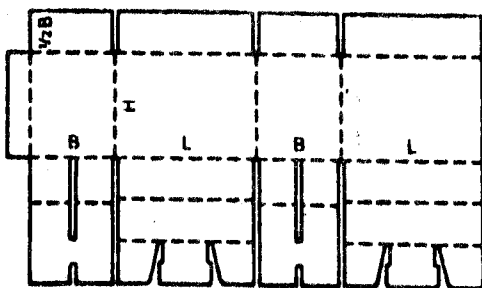
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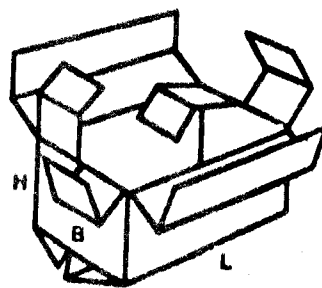
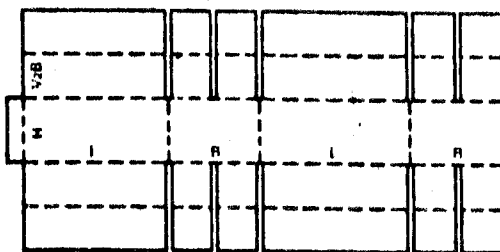
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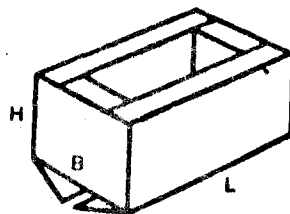
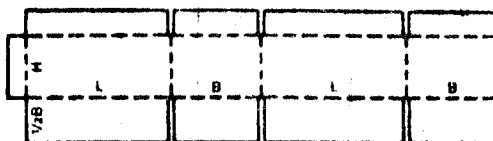
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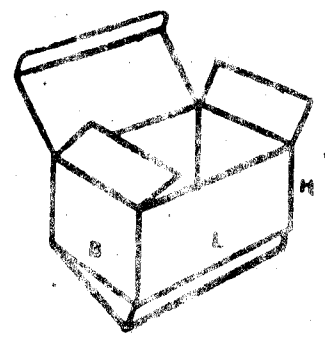
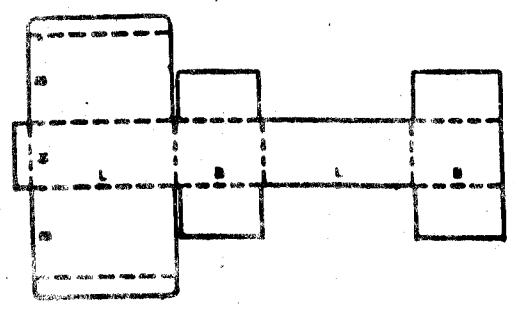
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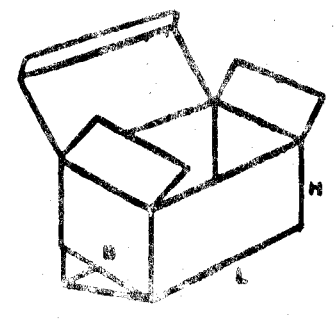
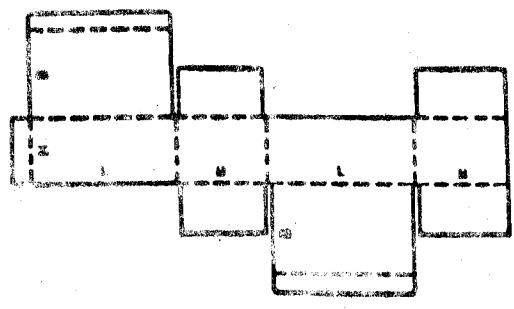
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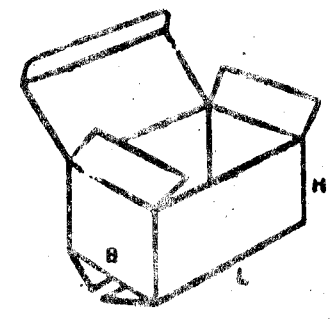
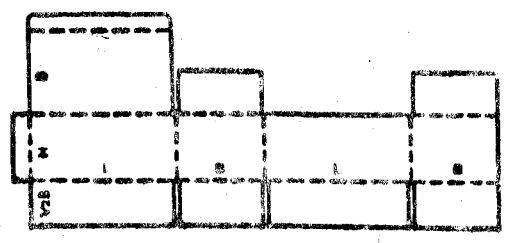
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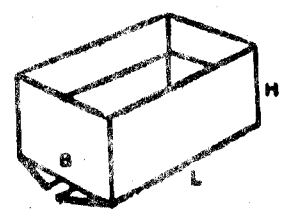
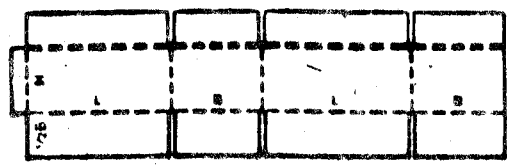
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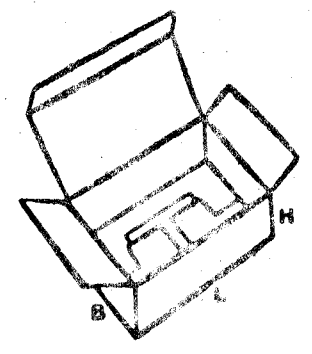
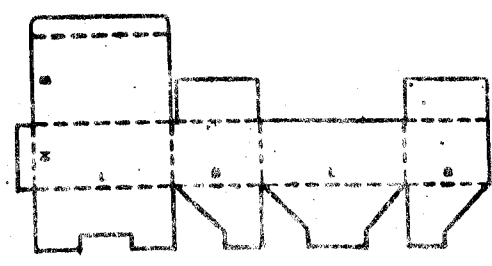
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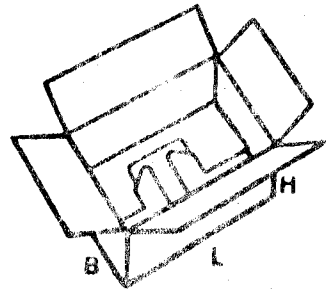
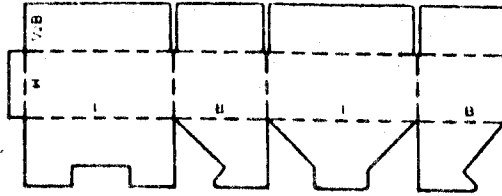
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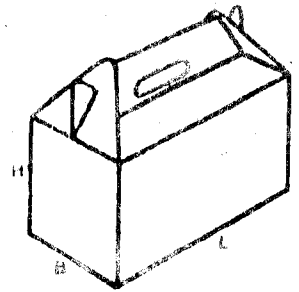
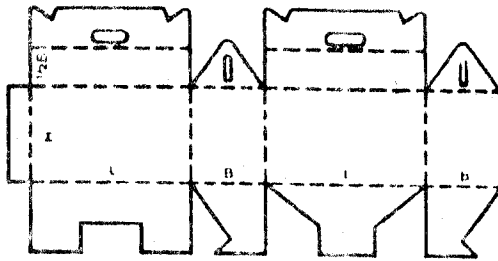
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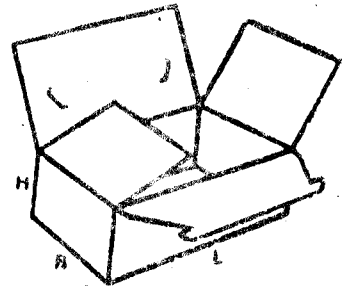
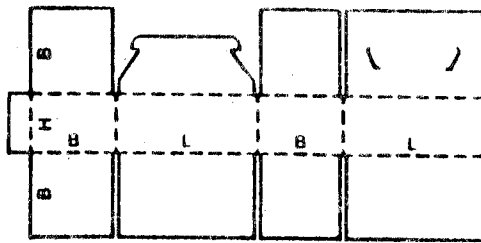
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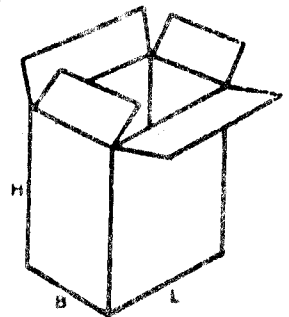
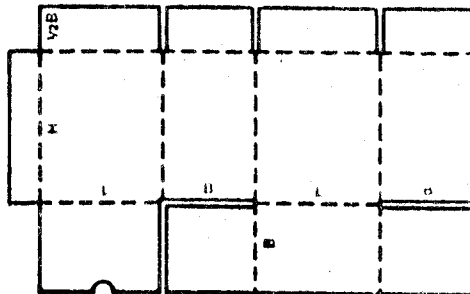
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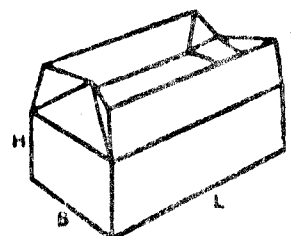
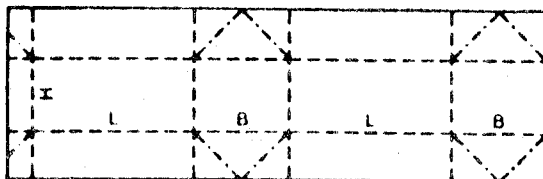
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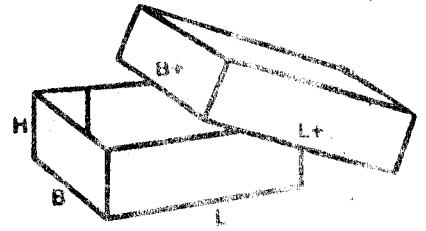
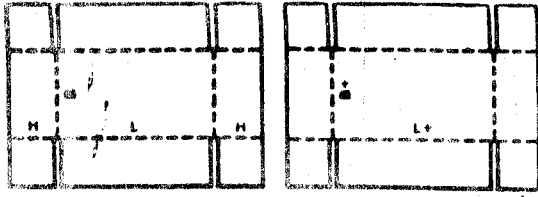
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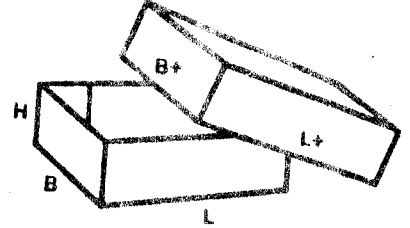
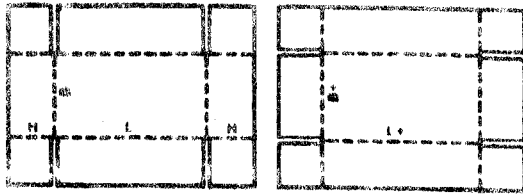
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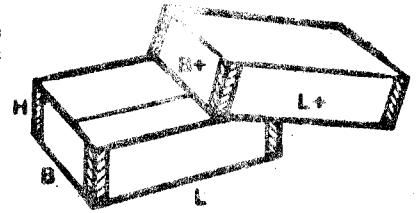
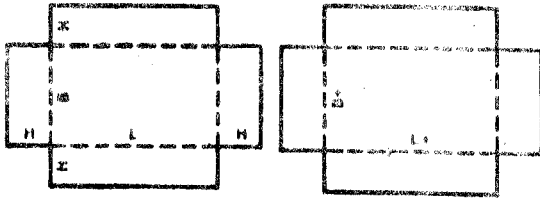
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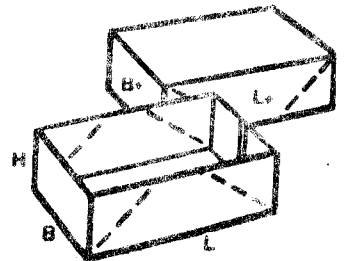
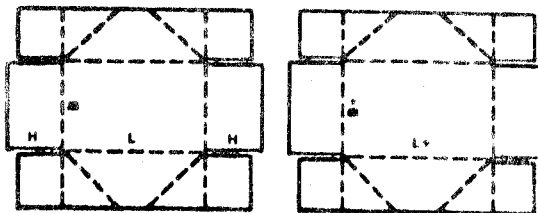
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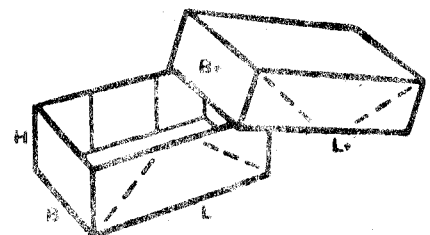
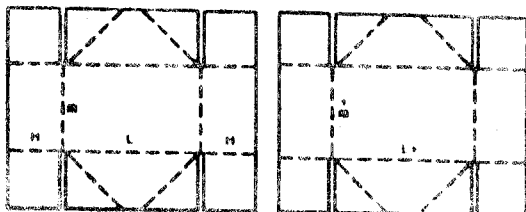
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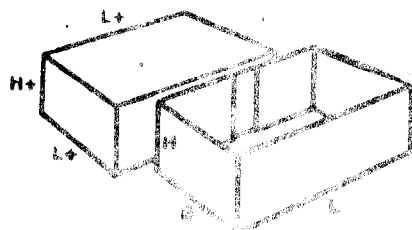
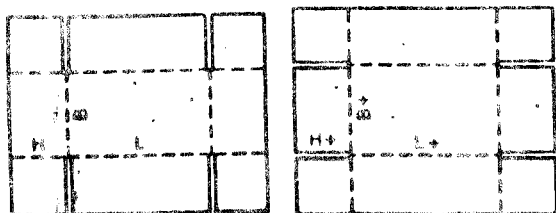
0303



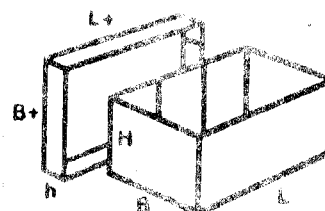
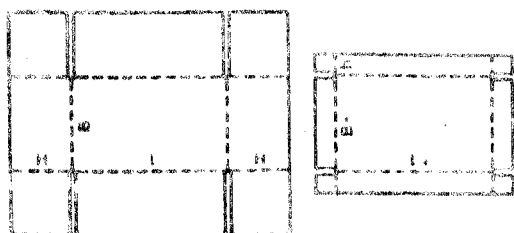
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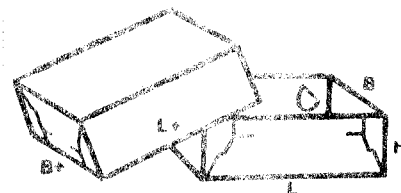
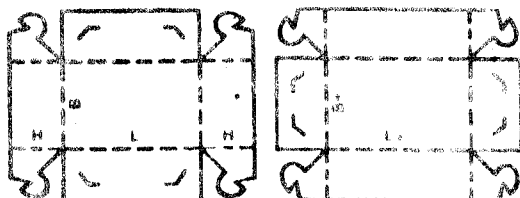
0305



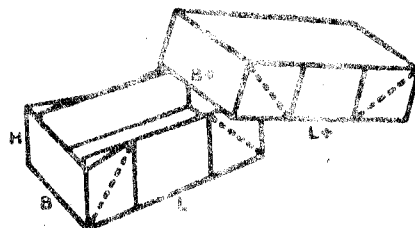
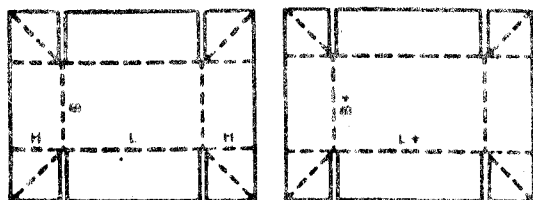
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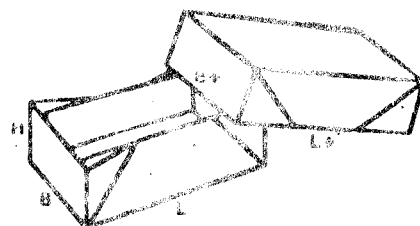
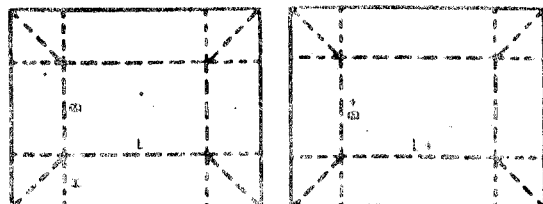
0307



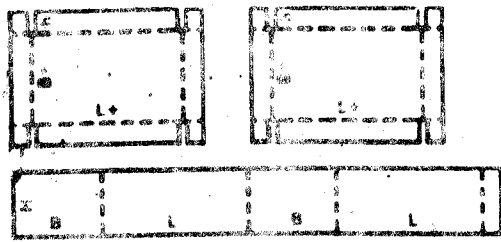
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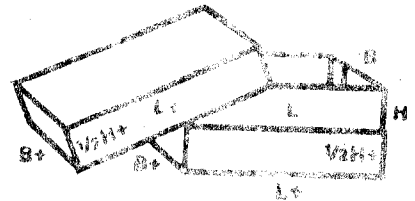
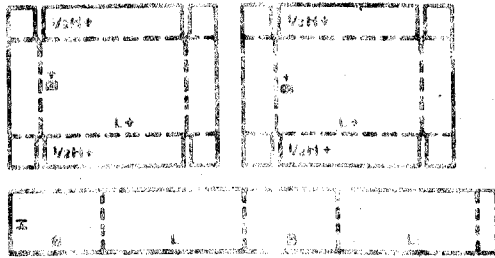
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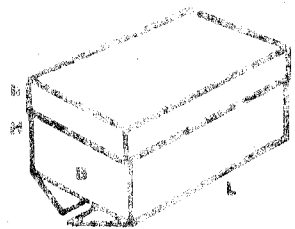
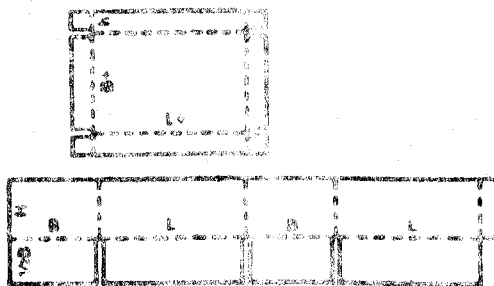
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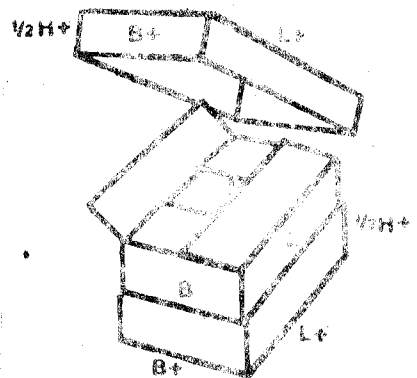
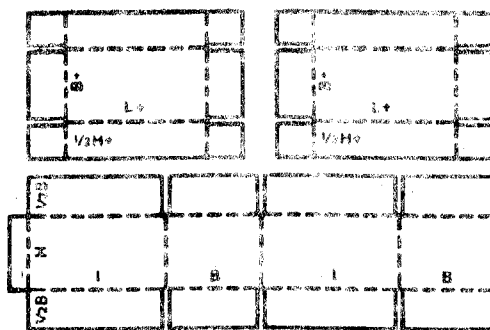
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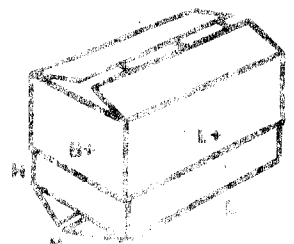
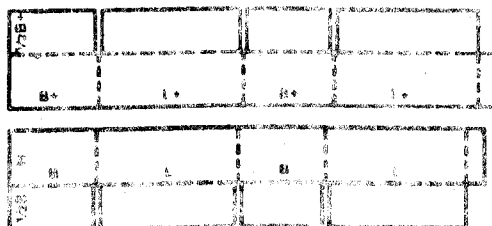
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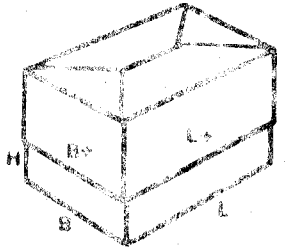
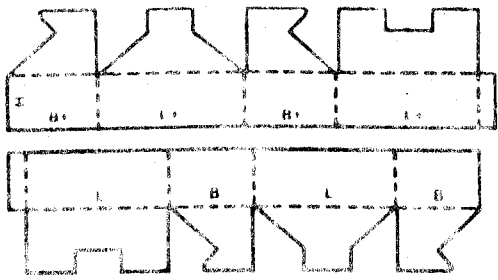
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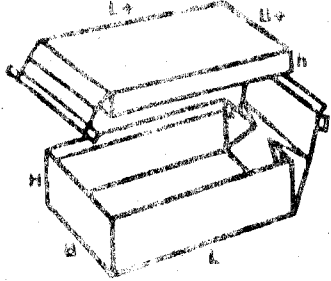
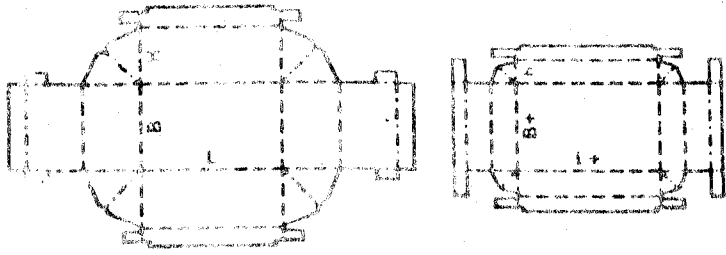
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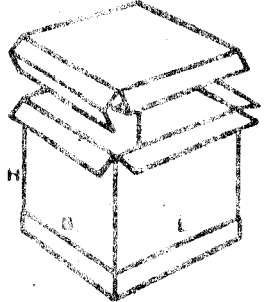
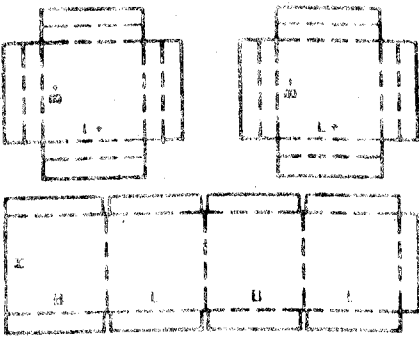
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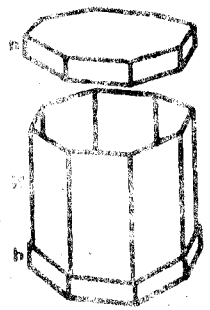
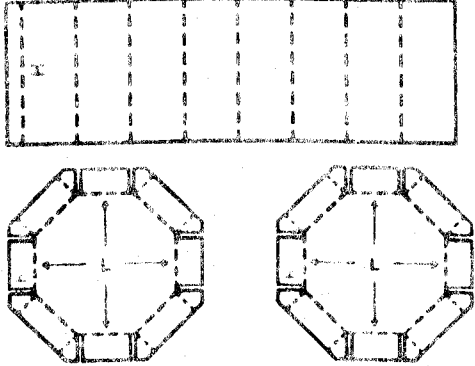
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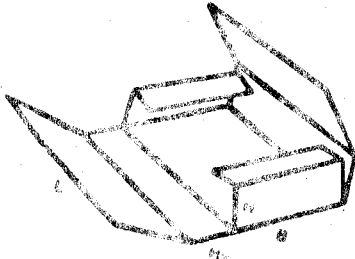
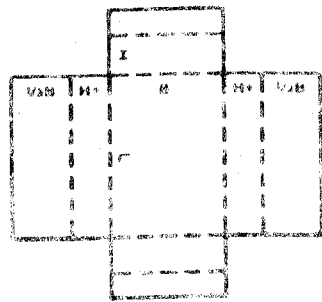
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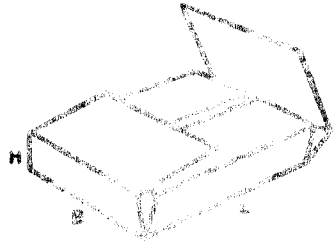
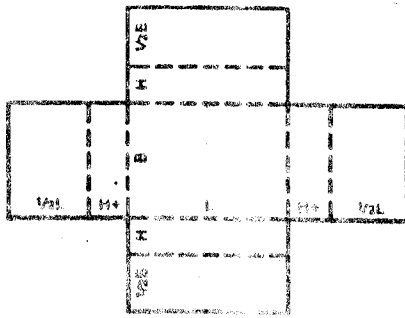
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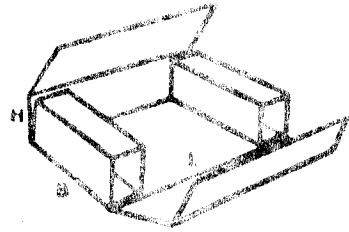
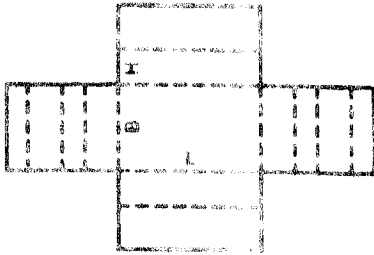
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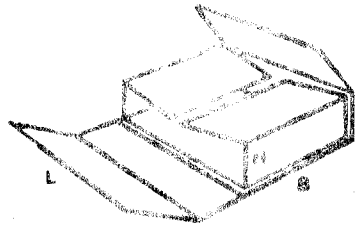
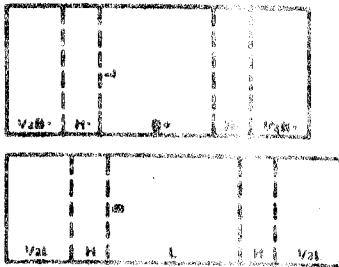
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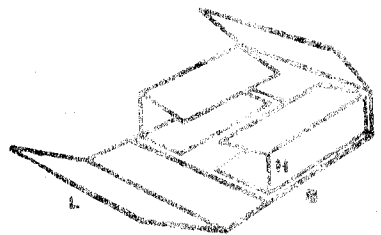
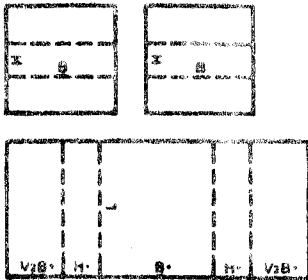
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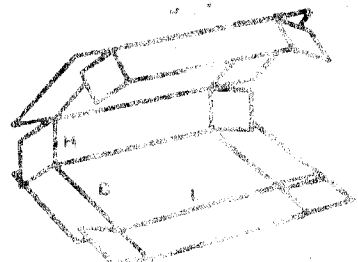
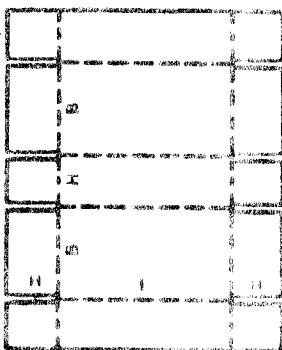
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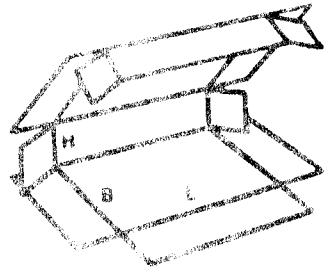
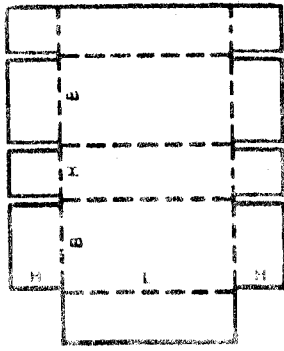
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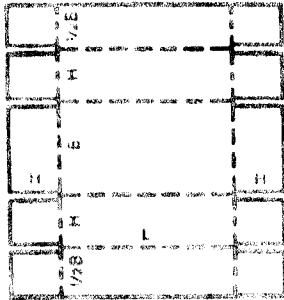
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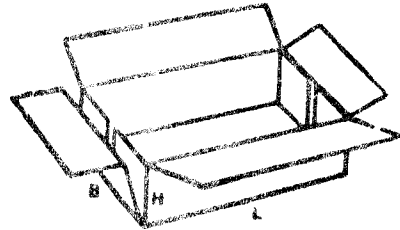
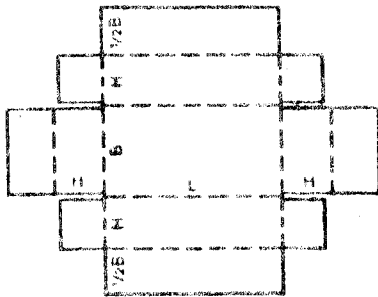
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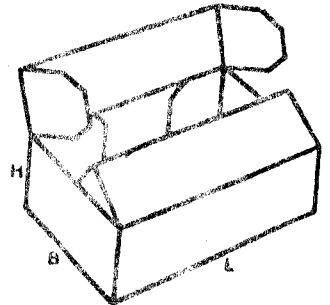
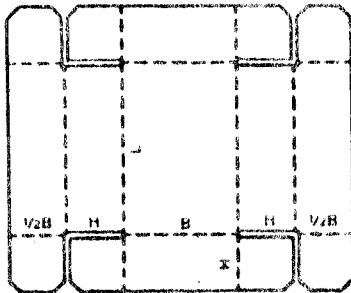
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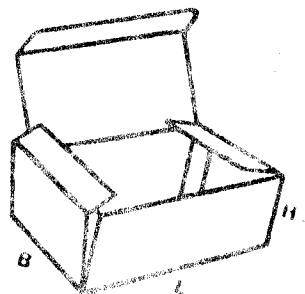
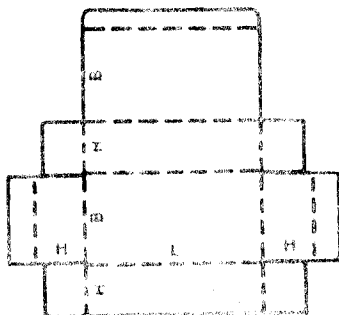
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0416

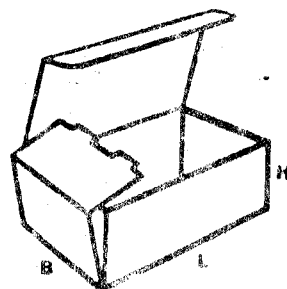
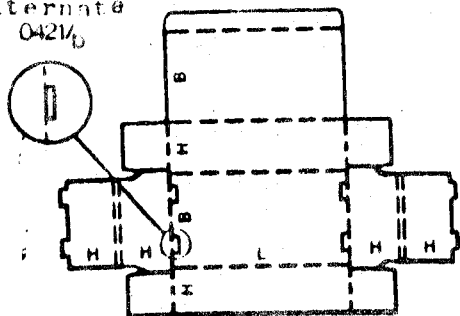


0420



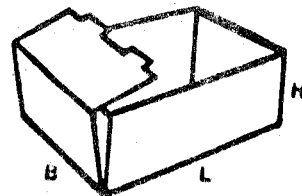
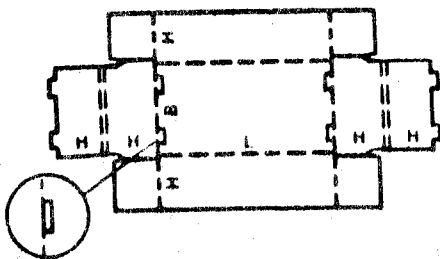
0421

Alternate
0421/b



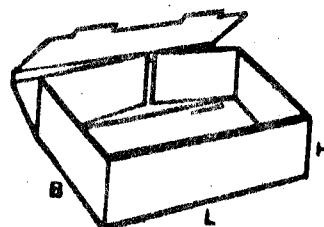
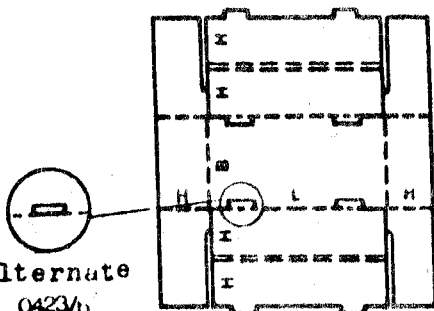
0422

Alternate
0422/b



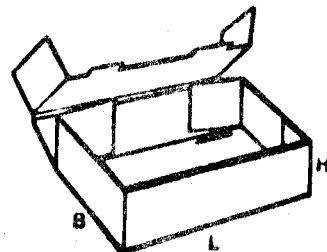
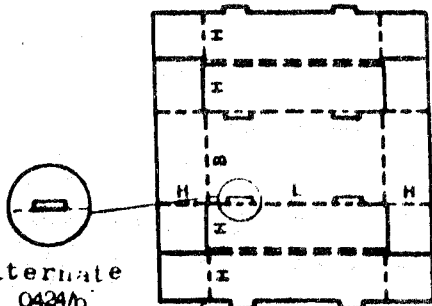
0423

Alternate
0423/b



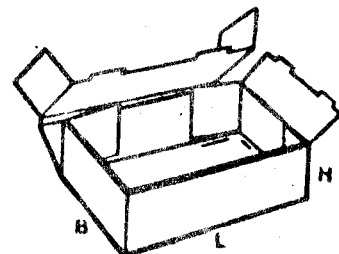
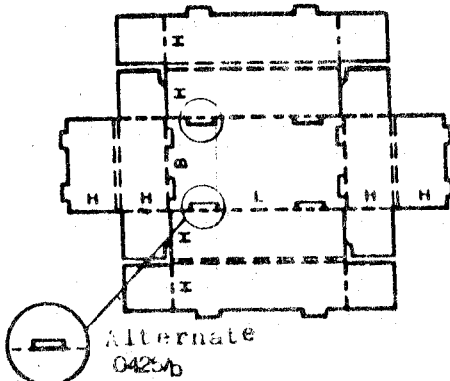
0424

Alternate
0424/b

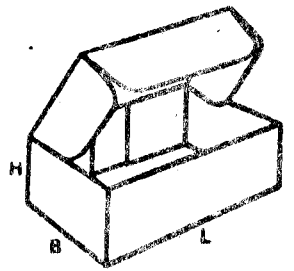
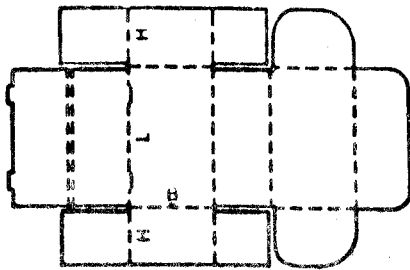


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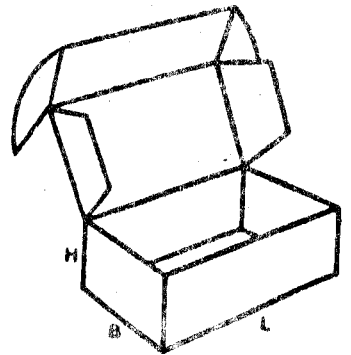
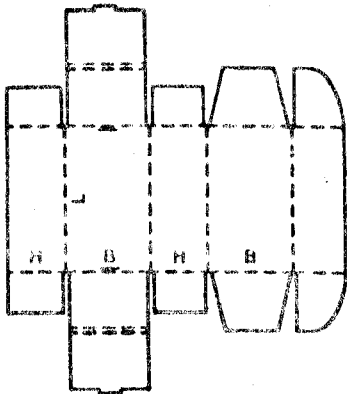
Alternate
0425/b



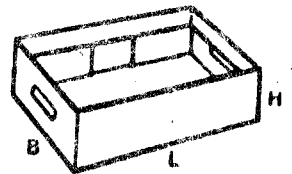
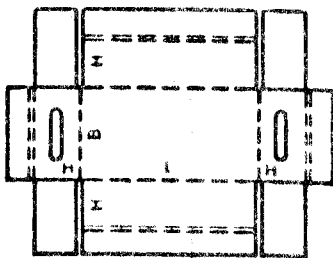
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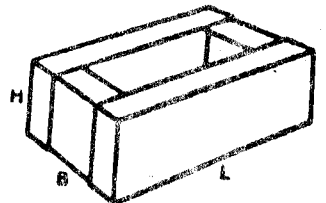
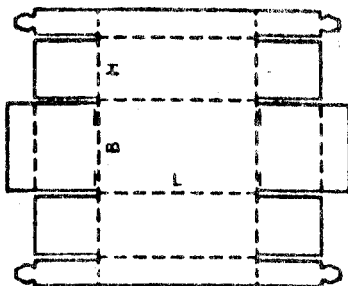
0427



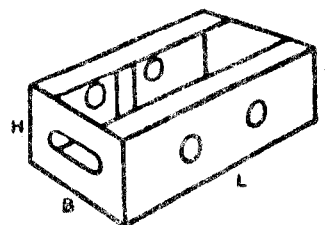
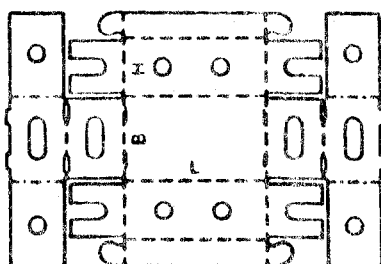
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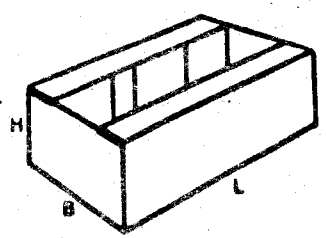
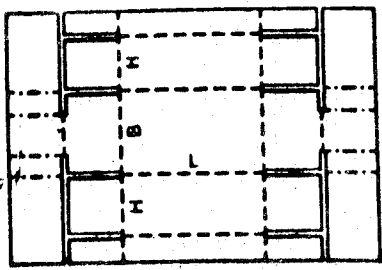
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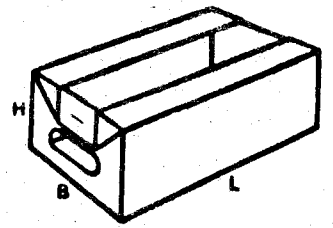
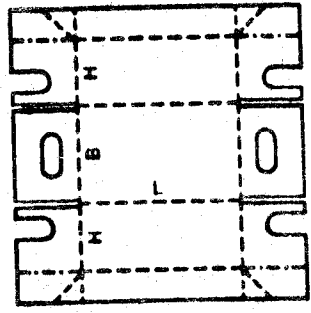
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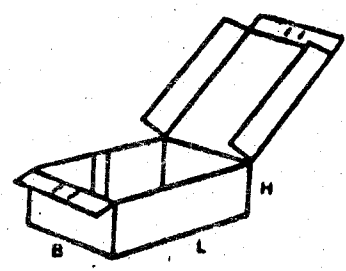
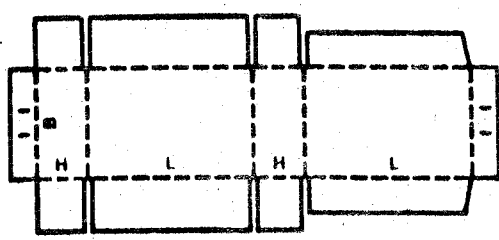
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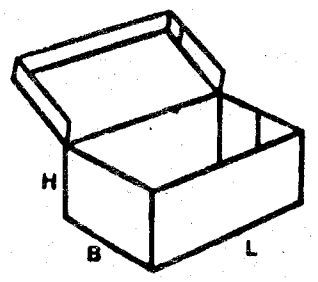
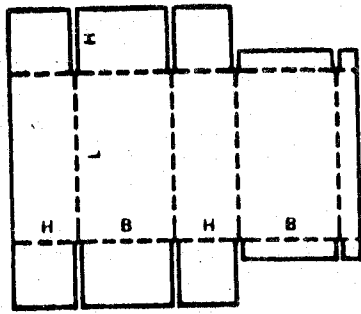
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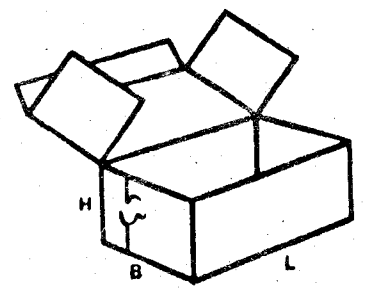
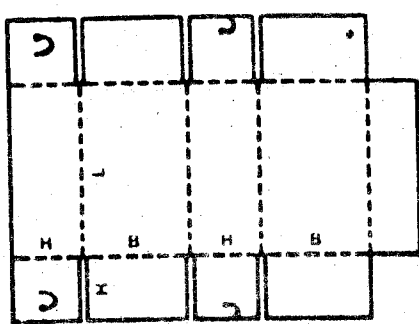
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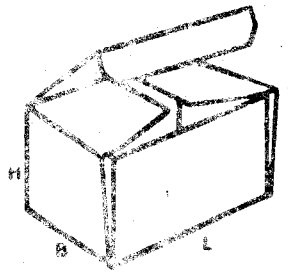
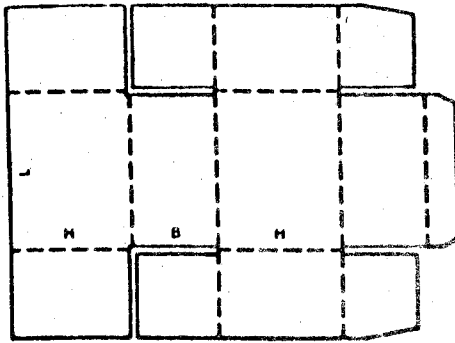
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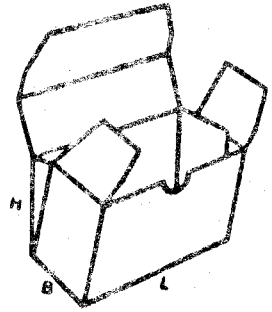
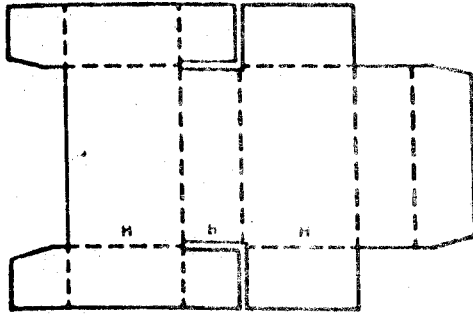
0442



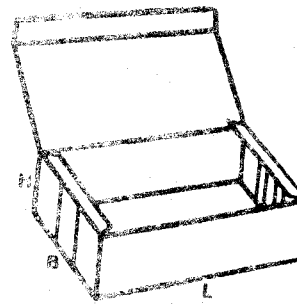
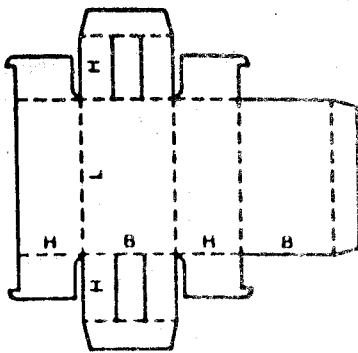
0443



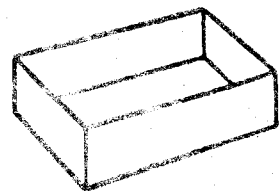
0444



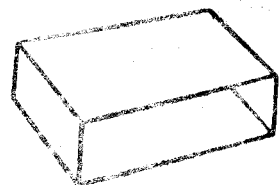
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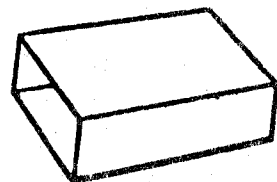
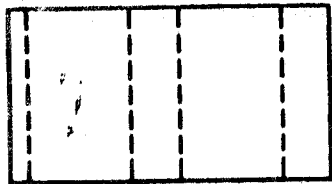
0501



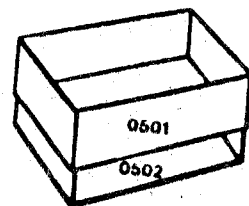
0502



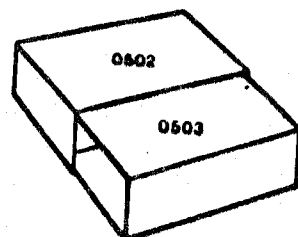
0503



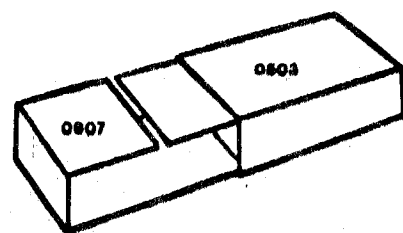
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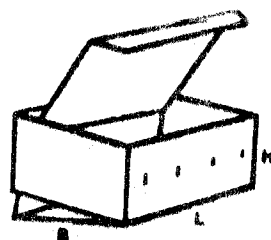
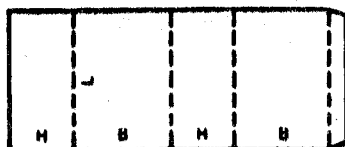
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0503



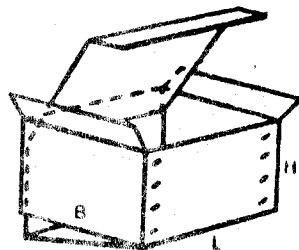
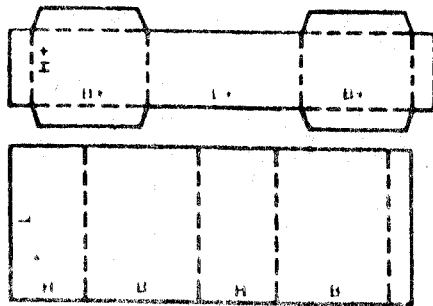
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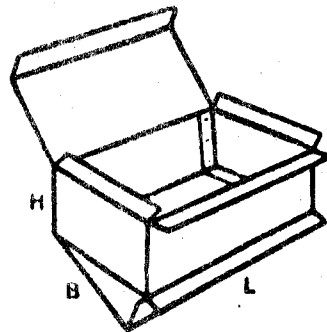
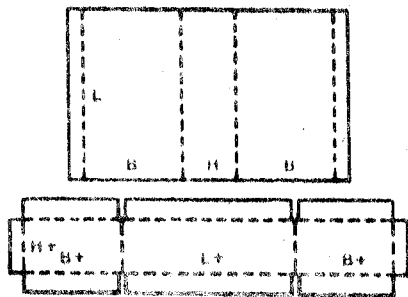
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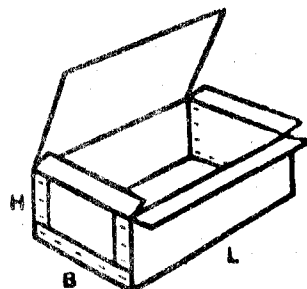
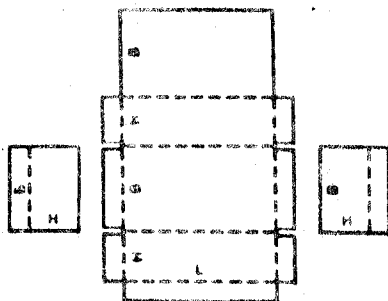
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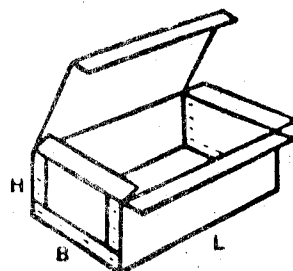
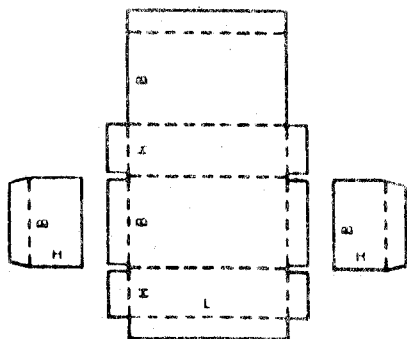
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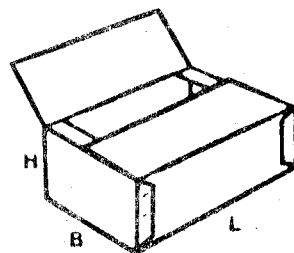
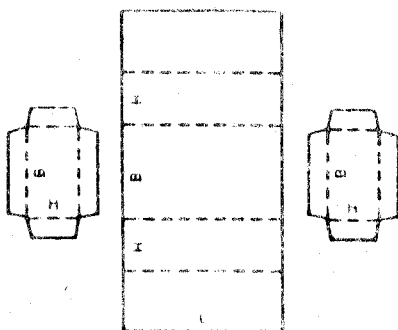
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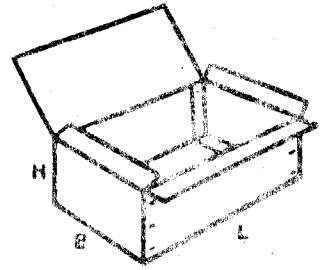
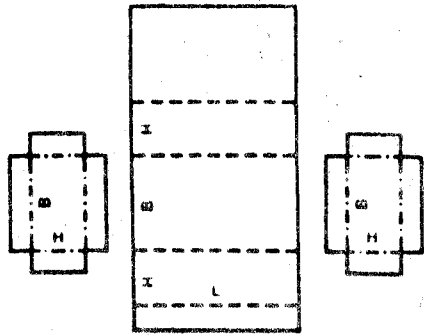
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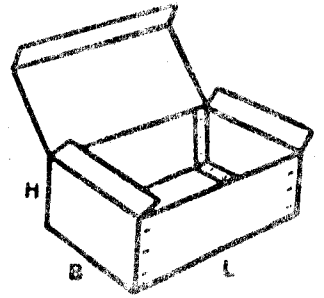
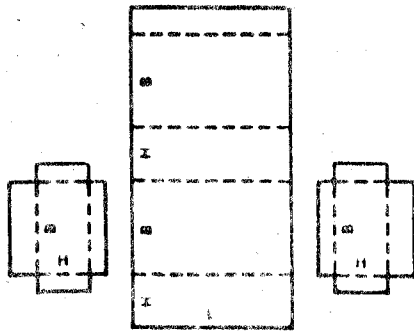
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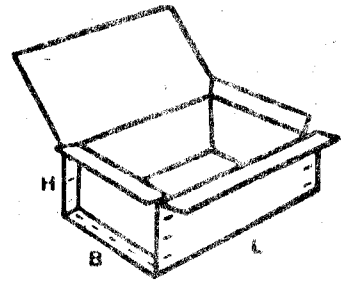
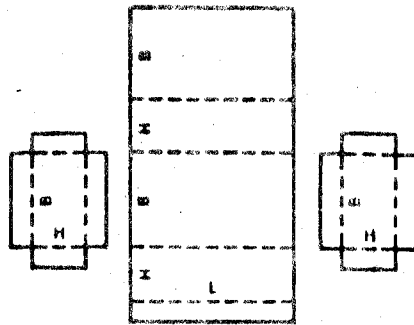
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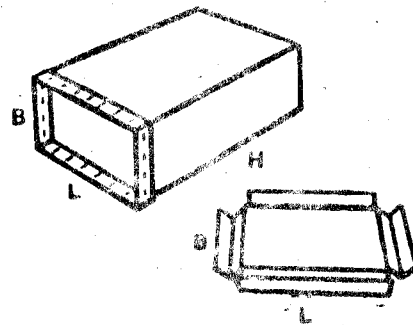
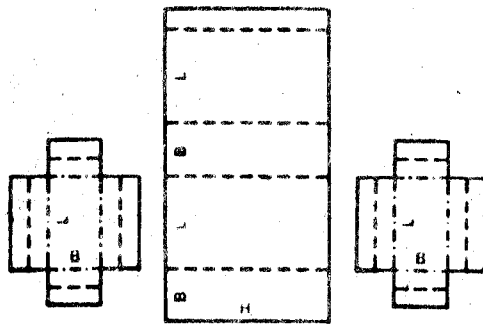
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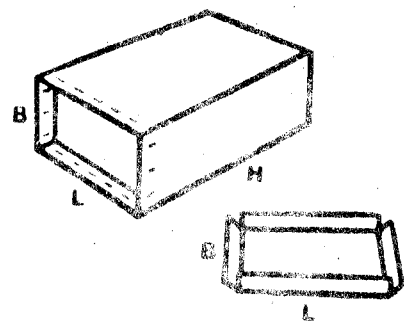
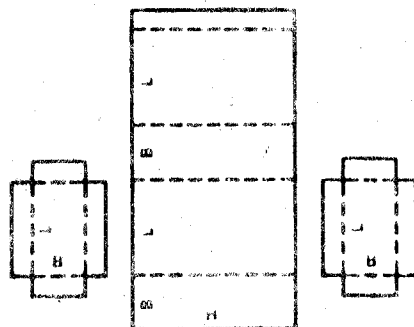
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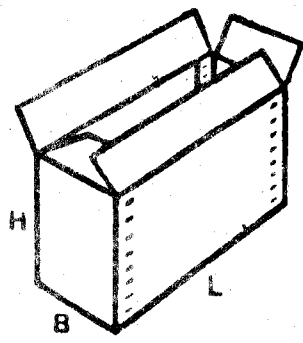
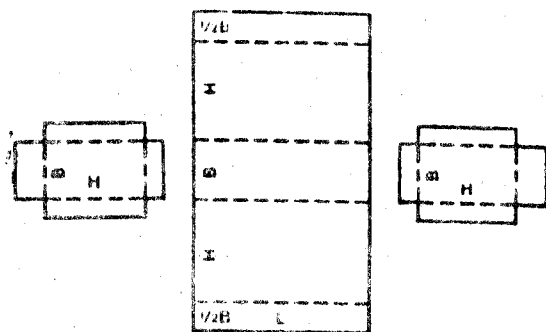
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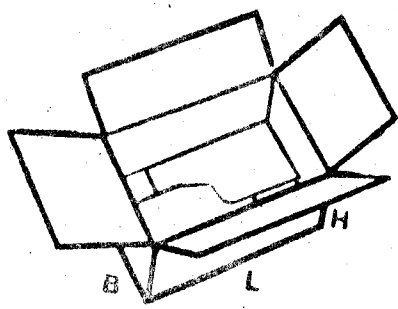
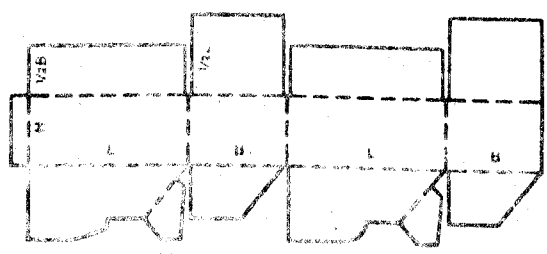
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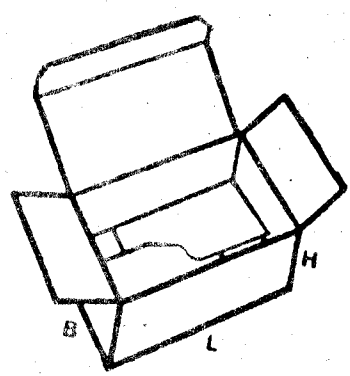
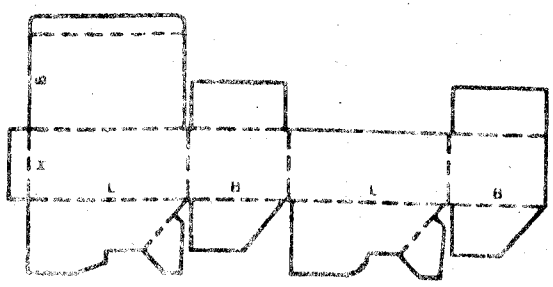
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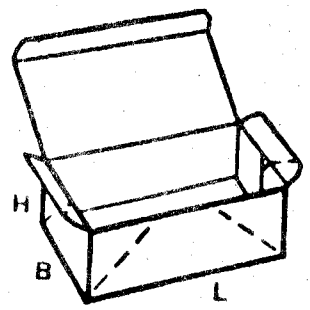
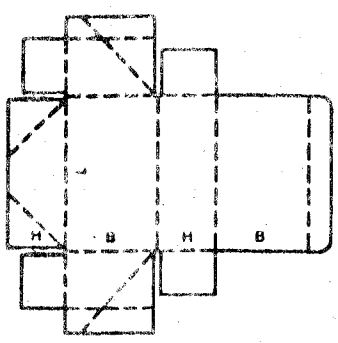
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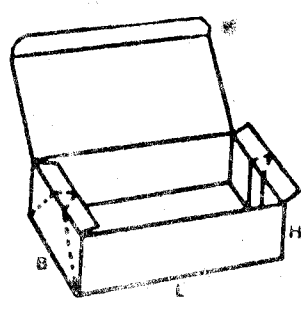
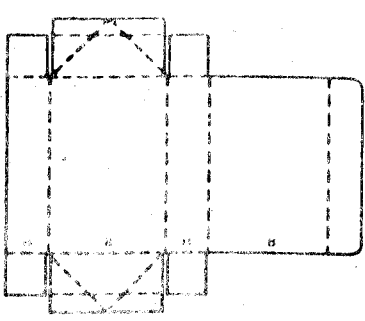
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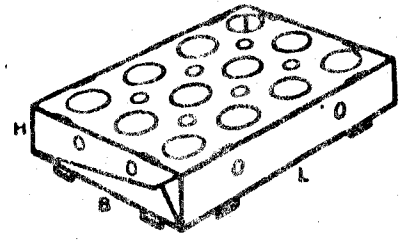
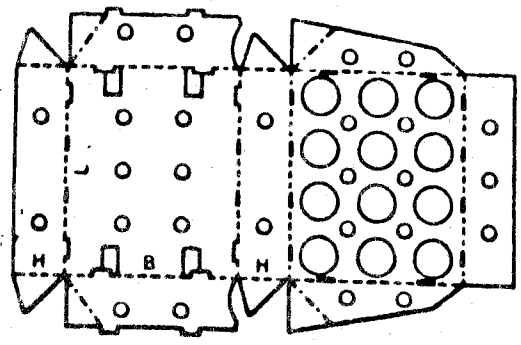
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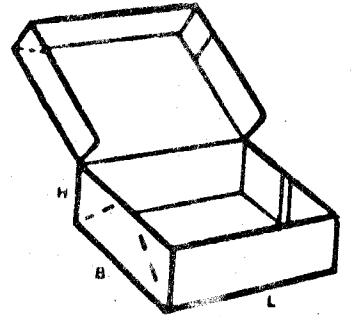
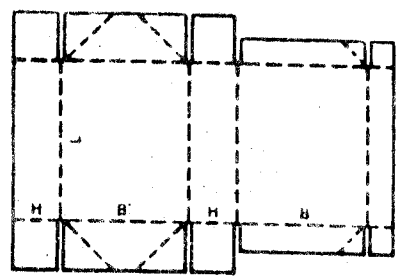
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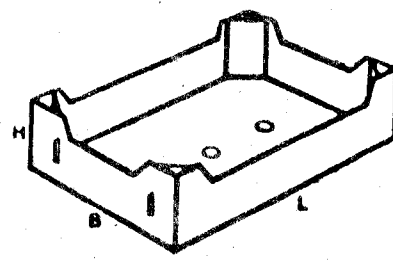
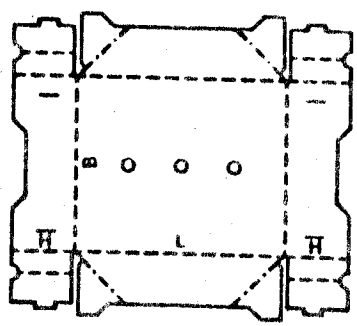
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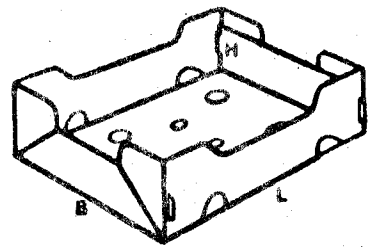
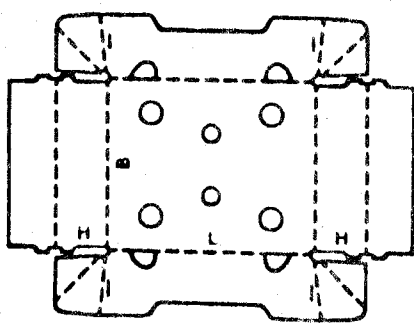
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0771

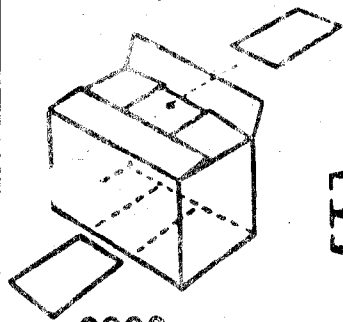


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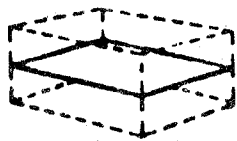


APPENDIX B

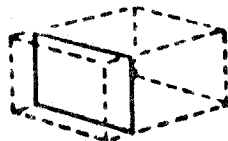
STYLES OF INTERNAL FITMENTS



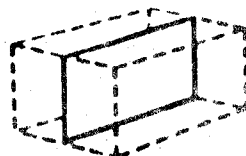
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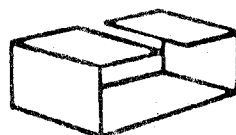
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0905



0906



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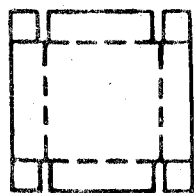
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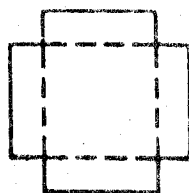
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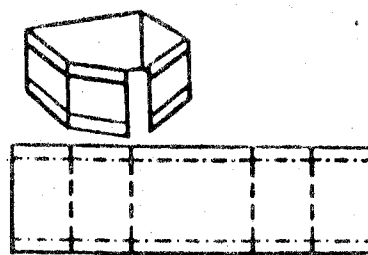
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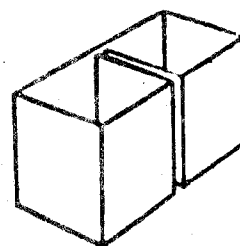
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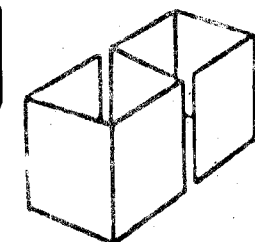
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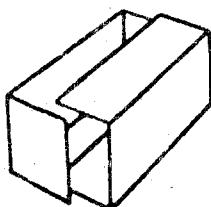
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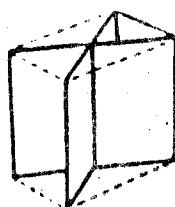
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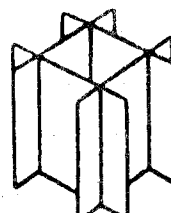
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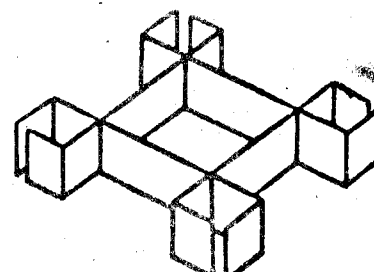
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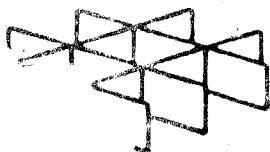
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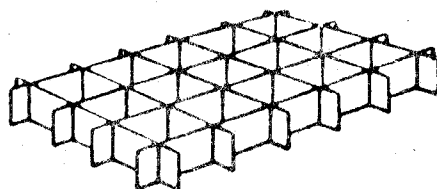
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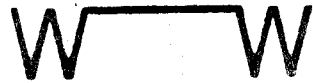
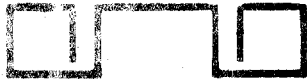
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0947

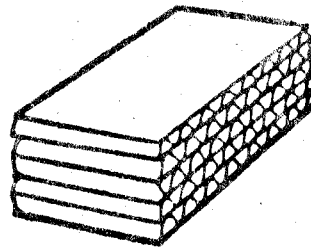
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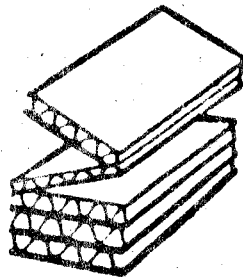
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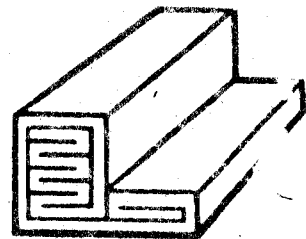
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0965



0966



0967



0951



0970



0971



0972



0973



0974



0975



0976