PPP-B-640d
July 29, 1966

SUPERSEDING
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July 7, 1964

FEDERAL SPECIFICATION

BOXES, FIBERBOARD, CORRUGATED, TRIPLE-WALL

This specification was approved by the Commissioner, Federal Supply Service, General Services Administration, for the use of all Federal agencies.

1. SCOPE AND CLASSIFICATION

1.1 Scope. This specification covers the requirements for new triple-wall, corrugated fiberboard boxes for domestic and overseas shipments.

1.2 Classification.

1.2.1 *Classes and styles.* Triple-wall, corrugated fiberboard boxes shall be furnished in the following classes, styles, and types of ends, as specified (see fig. 1 and 6.2):

Class:
- 1—Nonweather resistant.
- 2—Weather resistant.

Style:
- A—One-piece fiberboard, five-panel, with one of four types of ends, and with ends inserted in box body (see 3.4 and fig. 2).
- B—One-piece fiberboard, five-panel, with one of four types of ends, and with ends inserted with box body, overlapped on box body, overlapped on box ends (see 3.5 and fig. 3).
- C—Two-piece, fiberboard, three-panel, with one of four types of ends, and with ends inserted in box body (see 3.6 and fig. 4).
- D—Two-piece, fiberboard, three-panel, with one of four types of ends, and with ends inserted with box body overlapped on box ends (see 3.7 and fig. 5).
- E—Regular slotted box or alternate (see 3.8 and fig. 6).
- F—Full telescope box (see 3.9 and fig. 7).
- G—Half regular slotted box with short top flaps and cover (see 3.10 and fig. 8).

2. APPLICABLE DOCUMENTS

2.1 Specifications and standards. The following specifications and standards, of the issues in effect on date of invitation for bids or request for proposal, form a part of this specification to the extent specified herein.

Federal Specifications:

FF-N-105—Nails, Wire, Brads, and Staples.
PPP-B-621—Boxes, Wood, Nailed and Lock-Corner.
PPP-B-636—Box, Fiberboard.
PPP-B-638—Boxes, Liners and Sleeves, Fiberboard, Knocked-Down, Flat; Packing of.
PPP-F-320—Fiberboard; Corrugated and Solid, Sheet Stock (Container Grade), and Cut Shapes.

Federal Standard:

Fed. Std. No. 123—Marking for Domestic Shipment (Civilian Agencies).

(Activities outside the Federal Government may obtain copies of Federal Specifications, Standards, and Handbooks as outlined under General Information in the Index of Federal Specifications and Standards and at the prices indicated in the Index. The Index, which includes cumulative monthly sup-

plements as issued, is for sale on a subscription basis by the Superintendent of Documents, U. S. Government Printing Office, Washington, D. C., 20402.

(Single copies of this specification and other product specifications required by activities outside the Federal Government for bidding purposes are available without charge at the General Services Administration Regional Offices in Boston, New York, Washington, D. C., Atlanta, Chicago, Kansas City, Mo., Dallas, Denver, San Francisco, Los Angeles, and Seattle, Wash.

(Federal Government activities may obtain copies of Federal Specifications, Standards, and Handbooks and the Index of Federal Specifications and Standards from established distribution points in their agencies.)

Military Standards:

MIL-STD-105—Sampling Procedures and Tables for Inspection by Attributes.

MIL-STD-129—Marking for Shipment and Storage.

MIL-STD-731—Quality of Wood Members for Containers and Pallets.

(Copies of Military Specifications and Standards required by contractors in connection with specific procurement functions should be obtained from the procuring activity or as directed by the contracting officer.)

2.2 **Other publications.** The following documents form a part of this specification to the extent specified herein. Unless otherwise indicated, the issue in effect on date of invitation for bids shall apply.

Uniform Freight Classification.

(Application for copies should be addressed to the Uniform Classification Committee, 202 Union Station, Chicago, Ill., 60606.)

National Motor Freight Classification.

(Application for copies should be addressed to the National Motor Freight Traffic Association, Inc., 1616 P. St., N.W., Washington, D. C., 20036.)

American Society for Testing and Materials (ASTM) Standard:

D 4—Verification of Testing Machines.

(Copies may be obtained from the American Society for Testing and Materials, 1916 Race St., Philadelphia, Pa., 19103.)

Technical Association of the Pulp and Paper Industry (TAPPI) Standard:

T-803 m-50—Puncture Test of Container Board.

(Copies may be obtained from the Technical Association of the Pulp and Paper Industry, 360 Lexington Ave., New York, N.Y., 10017.)

3. REQUIREMENTS

3.1 Materials.

3.1.1 *Lumber.* The lumber used for the wood ends of box, styles A through D, shall be groups I and II woods in accordance with the provisions of MIL-STD-731.

3.1.2 *Fiberboard.* The fiberboard shall consist of three corrugated sections and four facings fabricated into a triple-wall structural material.

3.1.2.1 *Corrugating media.*

3.1.2.1.1 *Weight of medium.* The weight of material used to fabricate the corrugated medium shall be not less than 26 pounds per 1000 square feet.

3.1.2.1.2 *Flute arrangement.* The intermediate and one outer flute shall be A flute. The remaining flute may be either A, B, c C flute.

Note: A flute—36 flutes per foot plus or minus 3 flutes.
B flute—50 flutes per foot plus or minus 3 flutes.
C flute—42 flutes per foot plus or minus 3 flutes.

3.1.2.2 *Facings.* The combined weight of facings shall be not less than 264 pounds per 1000 square feet with the heaviest facings on the outside. For class 2 boxes, these outer facings shall be highly water resistant paperboard which have been treated with a suitable high grade wet strength resin.

3.1.2.3 *Caliper.* The thickness of the finished fiberboard shall be 9/16 inch (with a plus or minus 1/32 inch tolerance), when tested in accordance with 4.6.2.

3.1.2.4 *Weight of the fiberboard.* The fiberboard shall weigh not more than 430 pounds per 1000 square feet (plus 5 percent tolerance), when tested in accordance with 4.6.3.

3.1.2.5 *Puncture resistance.* The fiberboard shall have a minimum puncture test value of 1100 inch-ounces per inch of tear when tested in accordance with 4.6.4. Only one puncture reading on each specimen may fall below the allowable minimum and that reading shall be not more than 10 percent below the allowable minimum.

3.1.2.6 *Short column crush.* The short column crush strength of the fiberboard shall be not less than 178 pounds per inch when tested in accordance with 4.6.5.

3.1.3 *Adhesive.*

3.1.3.1 For class 1 boxes, the facings and corrugated media shall be securely bounded with a good grade of adhesive over the entire area of contact.

3.1.3.2 For class 2 boxes, in addition to the requirements specified in 3.1.3.1, the adhesive shall be of the waterproof type and the fiberboard shall show no ply separation greater than 1/4 inch when tested in accordance with 4.6.6.

3.2 **Dimensions.** Dimensions of the boxes furnished shall be as specified (see 6.2 and 6.3). Unless otherwise specified, the box dimensions shall be inside measurements with a tolerance of plus or minus 1/4 inch.

3.3 **Certification.** The manufacturer shall furnish the procuring activity with certification that boxes furnished under this specification meet the requirements specified herein.

3.4 **Style A boxes.**

3.4.1 *Construction.*

3.4.1.1 *Box body.* The box body shall consist of a single piece of triple-wall corrugated fiberboard so scored as to provide five panels forming the bottom, sides, and full overlapping top flaps. The amount of overlap of the outside top flap shall be not more than the inside width of the box. All scoring shall be uniform and of such depth and width as to prevent surface breaks in the board when folded 90° along the score line.

3.4.1.2 *Wood ends.* The ends shall be made of wood in accordance with the requirements of MIL-STD-731, group I or II, and shall be fabricated in accordance with PPP-B-621 except for cleat sizes specified herein. Unless otherwise specified, the ends shall be any selected design described in 3.4.1.2.1 through 3.4.1.2.4 at the supplier's option.

3.4.1.2.1 *(No. 1 end).* A single piece of nominal 2-inch material.

3.4.1.2.2 *(No. 2 end).* Two thicknesses of nominal 1-inch material with the grain direction at right angles, the two thicknesses securely joined by clinched nailing. The ends shall be comprised of no pieces less than 2-1/2 inches in width.

3.4.1.2.3 *(No. 3 end).* Nominal 1-inch material with a nominal 1-inch thick cleat minimum width of 2-1/4 inches, securely joined by clinched nailing.

3.4.1.2.4 *(No. 4 end).* Cleated panel ends consisting of two sets of overlapped cleats with a panel of triple-wall, corrugated fiberboard. The cleats shall be nominal 1-inch thick, 2-1/4 inches wide, and shall be assembled with clinched nailing. The fiberboard shall be fastened to the inside of the cleats by either method as specified in 3.4.2.1 or 3.4.2.2.

3.4.1.2.5 Ends without cleats shall be inserted into the box body so that the outer face of the end is flush with the edge of the body end. Cleated ends shall be inserted so that the cleats are on the outside surface of the ends. When practical to do so, the corrugations of the triple-wall fiber-

board shall be crushed on each end edge of the body in the area joining the ends. The box body shall be joined to the edges of the ends with metal fasteners (see 3.4.2). The area where fasteners are driven must be crushed to prevent rupture of outer fiberboard face (see fig. 2).

3.4.2 *Fabrication.* The fiberboard shall be fastened to the ends by either of the following methods:

3.4.2.1 With zinc-coated steel roofing nails not less than 1-1/4 inches long, 0.1483 inch diameter, and with not less than 1/2-inch diameter heads as specified in FF-N-105. Spacing of the nails shall be as shown in figure 10.

3.4.2.2 With double pointed staples driven in either power or mallet operated machines with chisel, chisel divergent, or divergent points and the following minimum dimensions: 14 gauge wire, 3/4-inch outside diameter crown, and 1-1/4-inch leg length. The staples shall have a commercially applied coating or plating such as a zinc coat (galvanized) or copper wash. Spacing of staples shall be as shown in figure 10.

3.5 Style B boxes.

3.5.1 *Construction.*

3.5.1.1 *Box body.* The box body shall be as specified in 3.4.1.1 and shall be scored in accordance with figure 3 to allow 2 inches of the outer top flap, bottom, and side panels to overlap the outside faces of box ends. Each edge score shall be slotted the width of the overlap, and corrugations of the fiberboard shall be crushed on each edge of the body contacting the faces of the box ends.

3.5.1.2 *Wood ends.* The ends shall be one of the designs specified in 3.4.1.2.

3.5.1.2.1 The ends shall be inserted into the box body so that 2 inches of the outer top flap, bottom, and side panels overlap the outside faces of the ends (see fig. 3).

3.5.2 *Fabrication.* Fabrication shall be as specified in 3.4.2.

3.6 Style C boxes.

3.6.1 *Construction.*

3.6.1.1 *Box body.* The box body shall consist of 2 pieces of triple-wall corrugated fiberboard, each scored to form a top (or bottom) face and two sides. The 2 pieces shall be assembled to form a body with double-thickness sides (see fig. 4). All scoring shall be uniform and of such depth and width as to prevent surface breaks in the board when folded 90° along the score line. Scores on the bottom section of the body shall be located to provide close fitting joints on the wood ends. Scores on the top section shall be located to provide a snug fit over the side walls of the box.

3.6.1.2 *Wood ends.* The ends shall be one of the designs specified in 3.4.1.2.

3.6.1.2.1 The ends shall be inserted into the box body as specified in 3.4.1.2.5 (see fig. 4).

3.6.2 *Fabrication.* Fabrication shall be as specified in 3.4.2.

3.7 Style D boxes.

3.7.1 *Construction.*

3.7.1.1 *Box body.* The box body shall consist of two pieces of triple-wall corrugated fiberboard (top and bottom). The 2 pieces shall be scored in accordance with figure 5 to allow 2 inches of the ends of the top flap, bottom, and bottom side panels to overlap the outside faces of the box ends. Each edge score shall be slotted the width of the overlap and corrugations of the fiberboard shall be crushed on each edge of the body contacting the faces of the box ends. There shall be no surface breaks in the board when folded 90° along the score line.

3.7.1.2 *Wood ends.* The ends shall be one of the designs as specified in 3.4.1.2.

3.7.1.2.1 The ends shall be inserted into the box body as specified in 3.5.1.2.1 except that the bottom and sides of the lower one-half of the box and only the top panel of the upper one-half of the box shall overlap onto the outside faces of the ends (see fig. 5).

3.7.2 *Fabrication.* Fabrication shall be as specified in 3.4.2.

3.8 Style E boxes.

3.8.1 *Construction.* Construction shall be in accordance with figure 6 (regular slotted container). This box shall be one piece of triple-wall corrugated fiberboard scored and slotted, (slots shall have a minimum width of 3/8 inch), to form a body piece having four flaps for closing each of two opposite faces. The flaps along the longer edge are the outer flaps, and those along the shorter edge are the inner flaps. Flaps shall not project beyond the edge of the box. All length flaps shall be equal in length, and all width flaps shall be equal in length. The outer flaps shall not overlap when closed nor have a gap to exceed 1/4 inch. The body joint flap shall be not less than 2 inches wide, and both the strip and the overlapped portion of the box body shall be completely crushed prior to stapling. The box may be constructed from two sheets of triple-wall corrugated fiberboard only when the board manufacturer's machinery is incapable of producing sheets of a size suitable for single sheet construction. When two piece construction is utilized, the two body joints shall be on diagonally opposite edges. The metal staples shall be placed approximately on a 45° angle across the strip and shall be placed not more than 1 inch apart; the 1-inch measurement shall be from the lower tip of one staple to the top tip of the staple directly below. The first and last staple shall be placed 1/2 ± 1/8 inch from the end of the flap. The wire for staples (preformed or machine stitches) shall be flat, minimum size 0.103 inch wide by 0.020 inch thick. Tolerance on the width shall be plus 0.002 or minus 0.008 inch. Tolerance on the thickness shall be plus 0.001 inch. The crown size of the staples or stitch shall be 1/2 inch with a tolerance of plus or minus 1/8 inch. The wire shall have a commercially applied coating or plating such as a zinc coat (galvanized) or copper wash. The direction of the flutes shall be vertical in the sides and ends of the box. There shall be no surface breaks in the board when folded 180° along the score line parallel to the flute direction and 90°along the score line perpendicular to the flute direction.

3.8.1.1 *Alternate construction.*

3.8.1.1.1 When specified, style E boxes shall be furnished with a 1-1/2-inch overlap on the outside top and bottom box flaps. The overlapped areas of the flaps shall be crushed (see fig. 6).

3.8.1.1.2 When specified, the score lines of the inner flaps of style E boxes shall be offset, a distance of the thickness of the board, from the score lines of the outer flaps.

3.8.1.1.3 When specified, all flaps shall be crushed adjacent to the score line approximately 2-1/2 inches wide along the entire length of the flap to facilitate closure of the box flap.

3.9 Style F boxes.

3.9.1 *Construction.* Construction shall be in accordance with figure 7 (full telescope container). The box shall consist of a body and a cover, each being one piece of slotted and scored triple-wall corrugated fiberboard. The inside depth of the cover shall be the overall depth of the body. When set up, the flaps shall not overlap and shall be fastened to the side walls of the box with staples. Preformed staples shall be wide crown (1-1/4-inch minimum outside diameter) made of wire 0.088 inch minimum width by 0.0545 inch minimum thickness with leg approximately 1-1/2 inches. Machine formed stitches shall be made of flat wire, minimum size 0.103 inch wide by 0.020 inch thick. Tolerances on width shall

be plus 0.002 or minus 0.008 inch. Tolerance on the thickness shall be plus 0.001 inch. Crown width shall be minimum 5/8 inch and leg length approximately 1-1/4 inches. The arrangement of the staples shall be as shown in figure 7, and each flap shall have not less than 4 staples. The staples shall be not more than 1-1/2 nor less than 1 inch from the free edges of the flaps. The spacing of the staples around the edge of each flap shall be not more than 5 inches from the center of one staple to the center of the next staple. Additional staples shall be added to the area within the boundaries outlined by the edge staples. The number of additional staples shall be sufficient so that no area having a diameter greater than 4 inches is without a staple. There shall be no surface breaks in the board when folded 90° along the score line.

3.10 Style G boxes.

3.10.1 *Construction.* Construction shall be in accordance with figure 8. This is a two-piece triple-wall corrugated fiberboard box consisting of a half slotted container body with top flaps four inches long and a separate flanged cover. Staples (preformed or machine stitched) for the box body shall meet the dimensional requirements of 3.8.1, and for the cover shall meet the dimensional requirements of 3.9.1. The cover shall be at least six inches deep. The direction of the flutes shall be vertical in the sides and ends of the box. There shall be no surface breaks in the board when folded 180° along the score line parallel to the flute direction, and 90° along the score line perpendicular to the flute direction.

3.10.1.1 *Alternate construction.*

3.10.1.1.1 When specified, style G boxes shall be furnished with a 1-1/2 inch overlap on the bottom box flaps. The overlapped areas of the flaps shall be crushed as shown for a style E box (see fig. 6).

3.10.1.1.2 When specified, offset scoring shall be in accordance with 3.8.1.1.2.

3.10.1.1.3 When specified, crushing of flaps shall be in accordance with 3.8.1.1.3.

3.10.1.1.4 When specified, double-wall fiberboard covered by PPP-F-320 shall be used in construction of covers for class 1, style G boxes.

3.10.2 Unless otherwise specified, style G boxes shall be furnished without pallet bases. When pallet bases are required, the size and style, including material requirements, placement, and size of skids, etc. shall be specified in the contract or order. When specified, the cover shall have double thickness of end flaps or possess interlocking features. When specified, sleeves and interior pads made of triple-wall fiberboard shall be furnished with each box.

3.11 Carriers freight classification. The boxes shall comply with the provisions of Rule 41 of the Uniform Freight Classification and Rule 5 of the National Motor Freight Classification when they are to be used for commodities covered by these classifications and transported by carriers operating under these rules. When container sizes exceed the limitations of the carrier classification (see 6.3), a special package permit shall be obtained.

3.11.1 *Conflict.* If there is a conflict between this specification and the provisions of carrier's freight classification rules, the contractor or manufacturer shall notify the procuring activity, in writing, of the conflict and shall obtain instructions before proceeding with the manufacture of the boxes.

3.11.2 *Boxmaker's certificate.* Each box shall bear the applicable certificate of the boxmaker in compliance with the requirements of carrier's freight classification rules. When special package permits are obtained, the boxmaker's certificate shall bear the package and permit numbers.

3.12 Additional marking.

3.12.1 Additional marking in 3/8 inch boldface print identifying the class of box,

and that it complies with the requirements of this specification, shall be placed under the boxmaker's certificate as follows:

MEETS CLASS *
PPP-B-640d

* Class 1 or 2 as applicable.

3.12.2 Unless otherwise specified, (all boxes of one cubic foot or over) the length, width, and depth outside dimensions of the box in inches, the cube of the box to the nearest 0.1 cubic foot based on the outside dimensions, and the abbreviation weignt (wt.) with a blank following shall be imprinted on the boxes in 1/2 inch boldface print as follows:

L x W x D
** CU.FT.
WT._____

** Applicable cube to nearest 0.1 cu. ft.

These markings shall be placed in a corner of one side panel of styles A, B, C, D, and E boxes, in a corner of the top panel of cover of a style F box, and either in a lower corner of one side panel or in a corner of top panel of cover of a style C box, whichever is required to insure visibility of these markings when box is assembled.

3.13 Workmanship. Boxes manufactured in accordance with the requirements of this specification shall be free from imperfections that may affect their utility. The component parts shall be accurately formed so that the assembled box parts fit closely without undue binding.

3.14 When boxes are furnished as filled containers, the closure, strapping, and sealing of the boxes shall be in accordance with the appendix to this specification.

4. QUALITY ASSURANCE PROVISIONS

4.1 The supplier is responsible for the performance of all inspection requirements as specified herein. Except as otherwise specified, the supplier may utilize his own or any other inspection facilities and services acceptable to the Government. Inspection records of the examination and tests shall be kept complete and available to the Government as specified in the contract or order. The Government reserves the right to perform any of the inspections set forth in the specification where such inspections are deemed necessary to assure that supplies and services conform to prescribed requirements.

4.2 Inspection of materials and components. In accordance with 4.1, the supplier is responsible for insuring that materials and components used were manufactured, tested, and inspected in accordance with the requirements of referenced subsidiary specifications and standards to the extent specified, or, if none, in accordance with this specification. In the event of conflict, this specification shall govern.

4.3 Classification of tests. The inspection and testing of the boxes shall be classified as acceptance tests and shall consist of all tests specified in 4.5 and 4.6.

4.4 Sampling for inspection and acceptance. Sampling for inspection and acceptance shall be performed in accordance with the provisions set forth in MIL-STD-105, except where otherwise indicated. For purposes of sampling, an inspection lot for examination and tests shall consist of all material of the same class, style, and type of ends submitted for delivery at one time. When multiple sizes of any one class, style, and type of

ends are specified, the inspection lot may consist of all sizes presented at one time, in which case sampling shall be in proportion or ratio to the respective sizes in the lot. The acceptable quality level (AQL) shall be applicable to the entire lot regardless of defects as they may occur in any one or more size of box.

4.5 Inspection of the end item.

4.5.1 *Examination of the end item.* Examination of the end item shall be made in accordance with the classification of defects, inspection levels, and AQL's set forth following. The lot size, for purpose of determining the sample size in accordance with MIL-STD-105, shall be expressed in units of boxes for examinations in 4.5.1.1 and 4.5.1.2. For examination in 4.5.1.3, the lot size shall be expressed in units of shipping containers.

4.5.1.1 *Examination of the end item for defects in material, construction, appearance, and workmanship.* The sample unit for this examination shall be one completely fabricated box, knocked down, partly assembled, or completely assembled, as applicable, with sleeves, pads, or liners, when required.

Examine	Defect
Material	Any component or material not type, species, or class specified.
	Any component missing or malformed.
	Weight of corrugating medium less than specified.
Construction and appearance	Any detail or feature of fabrication or construction not as specified and shown in drawings; flaps not full overlapping, regular slotted, overlapped, and crushed as applicable; any member or members not crushed where specified.
Wood ends and cleats	Any fracture or split.
	Slope of grain exceeds 1 inch in 10 lengths.
	Loose, split, or unsound knot.
	Knothole.
	Through check or shake more than width of cleat in length.
	Wane on more than one edge of cleat.
Wood ends and cleats (cont'd)	Wane in excess of 3/4 the thickness, 1/6 the width, and 1/3 the length of the cleat.
	Decay or rot; evidence of brashness. *Note*: Evidence of decay, rot, or brashness shall be determined by the pick test, using a pen knife or chisel. If the wood fiber can be dislodged presenting a punky or powdery form, one or more of the conditions described is present.
	Insect or larvae channels.
	Cleat not a single piece of wood.
	Wood end not single piece of nominal 2 inch material or two pieces of nominal 1 inch material; 2 piece end not constructed with the grain direction of pieces at right angles to each other.
Fiberboard	Fluting arrangement other than AAA, AAB, or AAC.
	Torn, split, or punctured; scuff extending through 1 ply; slight scuff covering an area greater than 8 square inches; ply separation in excess of 1/4 inch from the edge of the material.
	Styles A and B not 1 piece construction.
	Styles C and D not 2 piece construction (1 piece each top and bottom face and sides).
	Style E not 1 piece construction. *Note*: Unusually large boxes may be 2 piece construction, with body joints on diagonally opposite edges.
	Styles F and G not 1 piece body and 1 piece cover construction.
	Any metal fastener cracked, rusted, malformed, not compensated for by additional fastener.
Workmanship	Nailing, corrugated fastener, or stapling of wood ends, wood cleats, and fiberboard not accomplished in a uniform and secure manner; less than the specified number of nails, corrugated fasteners, or staples.
	Metal fastener not driven through fiberboard media (when required).
	Any protruding nail head, corrugated fastener, or staple; nail or staples not clinched flush or below the surface of the wood or fiberboard; clinching less than 1/8 inch. Nails of insufficient length to allow for clinching in assembly of cleated panels.

Examine	Defect
Scoring and score lines for	Scoring not uniform and of sufficient depth to effect fold without distortion.
	Surface breaks in score lines of all styles of boxes when folded 90° (either parallel or perpendicular to the flute direction).
	Surface breaks in score lines of styles E and G boxes when folded 180° (parallel to the flute direction).
	Note: Surface break is defined as a rupture of the outer facing exposing the first corrugating medium or a continuous separation of the outer fibers for a distance exceeding 1/2 the length of the score line.
Style A	Fiberboard not fastened to the inside of the cleats as specified.
Styles A and C	Outer face of panel end not flush with edge of body ends; fiberboard media not crushed at area where metal fasteners are located.
Style B	Fiberboard media does not overlap panel ends 2 inches on sides, bottom, and outer top flap; edge score not slotted the width of the overlap; fiberboard media not crushed at area where metal fasteners are located.
Style D	Fiberboard media does not overlap panel ends 2 inches on sides and bottom; top of box does not overlap onto the outside faces of the box ends.
Style E	Flaps project beyond edge of the box; distance between outer flaps more than 1/4 inch when closed; body joints not located along one of the edges of the box and is less than 2 inches wide; flaps not of equal length; fiberboard media not crushed at areas of metal fasteners; metal fasteners not properly located; direction of fluting not vertical in sides and ends of box.
	Not furnished with 1-1/2 inch overlap on the outside top and bottom flaps; when specified, overlap areas of the flaps not crushed.
	Score lines of inner flaps not offset a distance of the thickness of the board from score lines of the outer flap, when specified.
	Ends of flaps score line not crushed over the area specified.
Style F	Inside depth of cover not sufficient to come flush with depth of box body; arrangement and kind of staples not as specified.
Style G	Bottom flaps do not meet or overlap; overlap not crushed along area of overlap; direction of the fluting not vertical in the sides and ends; arrangement of staples not as specified; cover less than six inches deep.
	Overlap on the bottom box flap not 1-1/2 inches when specified; overlapped areas of the flaps not crushed.
	Score line of inner flaps not offset a distance of the thickness of the board from the score line of the outer flap, when specified.
	Ends of the flap score line not crushed over the area specified.
General	Any construction or fabrication feature not in true alignment; assembled box and cover do not fit closely without binding.
	Metal fasteners (nails, corrugated fasteners, and staples) not coated or treated as specified.
	Spacing of metal fasteners not as specified.
	Sleeves and interior pads, when applicable, not material and size specified.
	Not clean.
Marking	Boxmaker's certificate and additional marking required, missing, incomplete, incorrect, or illegible (see 3.11.2, 3.12.1 and 3.12.2.)

4.5.1.2 *Examination of the end item for dimensional defects.* The sample unit for this examination shall be one completely fabricated box, knocked down, partially assembled, or completely assembled, as applicable.

Examine	Defect
Wood cleats	Not width and thickness specified.
Metal fasteners	Less than length and diameter specified.
Box (overall inside dimensions)	Not within tolerances specified.
Flaps, lap joints	Less than width specified.

4.5.1.3 *Examination of preparation for delivery.* An examination shall be made to determine compliance with packing and marking requirement of section 5 and contract, as applicable. Examination shall be performed as specified in PPP-B-638.

4.5.1.4 *Inspection levels and AQLs for examination.* The inspection levels for the purpose of determining the sample size, and the AQL's expressed in defects per 100 units, shall be as follows:

Examination paragraph	Inspection level	AQL
4.5.1.1	I	6.5
4.5.1.2	S-3	4.0

4.5.2 *Acceptance testing of the end item.* Tests shall be performed for the characteristic requirements as indicated in table I, on samples randomly selected from each lot of boxes offered for acceptance. The sample unit shall be one box. Failure to meet unit or average requirements, as applicable, shall be cause for rejection of the lot. The lot size shall be expressed in units of boxes. The inspection level for determining the sample size, and the AQL's expressed as defects per 100 units, shall be as indicated in table I.

4.6 Text procedures.

4.6.1 *Controlled atmosphere.* When specified, specimens shall be conditioned and tests conducted in an atmosphere maintained at 73° ± 3.5°F. and 50 ± 2 percent relative humidity.

4.6.2 *Caliper.* The equivalent of one square foot shall be cut from sound, undamaged, and unprinted portions of the sidewalls of each box tested. The specimens shall be conditioned in an atmosphere as described in 4.6.1 for a period of at least 24 hours. The thickness or caliper shall then be measured with a micrometer to the nearest 1/32 inch in not less than three places on each specimen. These shall be averaged to determine the caliper of the specimen.

TABLE I. *Instructions for testing (sample unit)*

Characteristic	Spec. Reference		Rqmts. appl. to		Number[1] determinations per sample unit	Results reported as		Inspection level	AQL
	Requirement	Test method	Indiv. unit	Lot average		Pass or fail[2]	Numerically to nearest		
Caliper	3.1.2.3	4.6.2	—	X	1	—	1/32 in.	S-2	—
Weight of fiberboard ...	3.1.2.4	4.6.3	—	X	1	—	Pound	S-2	—
Puncture resistance ...	3.1.2.5	4.6.4	X	—	Avg. of 4 (2 on each side)	—	Inch-oz.	S-2	2.5
Short column crush (edgewise)	3.1.2.6	4.6.5	X	—	3	—	Pounds/in.	S-2	2.5
Ply separation (class 2 boxes only)	3.1.3.2	4.6.6	X	—	1	X	—	S-2	2.5

[1] Test results shall include all values on which results are based.

[2] If failure is indicated, report description of failure and numerical point of failure.

4.6.3 *Basis weight determination.* The equivalent of one square foot shall be cut from sound, undamaged, and unprinted portions of the side walls of each of the sample boxes in a lot and the basis weight determined as follows: The specimens shall be conditioned in an atmosphere as described in 4.6.1 for a period of at least 24 hours. The area of cutout shall then be measured accurately to the nearest 1/64 inch and each shall be accurately weighed to the nearest 0.1 gram. The weight of the board shall then be calculated on the basis of pounds per 1000 square feet.

4.6.4 *Puncture resistance.* The test shall be made on specimens, 12 by 12 inches (or equivalent area), cut from sound, undamaged, and unprinted portions of the boxes. One specimen shall be taken from each of the sample boxes in a lot. Specimens shall be conditioned in the atmosphere described in 4.6.1 for a period of at least 24 hours. The equipment to be used for the puncture test is described in TAPPI method T803-M-50. Four puncture test readings shall be made on each specimen in the following manner: One test shall be made so that the edge of the puncture point, which is in the plane of the puncture arm, is perpendicular to the corrugations of the fiberboard, and one test shall be made so that the edge of the puncture point is parallel to the corrugations of the fiberboard. Such tests shall be made from both sides of the specimen. Results of the four puncture tests shall be averaged to determine the test value of the specimen.

4.6.5 *Short column crush determination.* The tests shall be made on specimens 1.25 ± 0.06 inch high, by 2 ± 0.03 inch wide (with the flutes parallel to the 1.25 inch dimension), three from each of the sample boxes in the lot. The specimen shall be cut with a sharp no-set, hollow-ground, table saw blade. The bearing surfaces of the specimen shall be parallel to each other and perpendicular to the axis of the flutes. Each loading edge shall be dipped in a pan containing molten paraffin (melting point 125° F. approximately) to a depth of 1/4 inch until the wax visibly begins to migrate beyond the 1/4-inch dip zone—usually about 3 seconds. (Hotplate temperature—170° to 180°F.; liquid wax temperature—156° to 166°F.) The wax should impregnate the specimen but not migrate appreciably beyond the 1/4-inch dip zone. (If excessively fast migration is encountered, reduce the temperature of the wax.) After dipping, each edge shall be blotted momentarily on paper toweling which rests on a hotplate maintained at 170° to 180°F. to remove excess paraffin from the loading edges.

Note: An alternative to dipping is to touch the specimen edge against a paraffin-saturated pad, such as paper toweling, which rests on a hotplate maintained at 170° to 180° F. The paraffin migrates from the pad into the specimen. Although this method of impregnation generally requires a longer time than dipping, it offers better control of the depth of the zone and is helpful with specimens in which migration proceeds very rapidly.

The specimens shall be preconditioned in an atmosphere of 73° ± 3.5°F. and less than 35 percent relative humidity for at least 24 hours. Prior to testing, specimens shall be conditioned in an atmosphere as described in 4.6.1 for a period of at least 48 hours. The above specimens shall be tested on an apparatus of the following description: The apparatus shall consist essentially of a compression testing machine (calibrated in accordance with ASTM E 4, having: (1) an upper and lower platen, one of which may be fixed and the other movable. The surfaces of the platens shall remain smooth, flat, and parallel to each other within one part in 2000 throughout the test. The platens shall be so mounted to have not more than 0.002-inch lateral movement. (2) The movable platen shall be driven such that the rate of force applied to the lower platen, when the platens are in contact, is 15 ± 5 pounds per second. (3) Means for measuring and indicating the applied load within 1 pound. (4) A capacity of not less than 500

pounds, and the indicating mechanism should be such that it can be accurately checked with dead weight loads, load cells, or proving ring. Two guide blocks, 7/8 inch high, 1-1/2 inches long, and 1-3/4 inches wide, are used to vertically aline the specimen in the testing machine. The blocks shall have a 1/16-inch deep and 3/8-inch wide notch cut out of the 1-3/4-inch face. The 1-3/4- by 1/2-inch face shall be finished perpendicular to the 1-3/4- by 1-7/16-inch face which shall also be a finished surface. The specimen shall be placed on the bottom platen of the testing machine with the guide blocks on each side to hold the specimen with its flutes perpendicular to the platen, making certain the specimen rests on the bottom platen after the blocks are positioned. The 1/2- by 1-3/4-inch face of the guide blocks should be in contact with the specimen, and the 1-3/4- by 1-7/16-inch face should be in contact with the bottom platen. Apply 10 pounds of load to the specimen and carefully remove the guide blocks. Continue to apply compressive force to the specimen until the facings have buckled, and record the maximum load to cause failure of the specimen. This reading divided by 2 is the short column crush strength of the specimen. The average of the three specimens shall be the short column crush strength of the sample box.

4.6.6 *Ply separation test for class 2 boxes only.* Specimens, one from each of the sample boxes in a lot shall be tested. The specimens shall be 6 by 10 inches with the corrugations perpendicular to the 10-inch dimension and cut from sound, undamaged, and unprinted portions of the box. The specimens shall remain submerged for 24 hours in fresh tap water maintained at a temperature of 75° ± 5°F. and having a pH value between 5.5 and 8.0. The specimens shall be placed in a vertical position with the 10-inch edge 1 inch below and horizontal to the surface of the water. The water shall have free access to all surfaces of the specimens, and the method of support shall not restrict ply separation. After soaking, the specimens shall be removed and the excess water removed by suitable means so that the surfaces no longer glisten. The 10-inch edge of the specimens shall then be flexed with the thumb. This shall be done with sufficient pressure to separate the component parts of the board. As a result of this test, separation of the component paperboard plies shall not extend more than 1/4 inch from the edge of the specimens. Shearing of the fiberboard or separation of fibers shall not be considered as ply separation.

5. PREPARATION FOR DELIVERY

5.1 **Packing.** Packing shall be level A, B, or C, as specified (see 6.2).

5.1.1 *Level A.* The boxes shall be packed knocked down in accordance with PPP-B-638, as specified therein for overseas shipment.

5.1.2 *Level B.* The boxes shall be packed knocked down in accordance with PPP-B-638, as specified therein for domestic shipment. When specified, the boxes shall be shipped partly or completely assembled in accordance with the requirements of the contract or order.

5.1.3 *Level C.* The boxes shall be shipped either knocked down, partly assembled, or completely assembled, as specified in the contract or order. Unless otherwise specified, the boxes shall be delivered bundled, boxed, or crated in a manner that will afford adequate protection against damage during direct shipment from the supply source to the first receiving activity. This level, as a minimum, will conform to applicable carrier rules and regulations.

5.2 **Marking for shipment and storage.** Marking shall be in accordance with the requirements of MIL-STD-129. The nomenclature shall be as follows: "Boxes, Fiberboard, Corrugated, Triple-wall."

5.3 **Marking (civil agencies).** In addition to any special marking specified in the con-

tract or order, shipments shall be marked in accordance with Fed. Std. No. 123.

6. NOTES

6.1 Intended use. The boxes covered by this specification are intended for domestic and overseas use in shipment and storage of supplies and equipment, when gross loads exceed limits of boxes procured under PPP-B-636.

6.1.1 *Class* 1 *use.* Boxes are for shipments and storage not involving extreme climatic conditions.

6.1.2 *Class* 2 *use.* Boxes are for shipments and storage involving extreme climatic conditions and when exposure to high humidities is contemplated.

6.2 Ordering data. Purchasers should select the preferred options offered herein and include the following data in procurement documents:

(*a*) Title, number, and date of this specification.

(*b*) Class and style of box (see 1.2). For styles A through D boxes, the type of end, if desired (see 3.4.1.2), and any special requirement for closing (see 30.3).

(*c*) Inside dimensions in the order, length, width, and depth.

(*d*) Special features for styles E and G boxes (see 3.8.1.1, 3.10.1.1, and 3.10.2).

(*e*) Level of packing required (see 5.1).

(*f*) Whether boxes are to be shipped partly assembled or knocked down and in bundles (see 5.1.3).

6.3 Size and weight limitations. When size and weight limitations of the carrier's classification (see 3.11) are exceeded, a special package permit will be obtained.

MILITARY CUSTODIANS:

Air Force—69

Army—GL

Navy—SA

Preparing Activity:

Air Force—69

Review and user information is current as of the date of this document. For future coordination of changes to this document, draft circulation should be based on the information in the current Federal Supply Classification Listing of DOD Standardization Documents.

APPENDIX

10. SCOPE

10.1 This appendix covers requirements for the closure and sealing of boxes fabricated in accordance with the requirements of this specification.

20. APPLICABLE DOCUMENTS

20.1 **Specifications and standards.** The following specifications and standard, of the issues in effect on date of invitations for bids, form a part of this appendix to the extent specified herein:

Federal Specifications:

QQ-S-781—Steel, Strapping, Flat.
QQ-S-790—Steel Strapping, Round (Bare and Zinc-Coated).
PPP-S-760—Strapping, Nonmetallic, (and Connectors).
PPP-T-76—Tape, Pressure-Sensitive Adhesive Paper, (for Carton Sealing).
PPP-T-97—Tape; Pressure-Sensitive Adhesive, Filament Reinforced.

Military Standard:

MIL-STD-105—Sampling Procedures and Tables for Inspection by Attributes.

20.2 **Other publication.** The following document forms a part of this specification to the extent specified herein. Unless otherwise indicated, the issue in effect on date of invitation for bids shall apply:

American Trucking Association, Inc. (ATA) Publication:

National Motor Freight Classification Rules.

(Application for copies should be addressed to the American Trucking Association, Inc., 1616 P St., N.W., Washington, D. C., 20036.)

30. REQUIREMENTS

30.1 **Materials.**

30.1.1 *Nails.* When used for closure shall be as specified in 3.4.2.1.

30.1.2 *Staples.* When used for closure of wood and styles A, B, C, and D shall be as specified in 3.4.2.2. When used for closure of styles E, F, and G boxes, staples shall be as specified in 30.3.5.1.

30.1.3 *Strapping, steel.* Steel strapping may be either flat or round. When flat strapping is used, it shall be in accordance with QQ-S-781, type I, class A or B, and shall be 5/8 inch wide and have a minimum thickness of 0.018 inch. When round strapping is used, it shall be in accordance with QQ-S-790, class A or B, finish 2 (zinc coated). The minimum diameter for class A shall be 0.0990 inch (12-1/2 gauge) and for class B shall be 0.1205 inch (11 gauge). In order to prevent damage to the fiberboard, edge protectors of a suitable material and as shown in figure 9 should be used with flat or round steel strapping. These shall be approximately 1-3/4 inches wide, and the distance between the inside edges of the protrusions shall be approximately 1 inch. The indention (for round strapping) shall be at the center of the protector. The width of the protrusions and indentions shall be approximately 3/16 inch.

30.1.4 *Strapping, nonmetal.* Nonmetal strapping shall be in accordance with PPP-S-760a, type I or type II. When type I is used it shall be Grade B and have a nominal width of 5/8-inch. When type II is used it shall be 5/8-inch wide and have a minimum thickness of 0.020.

30.1.5 *Closure tape.* When used for closure, tape shall be pressure-sensitive filament-reinforced tape meeting the requirements of PPP-T-97, type III, and shall be 1/2 inch wide except for styles E and F boxes, tapes shall be 1 inch wide. On weather resistant boxes, PPP-T-97, type IV tape shall be 3/4 inch wide except for styles E and F boxes, tapes shall be 1 inch wide.

30.1.6 *Sealing tape.* When used for sealing containers, tape shall be pressure-sen-

sitive adhesive paper, water resistant, and shall meet the requirements of PPP-T-76. The tape shall be not less than 2 inches wide.

30.2 Sealing. Where sealing against entry of water or dust is desired, all seams and joints shall be covered with tape (30.1.6).

Note: This is frequently done for slotted boxes after the outer closure has been made.

30.3 Closure and reinforcement. The kinds of closure used will depend on the style and may be made by means of nails, staples, steel strapping, nonmetal strapping, filament reinforced tape, or a combination of those materials. Reinforcement may be made by steel strapping, nonmetal strapping, or filament reinforced tape, as applicable. Special requirements may be stipulated in the contract or order.

30.3.1 *Style A box.*

30.3.1.1 *Closure.* Unless otherwise specified in the contract or order (see 6.2), style A box may be closed with nails (30.1.1), staples (30.1.2), steel straps (30.1.3), nonmetal straps (30.1.4), or tape (30.1.5). When nails or staples are used, they shall be spaced not more than 2 inches apart and shall be staggered as permitted by the thickness of the ends of the box. The nails or staples shall extend through each thickness of the fiberboard and into the wood ends. If the box is 24 inches or more long, a 10 inch strip of tape (30.1.5), shall be placed at the center of the outside top flap so as to extend onto the top flap 5 inches and down onto the side panel 5 inches. When steel or nonmetallic straps are used for closure, one band shall be placed at each end of the box so as to encircle the top, sides, and bottom of the box. The straps shall be tensioned sufficiently to effect an adequate closure without damaging the fiberboard or crushing the contents. Edge protectors as shown in figure 9 should be used. If the box is 24 inches or more long, a strap shall be added at the center and shall encircle the top, sides, and bottom of the box. Tape (30.1.5) may be used in lieu of the additional strap. When closure is made entirely with tape (30.1.5), a strip shall be placed two inches in from each end of the box. They shall be 10 inches long and shall be applied so that they are perpendicular to the joint formed by the top flap and side wall of the box. They shall be centered over the joint so that 5 inches extends on the top flap and 5 inches on the side wall. If the box is 24 or more inches long, an additional strip shall be added at the center. On boxes with contents weighing in excess of 10 pounds per cubic foot, an additional longitudinal band passing over the top, bottom, and ends shall be applied. A filler cleat of the same width as the end cleats shall be secured under the longitudinal band at each end for types 3 and 4 ends.

30.3.1.2 *Reinforcement.* In reinforcing the closure of a style A box, steel straps, nonmetal straps, or tape may be used. One such reinforcement (strapping or tape) shall be added for boxes of a length greater than 24 inches. For each additional 18 inch increment of length an additional reinforcement shall be added. These shall be evenly spaced along the length of the box.

30.3.2 *Style B box.*

30.3.2.1 *Closure.* A style B box may be closed in essentially the same manner as for a style A box as outlined in 30.3.1.1 except that in addition, a staggered row of nails or staples, spaced not more than 2 inches apart, shall be driven through the overlap portion of the top flap into the face of the wood end.

30.3.2.2 *Reinforcement.* Reinforcement shall be as that for a style A box as outlined in 30.3.1.2.

30.3.3 *Style C box.*

30.3.3.1 *Closure.* A style C box may be closed in essentially the same manner as for a style A box as outlined in 30.3.1.1 except when using nails or staples, they shall be spaced not more than 2 inches apart and shall be staggered and driven through the

top one-half of the box into the wooden ends along the two end edges of each side panel and both end edges of the top panel.

30.3.3.2 *Reinforcement.* Reinforcement shall be as that for a style A box as outlined in 30.3.1.2.

30.3.4 *Style D box.*

30.3.4.1 *Closure.* A style D box may be closed in essentially the same manner as for a style A box as outlined in 30.3.1.1 except when using nails or staples, they shall be spaced not more than 2 inches apart, staggered, and driven through the overlapping top flap into the face of the wood end, and along the two end edges of each side panel.

30.3.4.2 *Reinforcement.* Reinforcement shall be as that for a style A box as outlined in 30.3.1.2.

30.3.5 *Style E box.*

30.3.5.1 *Closure.* Unless otherwise specified, a style E box may be closed by the use of staples, steel, or nonmetal strapping or with tape at a supplier's option.

30.3.5.1.1 *Staple (preformed or machine stitched) closure.* Staple closure for style E boxes shall be in accordance with the requirements of Rule 41, Interstate Commerce Commission Regulations for closing conventional slotted boxes.

30.3.5.1.2 *Use of steel or nonmetal strapping for closure.* When steel or nonmetal strapping is used for closure, two such straps shall be applied girthwise encircling the top, sides, and bottom, and shall be located no more than 3 inches from the ends of the box. When the length of the box is 24 or more inches, an additional strap shall be applied at the center.

30.3.5.1.3 *Use of tape for closure.* When tape is used for closure, a 12 inch strip shall be applied to each end of the two top and two bottom flaps so that 6 inches of each strip is attached to the flap and 6 inches of tape extends onto the end panel of the box. The strips shall be located adjacent to the inner length edge of the flaps and approximately 2 inches from this edge. When the length of the box is 24 inches or more, one strip of tape shall be applied across the top of the box and one across the bottom of the box so that they are perpendicular to the length of the box. They shall be of sufficient length so that the ends of the strips extend onto the side panels a minimum of 3 inches.

30.3.5.2 *Reinforcement.* Reinforcement shall be as that for a style A box as outlined in 30.3.1.2. Lengthwise strapping may be applied as required to hold flaps flat.

30.3.6 For style E boxes (alternate) with crushed overlapping flaps, the closure and reinforcement shall be accomplished as specified for the regular style E box (30.3.5).

30.3.7 *Style F box.*

30.3.7.1 *Closure.* A style F box may be closed with steel straps, nonmetal straps, or tape. When steel or nonmetal strapping is used, closure shall be accomplished as outlined for this method under style E boxes (30.3.5). Where tape is used for closure, a strip shall be used on each side and each end. The strips shall be not less than 12 inches long and shall be applied at the center of both side and end panels. The strip shall extend from the side or end panel onto the bottom surface of the lower half of the box.

30.3.7.2 *Reinforcement.* Reinforcement shall be as that for a style A box as outlined in 30.3.1.2, but in addition, similar reinforcements shall be added for width as those required for length. When tape is used, additional strips shall be added longitudinally so that the sum total longitudinal tensile strength of all strips is not less than twelve times the gross weight of the box.

30.3.8 *Style G box.*

30.3.8.1 *Closure.* When a style G box is used in conjunction with a pallet, closure and sealing shall be as specified by the pro-

curing activity. When the box is used without a pallet, it shall be closed with steel or nonmetal straps. One strap shall be centrally located around the top, ends, and bottom. Two straps shall be applied around top, sides, and bottom at a distance from the ends equal to 3/4 the length of the inner bottom flaps.

30.3.8.2 *Reinforcement.* If the distance between straps as applied in 30.3.8.1 exceeds 24 inches, additional reinforcement straps shall be spaced not more than 24 inches apart.

40. CARRIERS FREIGHT CLASSIFICATION

40.1 Boxes closed and reinforced as specified by the appendix of this specification should meet or exceed that required by the provisions of Rule 41 of the Uniform Freight Classification and Rule 5 of the National Motor Freight Classification. Additional reinforcement shall be used when necessary to insure compliance with these requirements.

50. INSPECTION

50.1 The closure, reinforcement, and sealing of the box shall be examined to determine conformance to the requirements of this appendix. Sampling shall be in accordance with MIL-STD-105. The acceptable quality level (AQL) shall be 4.0 percent defective.

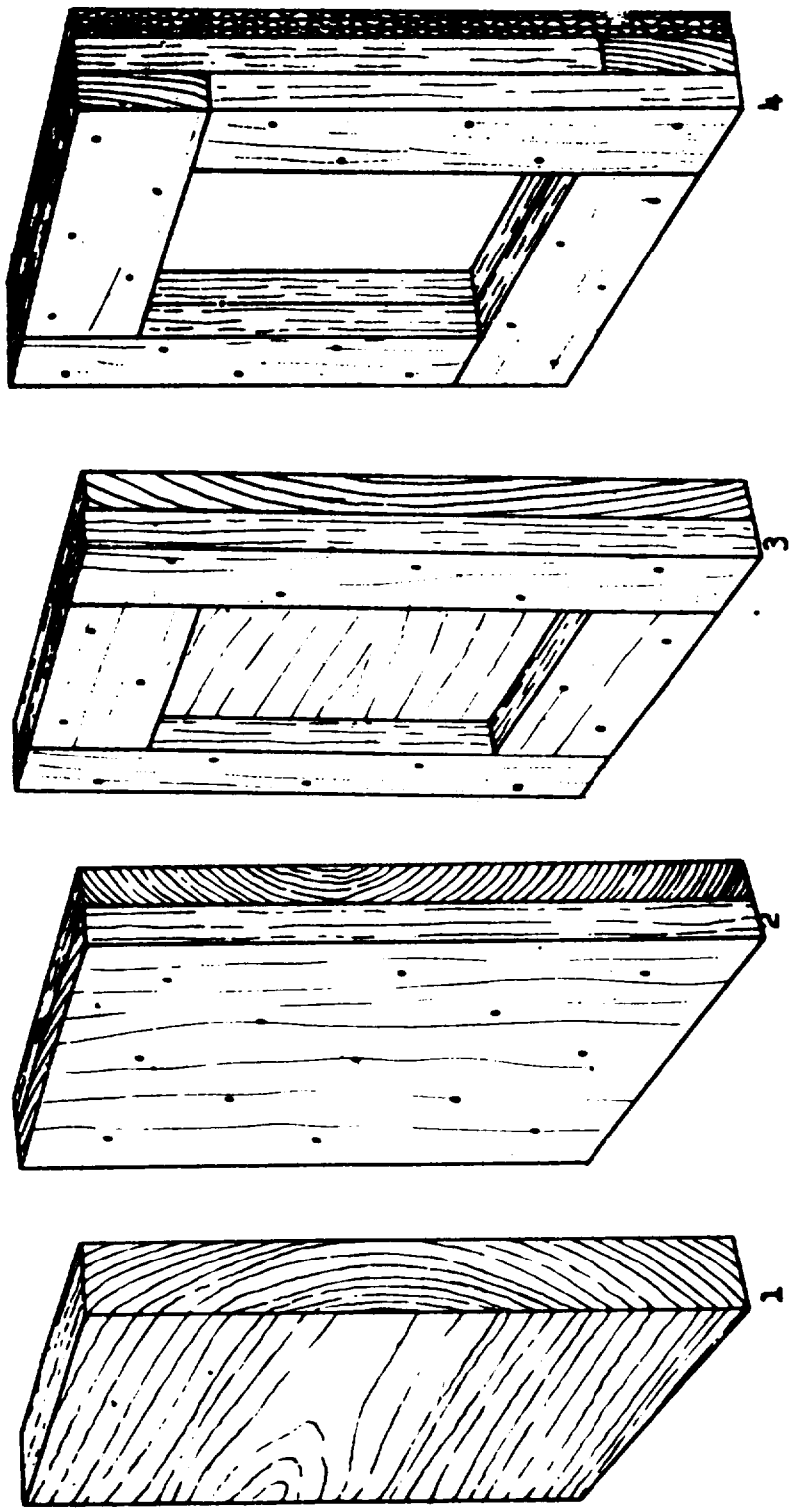


FIGURE 1. FOUR TYPES OF ENDS FOR USE WITH STYLES A THROUGH D

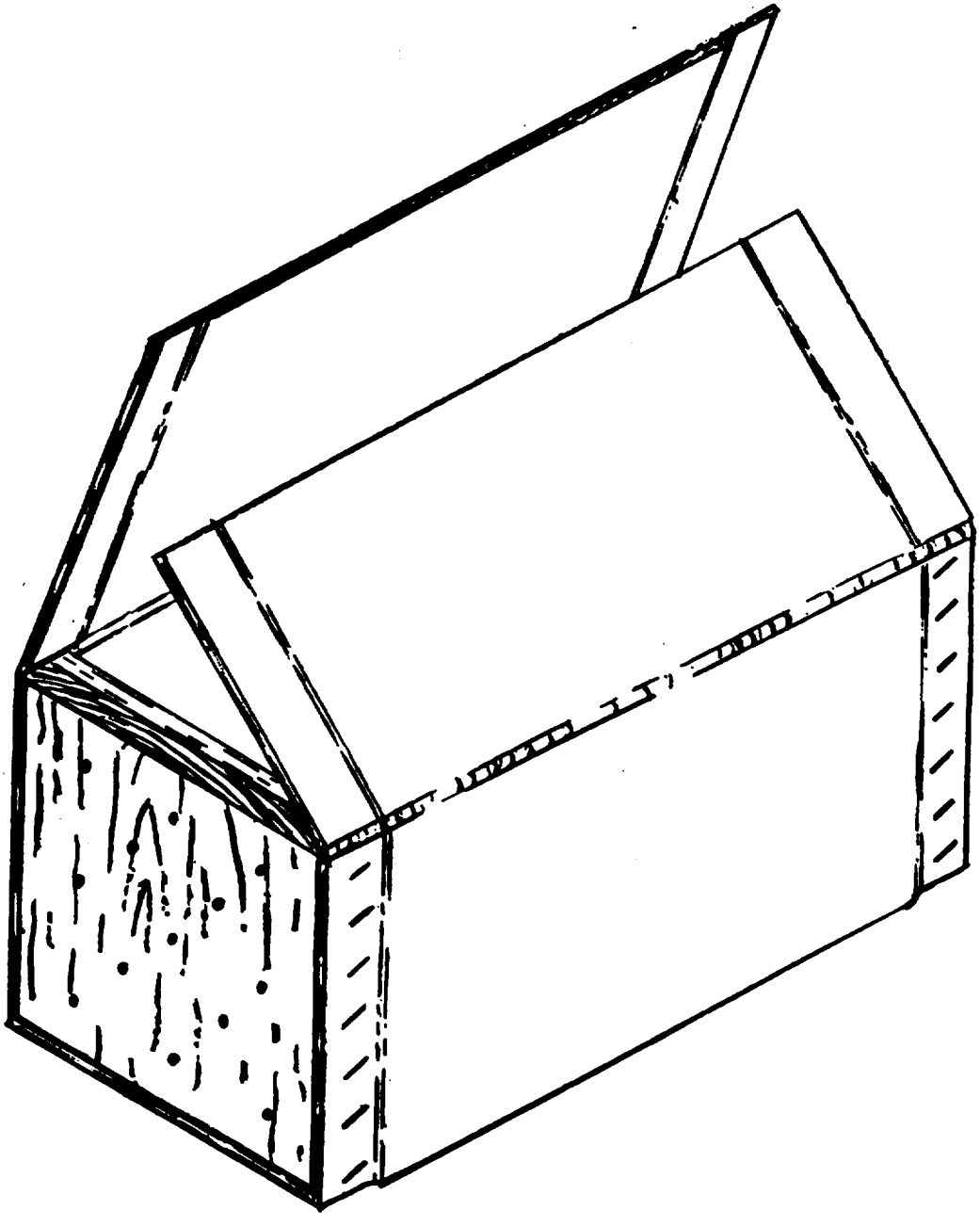


FIGURE 2. STYLE A BOX WITH NO. 2 END

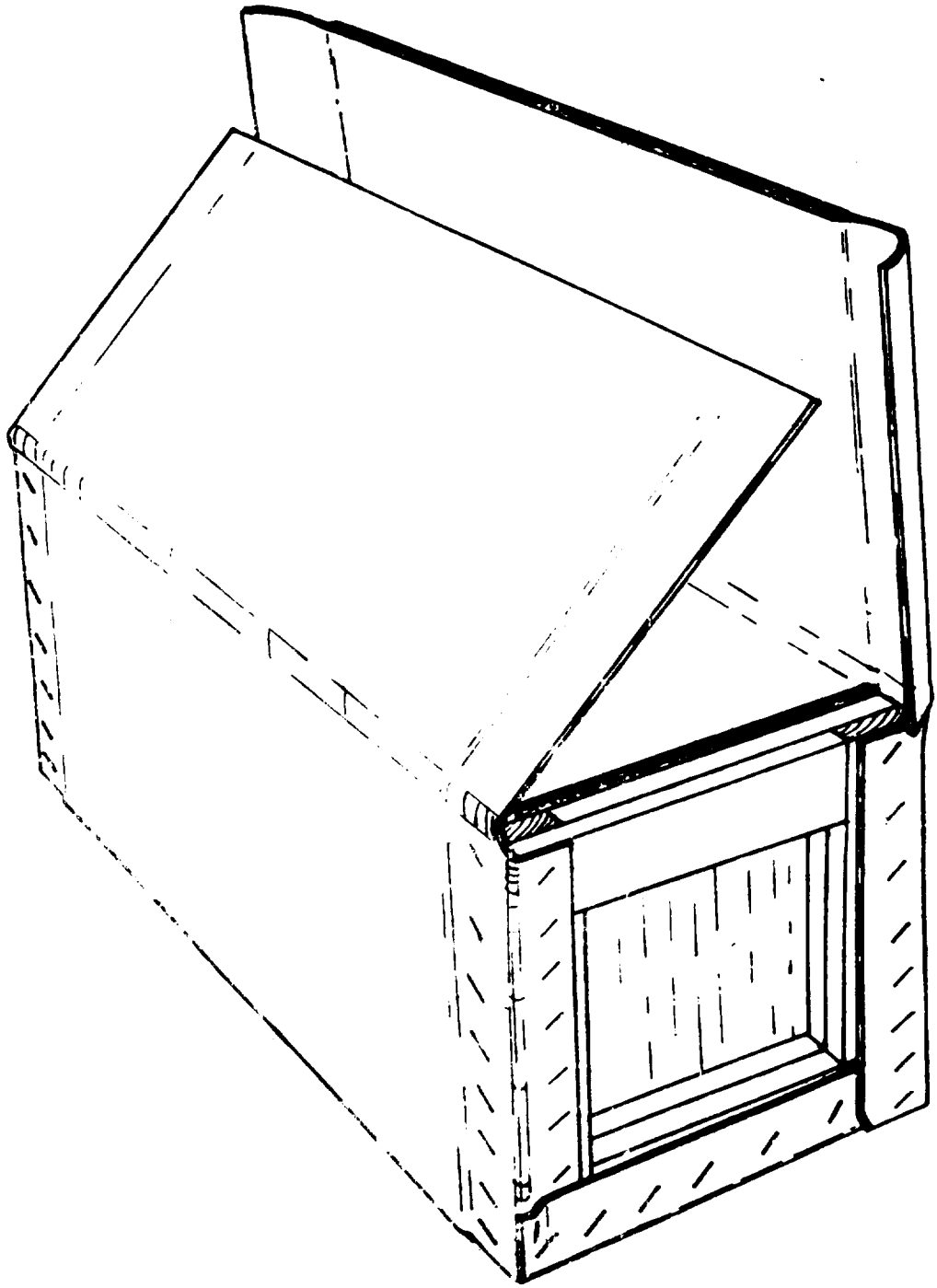


FIGURE 7. STYLE B BOX WITH A NO. 4 END

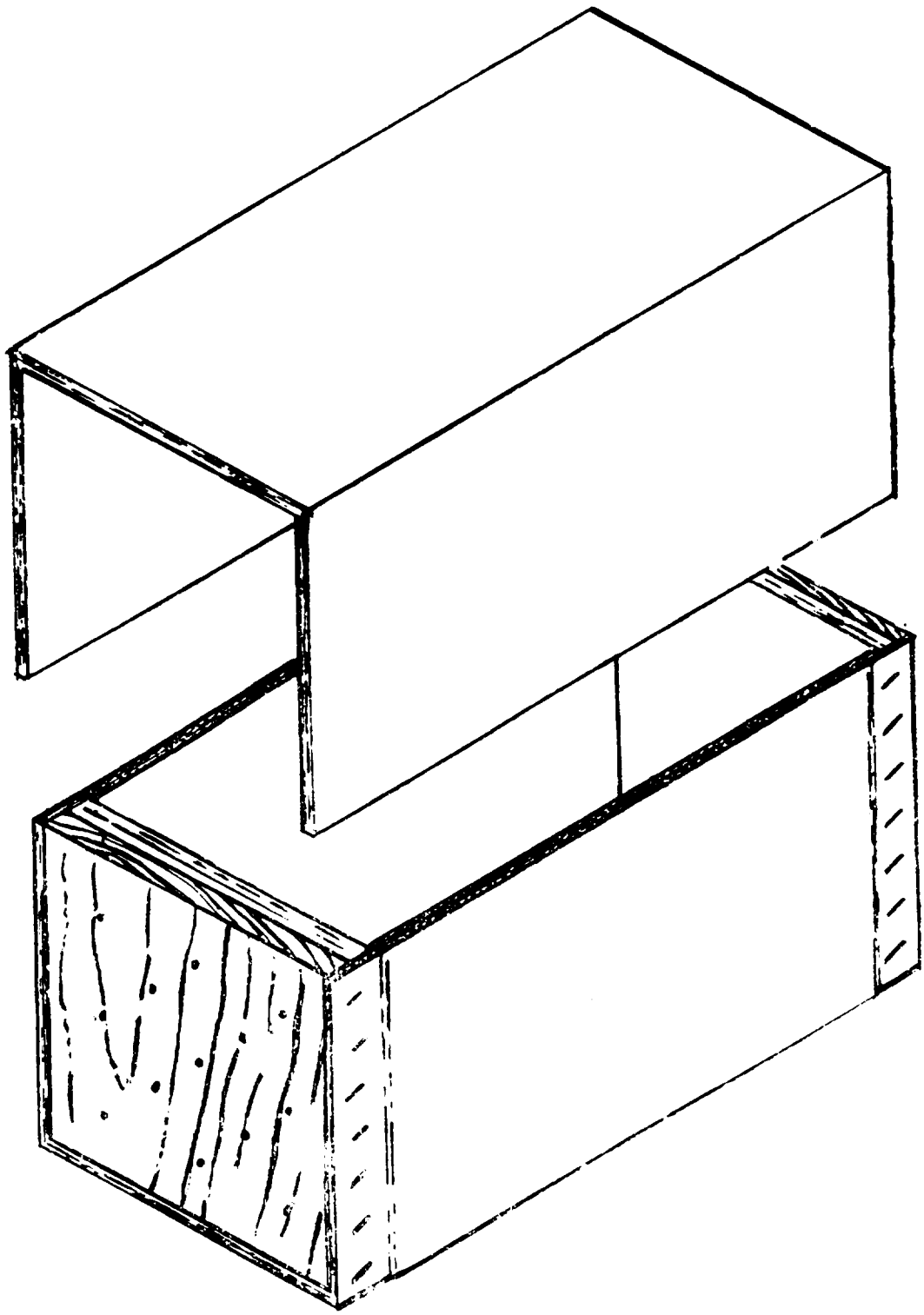


FIGURE 4. STYLE C BOX WITH A NO. 2 END

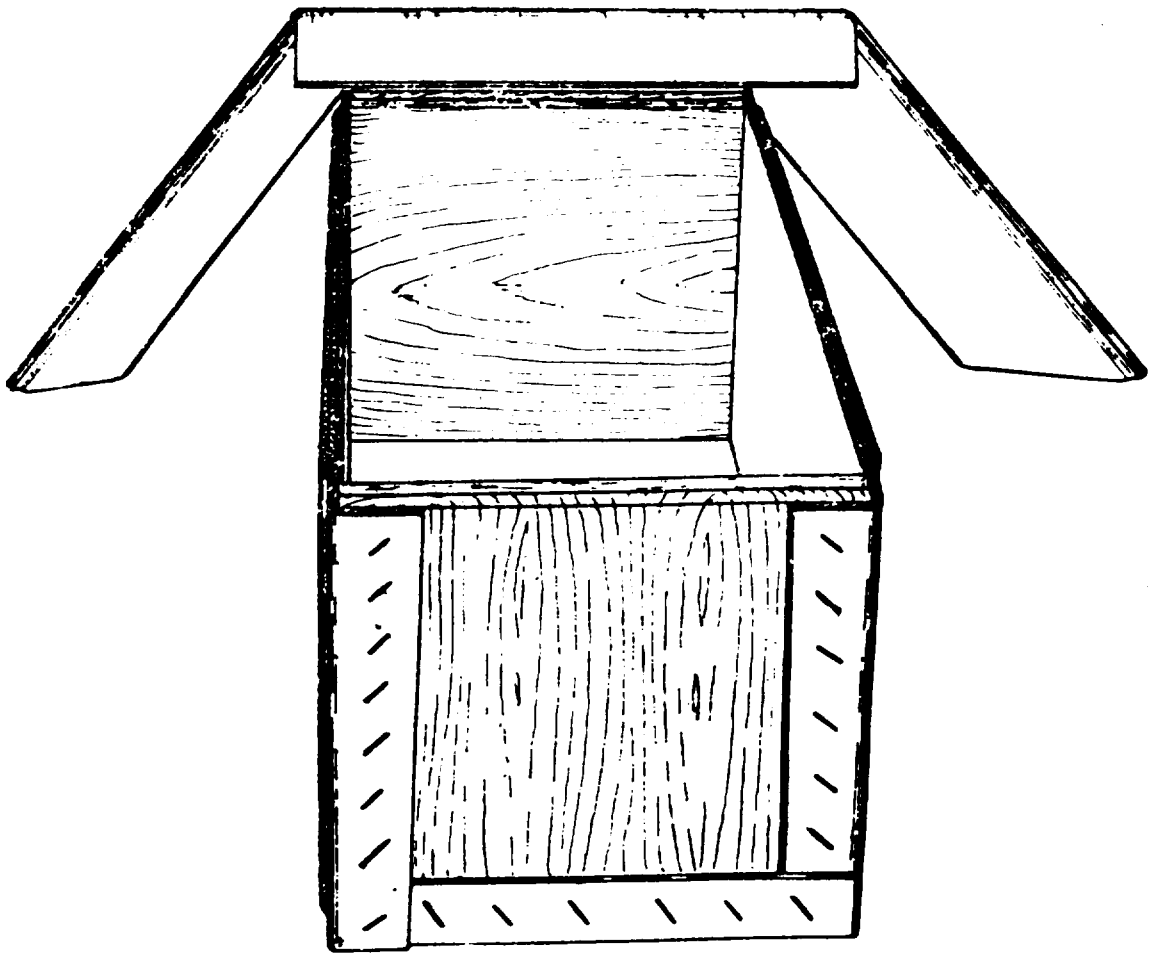
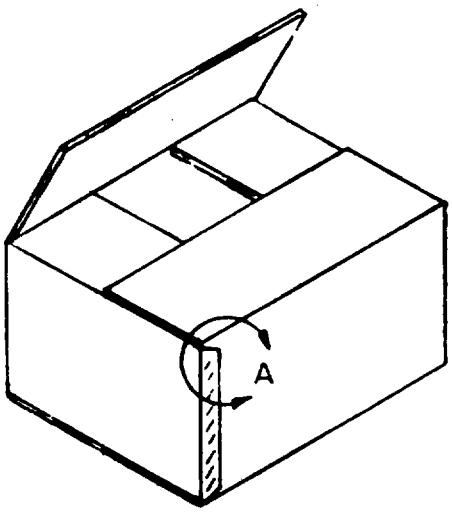
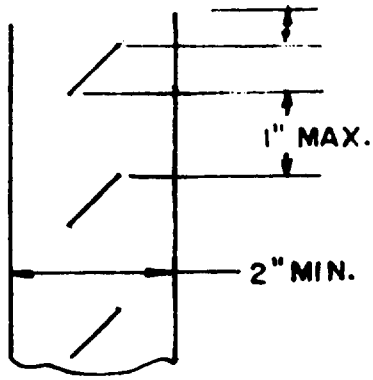


FIGURE 5. STYLE D BOX WITH A NO. 2 END



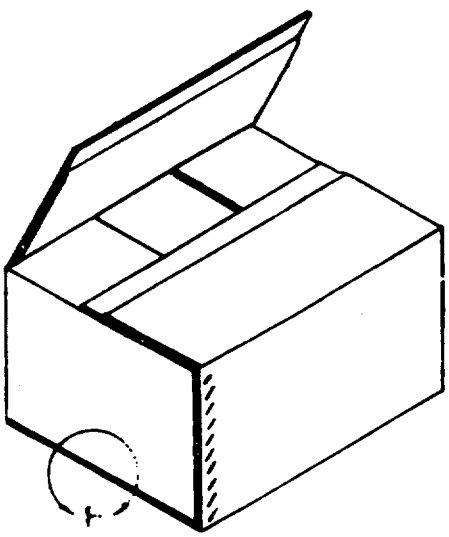
REGULAR SLOTTED BOX



DETAIL "A"

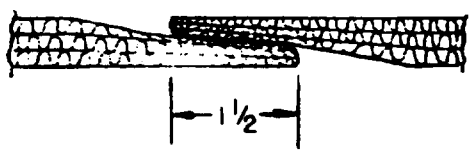
NOTE:

LAP MAY BE INTEGRAL WITH END OR SIDE PANEL AND MAY BE ON INSIDE OR OUTSIDE OF ADJACENT PANEL.



REGULAR SLOTTED BOX-
WITH CRUSHED ROLLED
OVERLAPPING FLAPS

ALTERNATE CONSTRUCTION



DETAIL "B"

FIGURE 6. Style E box

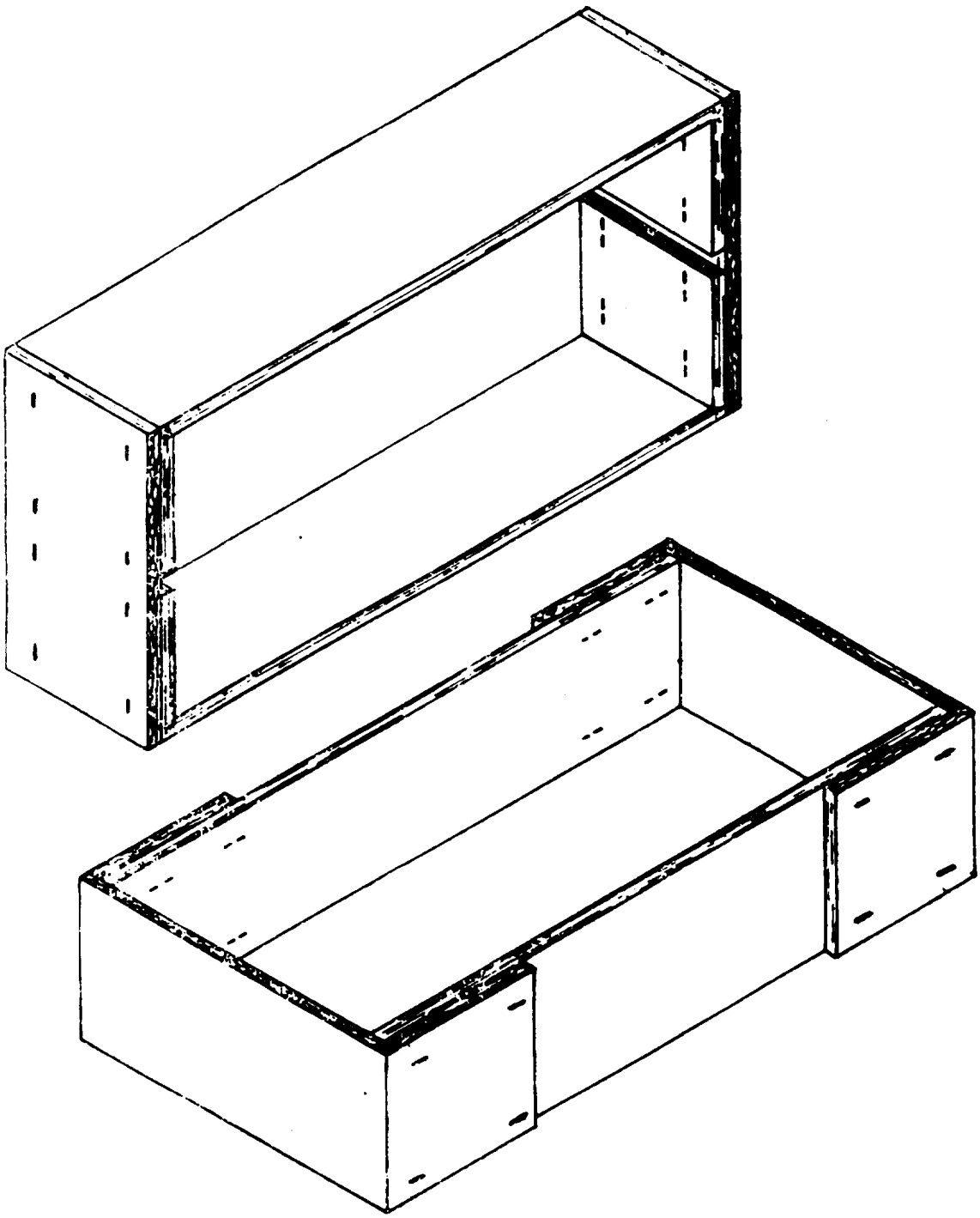


FIGURE 7. STYLE F BOX

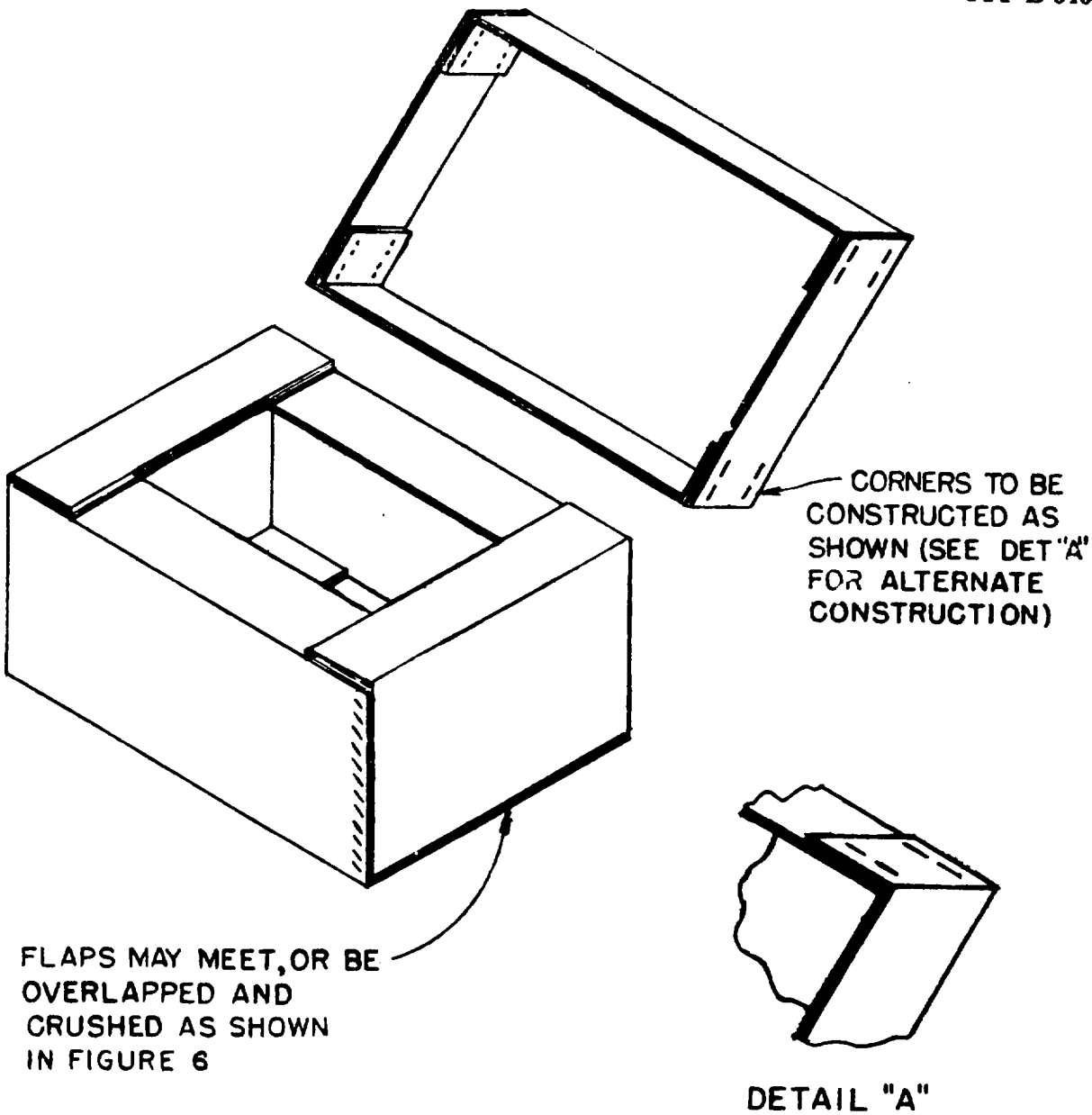


FIGURE 8. STYLE G BOX

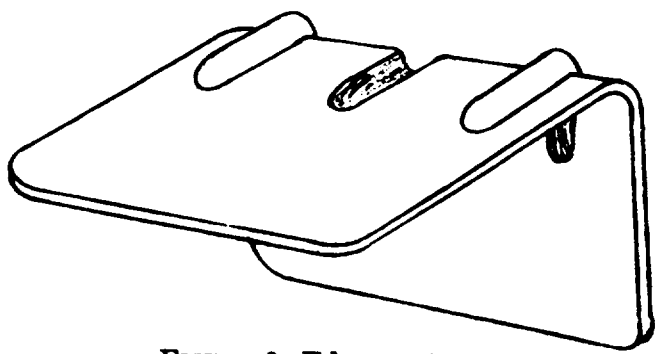
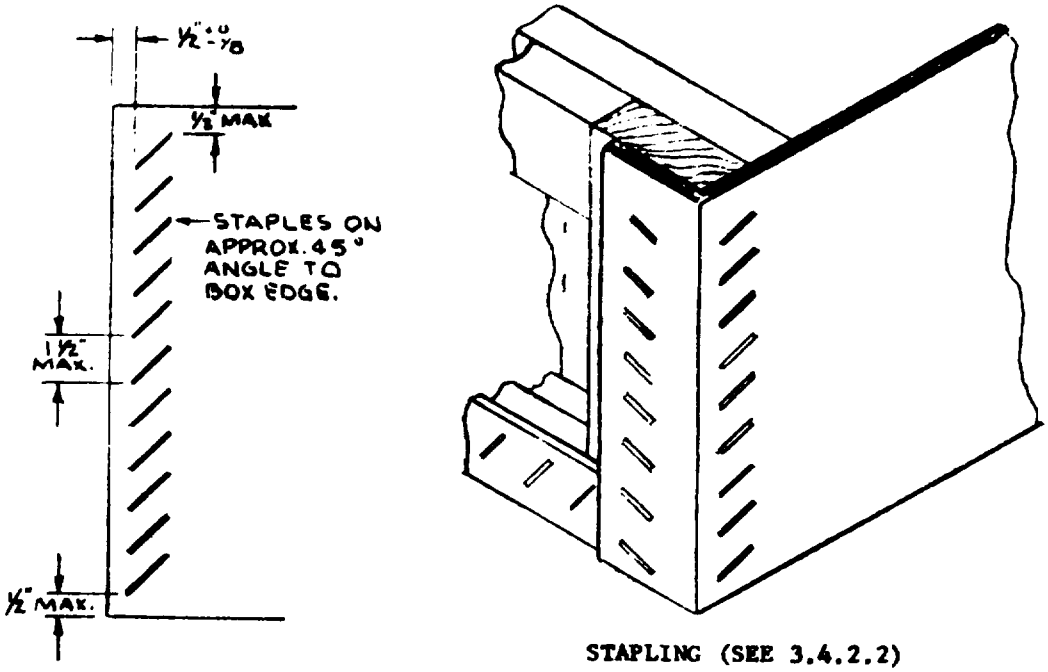
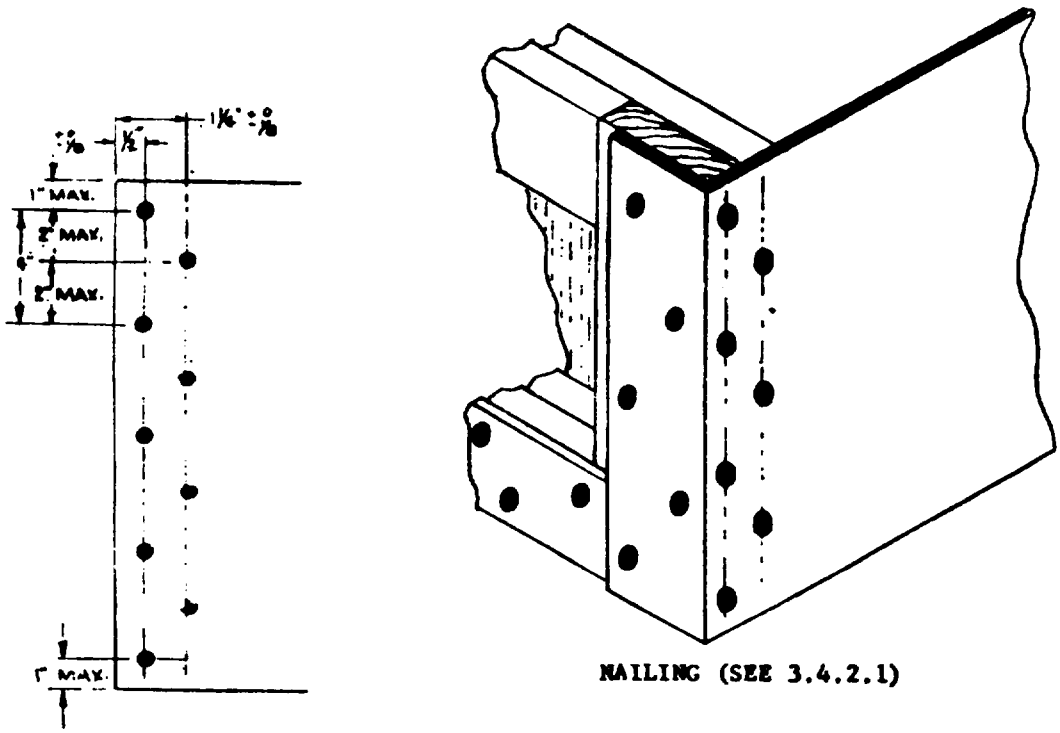


FIGURE 9. Edge protector



STAPLING (SEE 3.4.2.2)



NAILING (SEE 3.4.2.1)

FIGURE 10. STAPLING AND NAILING PATTERN

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(See Instructions – Reverse Side)

1. DOCUMENT NUMBER	2. DOCUMENT TITLE

3a. NAME OF SUBMITTING ORGANIZATION	4. TYPE OF ORGANIZATION *(Mark one)*
	☐ VENDOR
b. ADDRESS *(Street, City, State, ZIP Code)*	☐ USER
	☐ MANUFACTURER
	☐ OTHER *(Specify)*: _____

5. PROBLEM AREAS

a. Paragraph Number and Wording:

b. Recommended Wording:

c. Reason/Rationale for Recommendation:

6. REMARKS

7a. NAME OF SUBMITTER *(Last, First, MI)* – Optional	b. WORK TELEPHONE NUMBER *(Include Area Code)* – Optional
c. MAILING ADDRESS *(Street, City, State, ZIP Code)* – Optional	8. DATE OF SUBMISSION *(YYMMDD)*

DD FORM 82 MAR 1426

PREVIOUS EDITION IS OBSOLETE.