



GLUING WOODEN BEADS

In the Supercity project as shown, $\frac{1}{8}$ "-diam. wooden beads are used as knobs to hold a looped end of monofilament cable (such as the Sky Line) or to control the direction of moving monofilament (such as in the elevator and the telephone booth). Large-eyed glass beads could also be used, but the hot glue might melt plastic beads, and very small beads would be hard to handle.

The wooden beads are attached to the surface of the cardboard when the monofilament runs parallel to that surface; they are embedded in the cardboard when the monofilament must go through the cardboard.

When attaching a wooden bead to the surface, cut a small cross where the bead is to be placed. Press the bead down into the cross to make a dent. Remove the bead and fill the depression with hot glue. Press the bead into the glue, aligning the hole as required, and allow to set.

To embed a wooden bead into cardboard, cut out a circle that is slightly smaller than the bead, using a small-blade utility knife. Circle does not have to be a perfectly cut one, since bead and glue will cover it. Line the cut-out area with hot glue. Press the bead in place in the hole, aligning its hole as required; let set. In either case if the bead seems at all wobbly, encircle it with hot glue, making sure glue touches the cardboard all around.

SEQUENCE OF ASSEMBLY FOR BUILDINGS

All buildings follow the same general sequence of assembly. First read the General Directions at the start of the project, and specific directions for the building you want to make.

1. Lay out all three walls following the pattern, directly onto the corrugated cardboard, using a ruler, pencil and straightedge.
2. Score bends for corners (see General Directions); cut out the windows and doors; hinge as required with scored lines.
3. Cut out floor (if removable, cut with $\frac{1}{4}$ " clearance; if fixed, cut to fit, with less than $\frac{1}{8}$ " clearance) and ceiling/roof pieces. As required, cut stairwell or chute holes in floors and roof.
4. Attach bottom floor and roof to walls bent into shape using the glue gun as described on page 115.
5. Cut and install floor cleats for each floor as shown in diagrams.
6. Construct and attach any special features, such as revolving doors, stairs, etc.
7. Make and glue on signs, decorations cut from cardboard and covered with self-adhesive plastic or tape and any other decorations desired.

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Bank Building

Note Bank has a special material requirement—55' length (or equivalent) Velcro® self-fastening tape, at least 3/4" wide and preferably black.

Read General Directions at start of project, and then cut out all major parts for the bank. Assemble the walls and floors with their cut-outs for the stairs. Add floor cleats as shown. Put roof aside until later.

Apply the three 1 1/2"-wide notched dentil strips and three 1/2"-wide border strips, gluing dentils even with the three top edges of the bank walls and the borders even with the top edges of dentil strips.

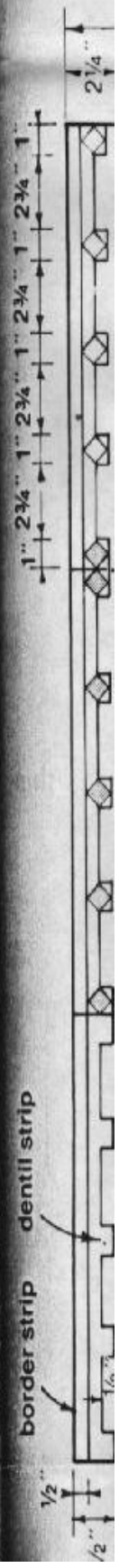
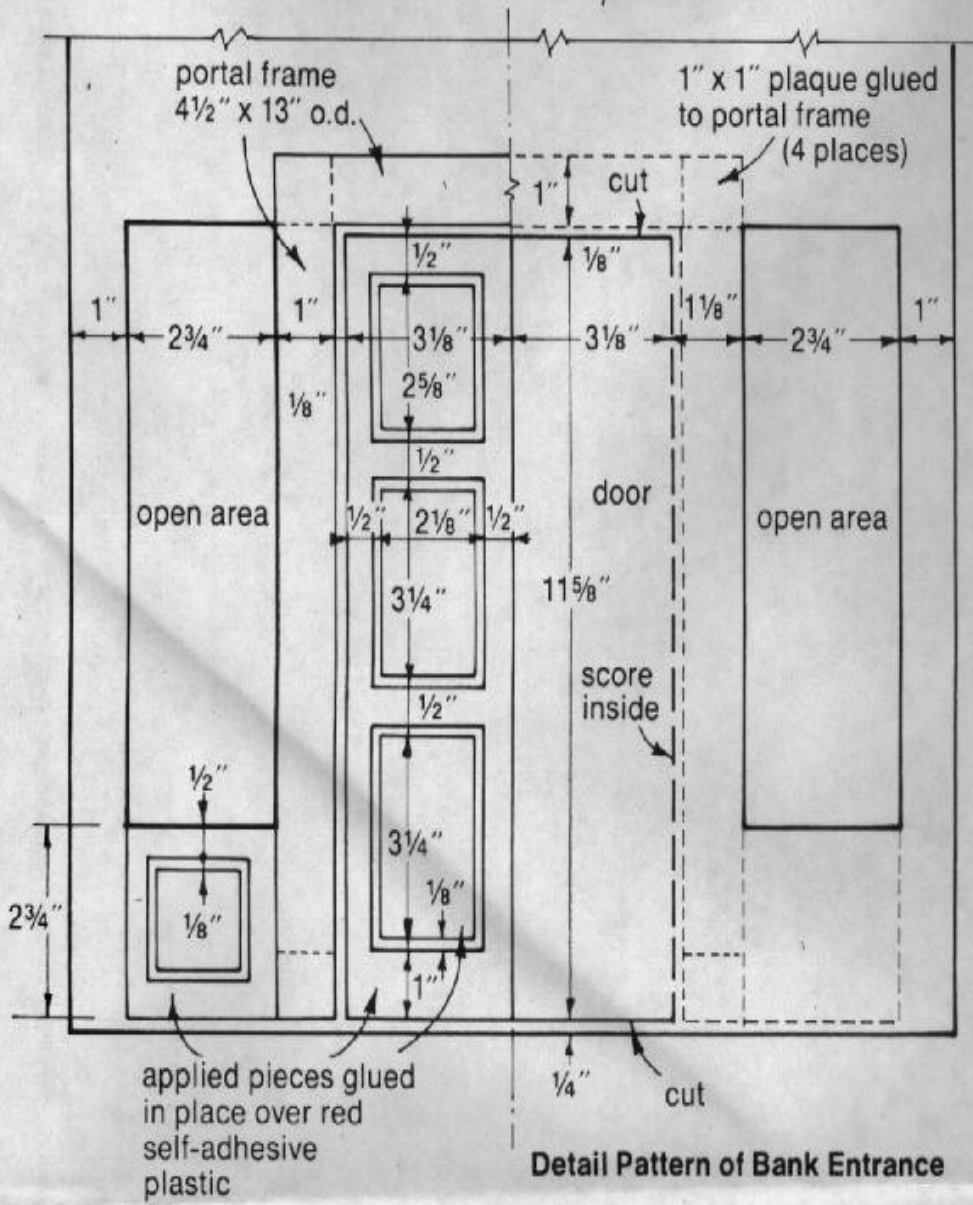
Cut out 69 cardboard squares, each 1" x 1"; glue in place following bank pattern (except for the four around the portal).

Following the bank entrance diagram, cut out the portal frame. Cover it and the portals themselves with red self-adhesive plastic. Add decorative strips of black and white tape

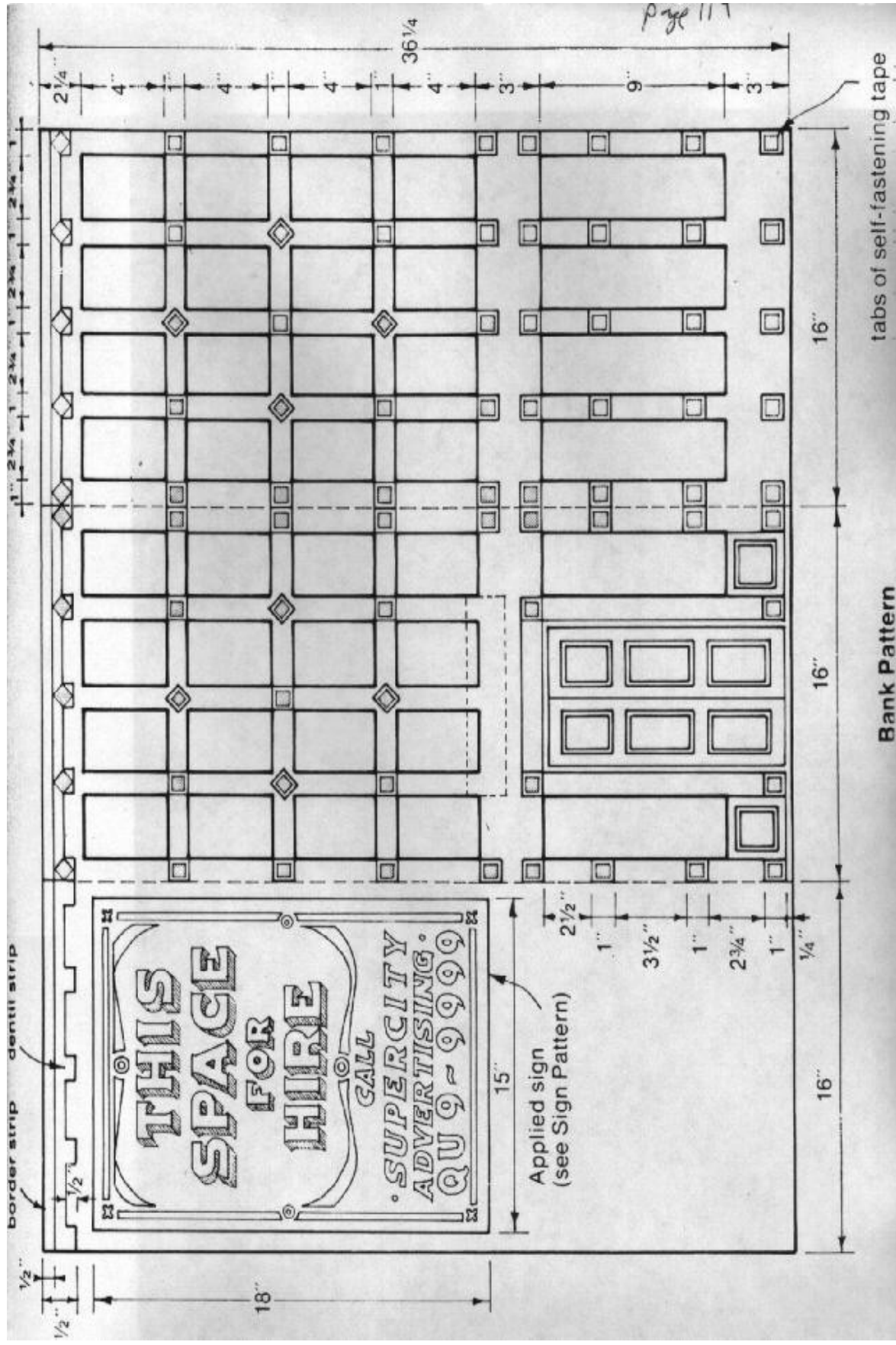
to the frame. Glue frame in place around the doorway. Cut the panels and panel frames and glue to the portals on top of self-adhesive plastic. Just before gluing, make certain that the larger panels do not interfere with the opening of the door. If they do, make the panels slightly narrower.

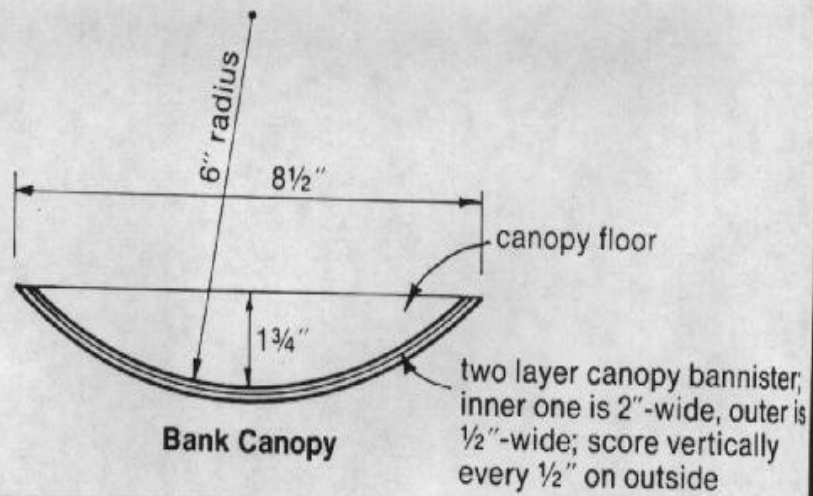
Under large front windows, place centered 2" x 2" squares of black self-adhesive plastic. Cut and apply a panel and panel frame over plastic as shown. Above large front windows, decorate with frames of black and red tape.

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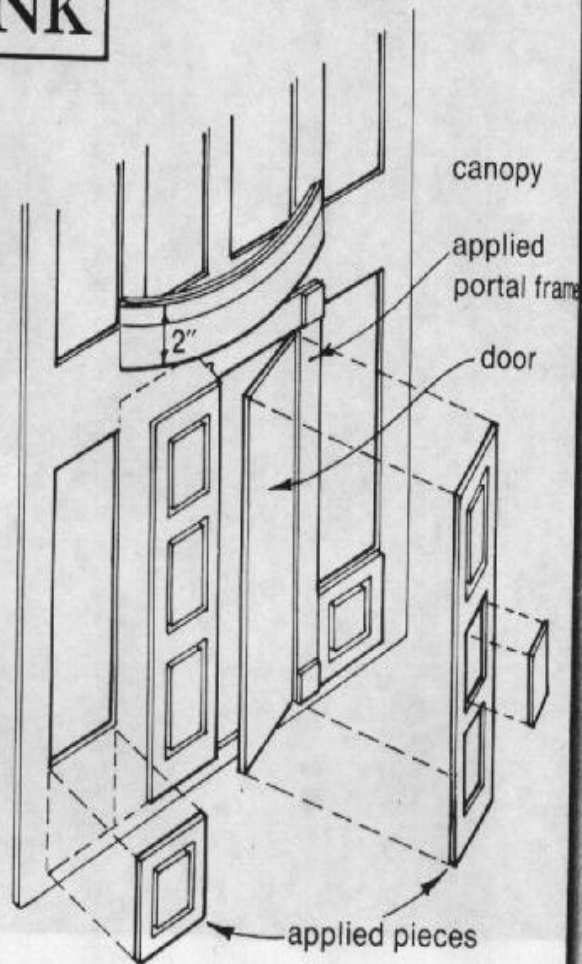
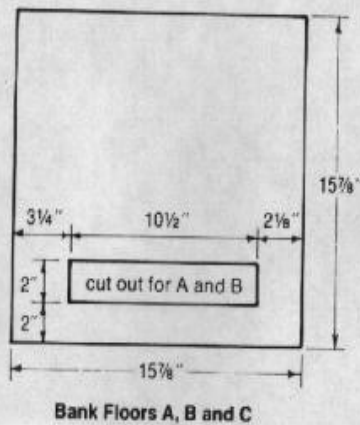
Detail Pattern of Bank Entrance



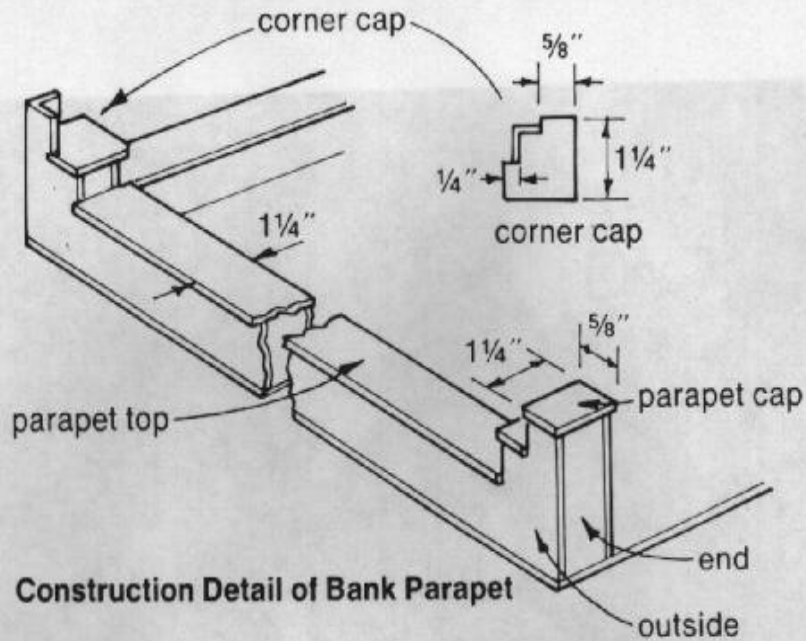


SUPERCITY BANK

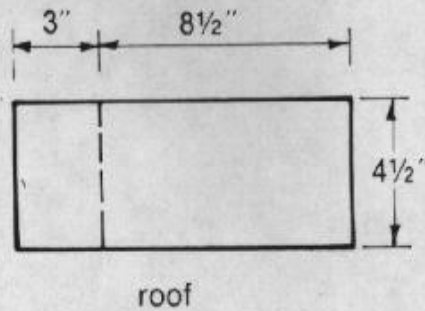
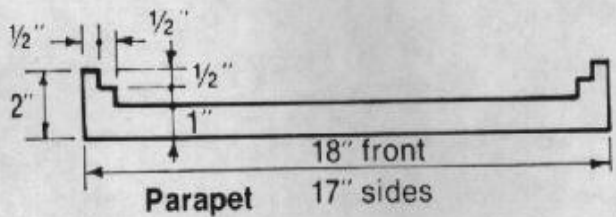
To make the canopy, first cut out its floor. Then cut a 2 1/2" strip for the bannister and rail to fit the length of the curve. Score it vertically every 1/2". Cut off 1/2" lengthwise for rail. Glue remaining 2" bannister strip to curve of floor, flush with its bottom. Glue 1/2" rail strip on, even with the top edge of the bannister. Cover the bannister and rail with separate strips of self-adhesive plastic; add black and white tape as in photograph. On plain paper with marker, trace Supercity Bank identification, cut out, rubber-cement to canopy.



Construction Detail of Bank Entrance

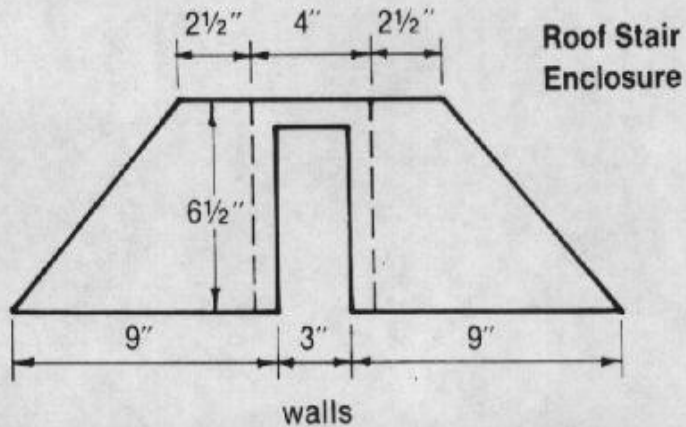


Construction Detail of Bank Parapet



Cut out the roof with the hole in it for stairs as shown. For the outside of parapet, cut three pieces to fit edge of roof, with the pieces butted against each other at the corners. Cover with self-adhesive plastic; add black and white tape trim. Glue in place on roof. For the inside of the parapet, cut two pieces without the steps at one end for the side parapets; glue each in place parallel to each side piece, 1" outside dimension from side pieces. Then cut a 1" strip for the front to fit between the two pieces just placed and glue in place 1" from the front piece. Cut 1 1/4"-wide parapet tops to fit and glue. Cut ends to fit and caps as shown and glue in place.

Cut out the roof stair enclosure and assemble with glue. Attach to the roof and then attach roof to bank, even with the back and centered on sides.

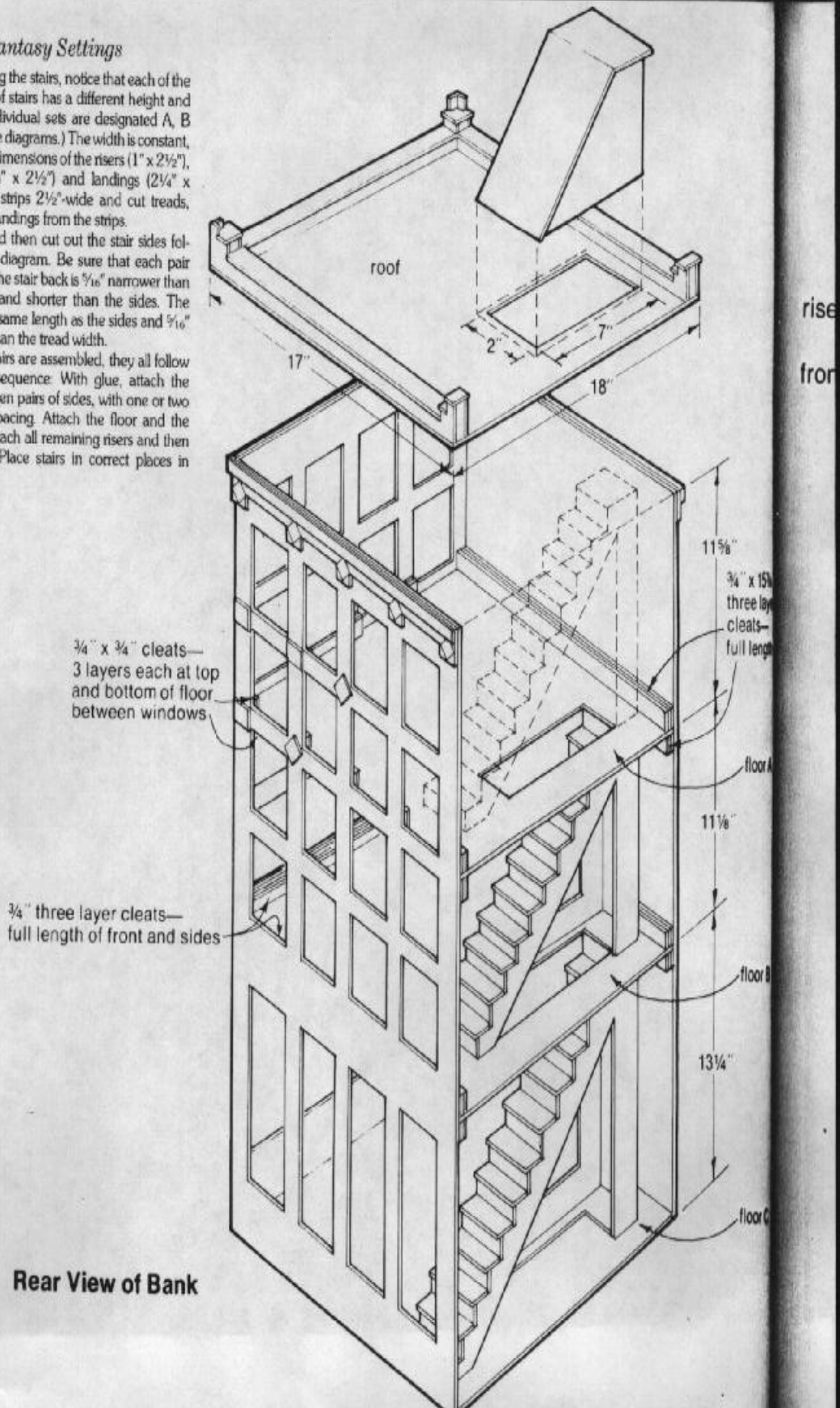


122 *Fantasy Settings*

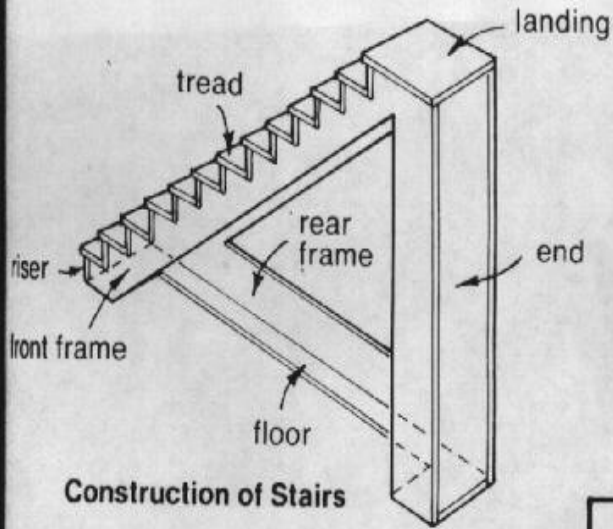
In making the stairs, notice that each of the three sets of stairs has a different height and length. (Individual sets are designated A, B and C in the diagrams.) The width is constant, as are the dimensions of the risers ($1" \times 2\frac{1}{2}"$), treads ($1\frac{1}{4}" \times 2\frac{1}{2}"$) and landings ($2\frac{1}{4}" \times 2\frac{1}{2}"$). Cut strips $2\frac{1}{2}"$ -wide and cut treads, risers and landings from the strips.

Draw and then cut out the stair sides following the diagram. Be sure that each pair matches. The stair back is $\frac{1}{16}"$ narrower than the treads and shorter than the sides. The floor is the same length as the sides and $\frac{1}{16}"$ narrower than the tread width.

When stairs are assembled, they all follow the same sequence: With glue, attach the back between pairs of sides, with one or two risers for spacing. Attach the floor and the landing. Attach all remaining risers and then all treads. Place stairs in correct places in bank.



Rear View of Bank



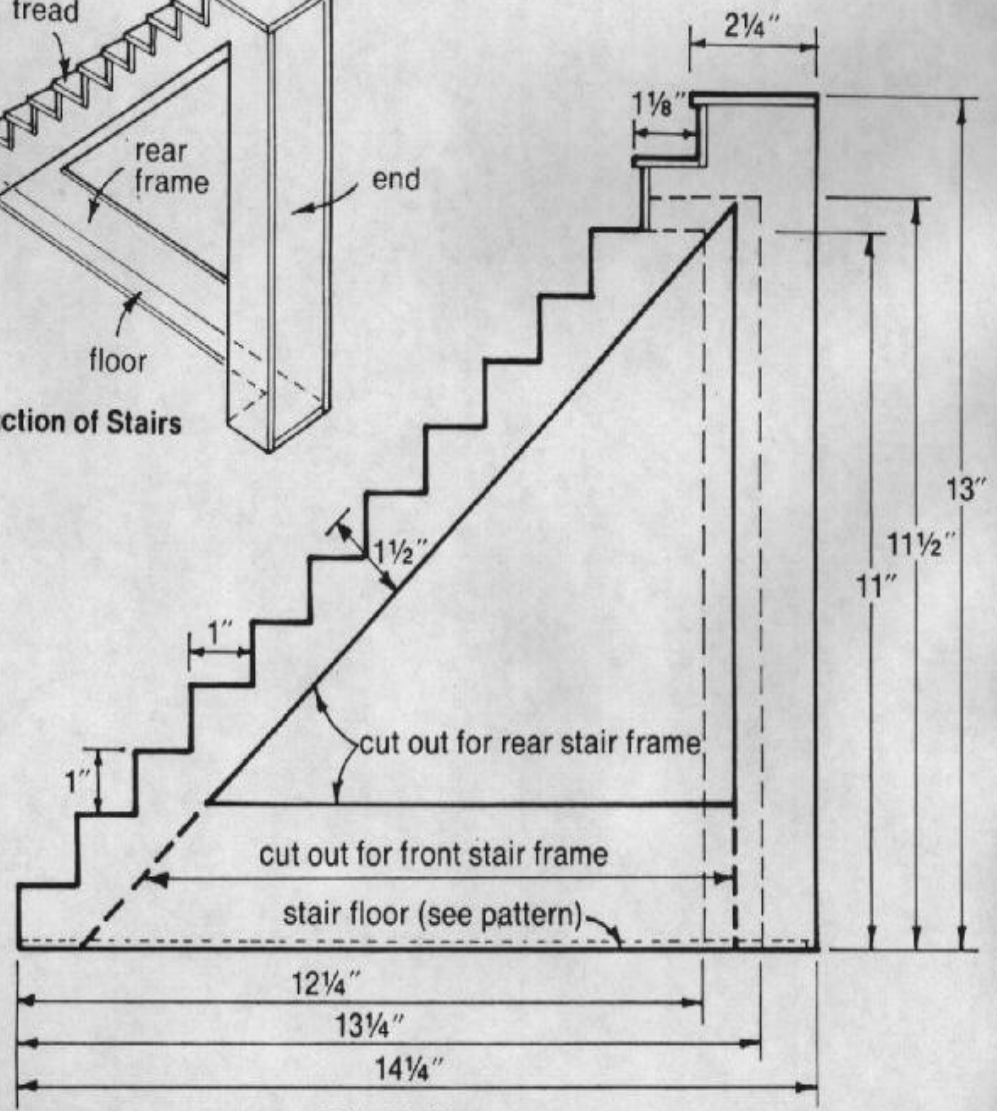
Construction of Stairs

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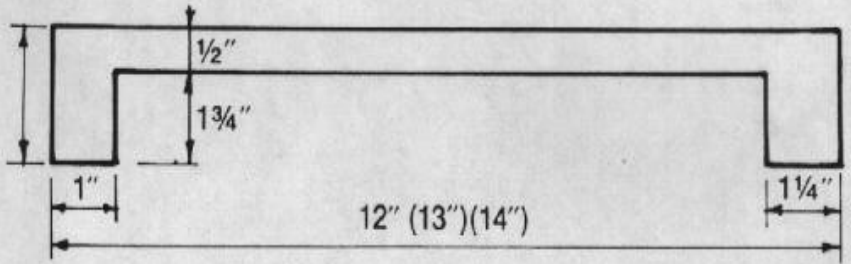
floor A

floor B

floor C



Stair Pattern



Pattern of Stair Floor



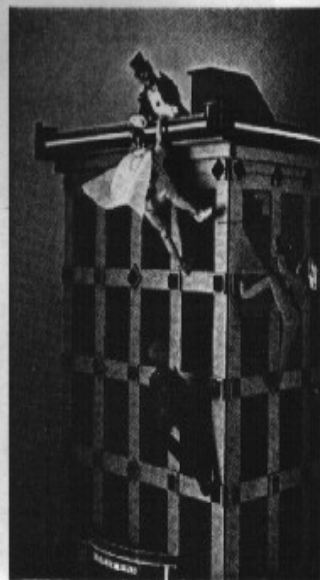
Each square = 1"

Bank Sign Pattern

To attach Velcro® tabs, use five-minute clear epoxy, mixed as needed in several small batches (it sets quickly). Cut 3/4" squares of Velcro and epoxy the fuzzier side of each to the cardboard plaques on building, centered on each one. The looped half of the tape can be cut into 1/4" x 1/2" pieces and glued to the back of action figures' hands and feet with hot glue, even if the feet are covered with fabric. If the figures are wearing boots, however, remove them; they are too rigid for "climbing" the building. Velcro can be removed from figures without damaging them.

Following adjacent instructions, first enlarge, then trace Bank Sign Pattern (advertising poster for side wall). Cut same-size piece thin cardboard; rubbercement sign to board. Color in letters with markers. Glue sign to side of bank.

TO ENLARGE PATTERN On a photocopy (a pattern itself if you don't mind marking book), preferably with colored pencil, connect lines across pattern to form grid. On rectangle of brown wrapping paper, mark dots 1" apart around edges, making as many spaces as pattern edges have squares; join dots to form grid. Make sure you have same number of squares as pattern, then draw in each the lines in corresponding squares on pattern.



To hold figures on wall, self-fastening tabs are glued to building, dolls' hands and feet.

Telephone Booth

Note In this unit, and some of those that follow, you will need varying lengths of nylon monofilament.

Cut cardboard pieces for the telephone booth with corrugations running vertically in all panels. Laminate two pieces for panel 1. Cut panels 3 and 4; cut out windows as shown in each; laminate into panel 3-4. Cut out panels 2 and 5. Cut and score panel 5 for the bifold door. Cut out the booth floor.

Cut two platform stops; glue one each to panel 1 and panel 3-4. In panel 1, cut a centered hole for the wooden bead (see Diagram, page 126) $\frac{1}{2}$ " on center from the bottom edge. Embed bead (see Gluing Wooden Beads, page 117) with bead's hole centered. Glue another bead to center of booth floor as shown. Cut out the base.

Glue the floor to the base and then add panels 1, 2 and 3-4 around floor. (Panel 5 will be glued in place later on.)

Cut out parts for the roof; assemble with glue. Stand panel 5 in place and check the fit of the roof (it should be loose). Cut parts for the platform (it also should fit loosely but not be able to fit past the stops) and assemble with glue. Punch a small hole in center of platform. Cut a centered notch in the frame of platform next to panel 1 so that it will not touch the wooden bead and monofilament when completely assembled. Thread a 3' length of monofilament nylon through the bead in panel, then through the bead on the floor and hole in platform. Loop it around a toothpick placed on top of platform and then back through the platform hole. Tie off the monofilament on itself. Place dabs of glue on toothpick ends to hold it in place.

Punch holes in two diagonally opposite corners of platform and thread a rubber band through each from below (page 126). Place

half toothpick through each rubber-band loop. Tack toothpick with glue to hold.

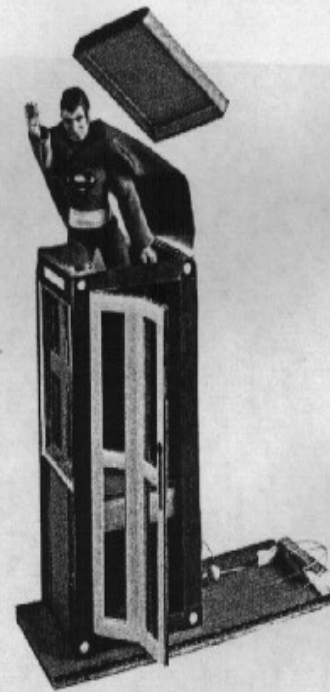
Place two pins with bead heads (or two toothpick halves with globs of glue placed at one end) into top edges of booth as shown. Pull up each rubber band. Knot band and slip around pin. The rubber bands should be tight enough to hold the platform firmly against the platform stops but loose enough so that platform can be pushed down to the booth floor.

Following page 126 diagram, glue a spring clothespin in place. Also glue a small block of wood in place to brace the clothespin. (Block here is about $\frac{3}{4}$ " sawed from the thick end of another clothespin.)

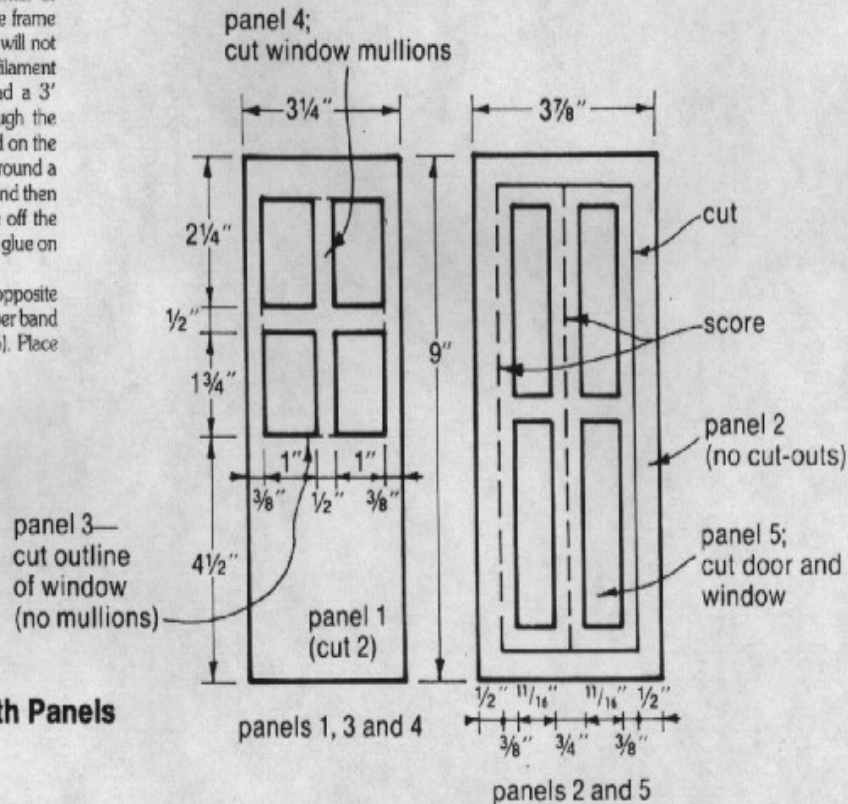
Depress the platform while holding the monofilament across the clothespin to ascertain correct positions of bead and two holding knots in monofilament. While holding it down, have a helper place a small dab of hot glue (or a tab of masking tape) onto the monofilament where it crosses to the far side of the clothespin. Make a double overhand knot at that point. Thread bead onto monofilament and make a second knot to hold the bead against the first knot.

Glue the bifold door frame in place.

Decorate the booth with tape and self-adhesive plastic as desired, or follow the color photographs.

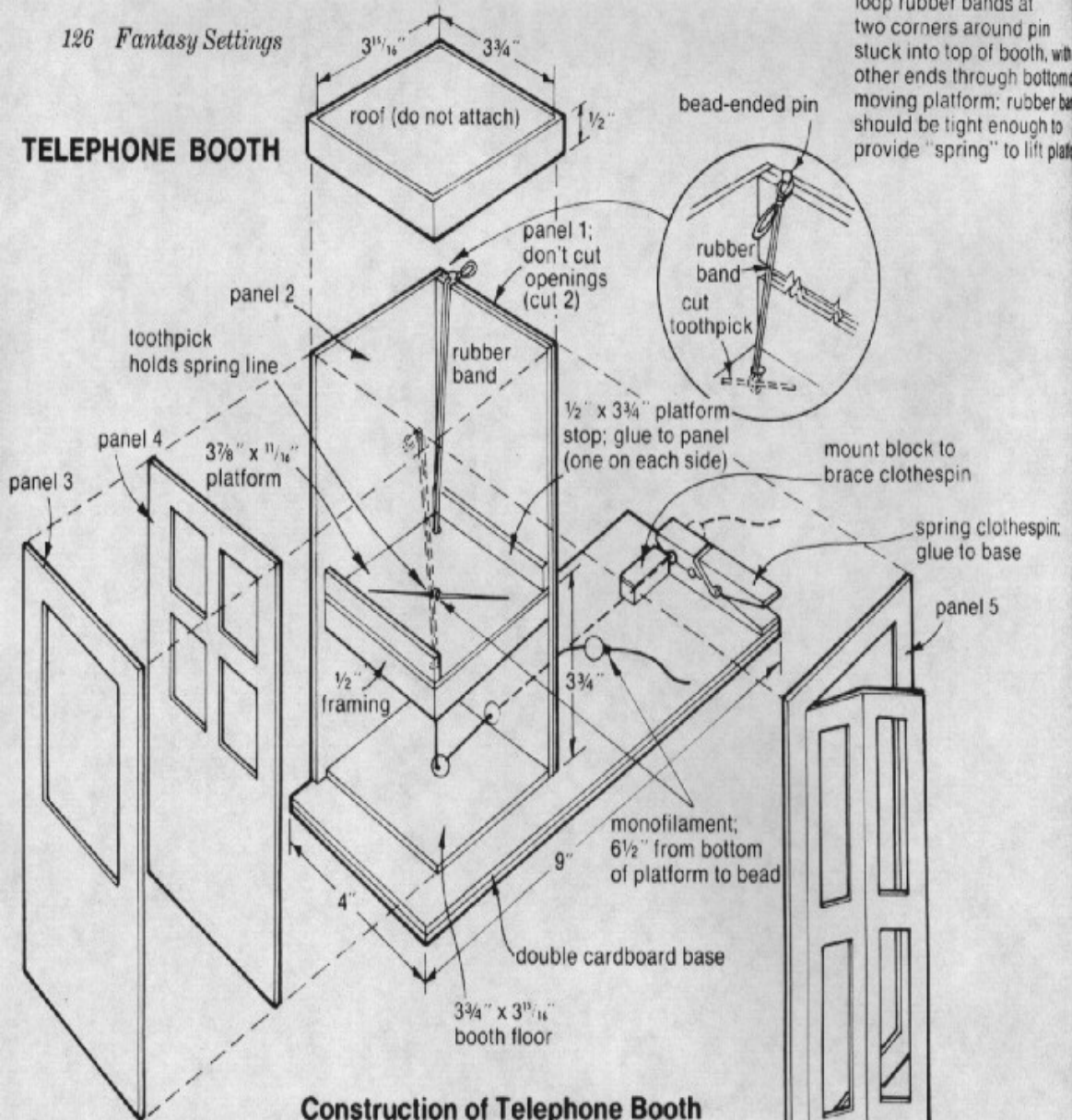


Push on clothespin (see page 126) triggers floor-raising mechanism in booth.

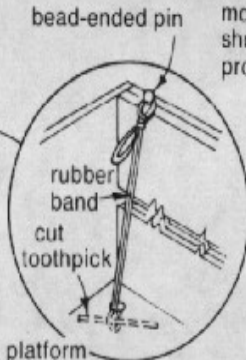


Telephone Booth Panels

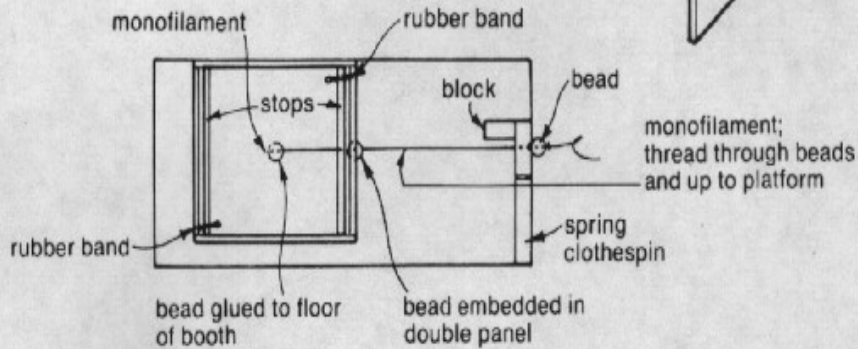
TELEPHONE BOOTH



loop rubber bands at two corners around pin stuck into top of booth, with other ends through bottom of moving platform; rubber band should be tight enough to provide "spring" to lift platform



Construction of Telephone Booth



Detail of Telephone Booth

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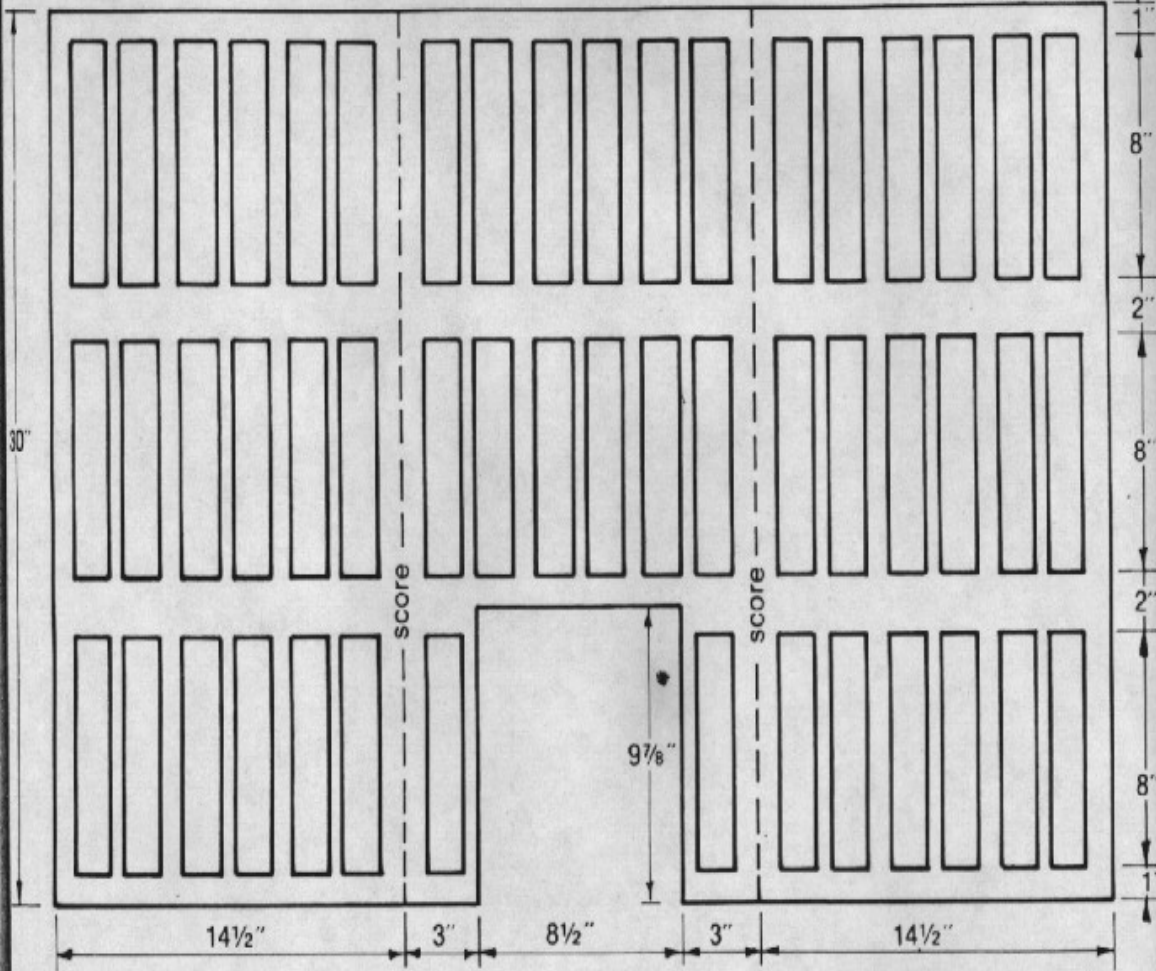
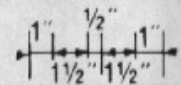
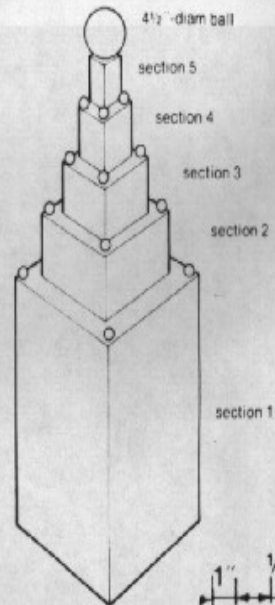
Skyscraper

Note instructions that follow call for table-tennis balls to decorate the skyscraper and as lights and lamps. See specific directions for number. One heavier, 4½" ball is required for the skyscraper tower — see the adjoining diagram.

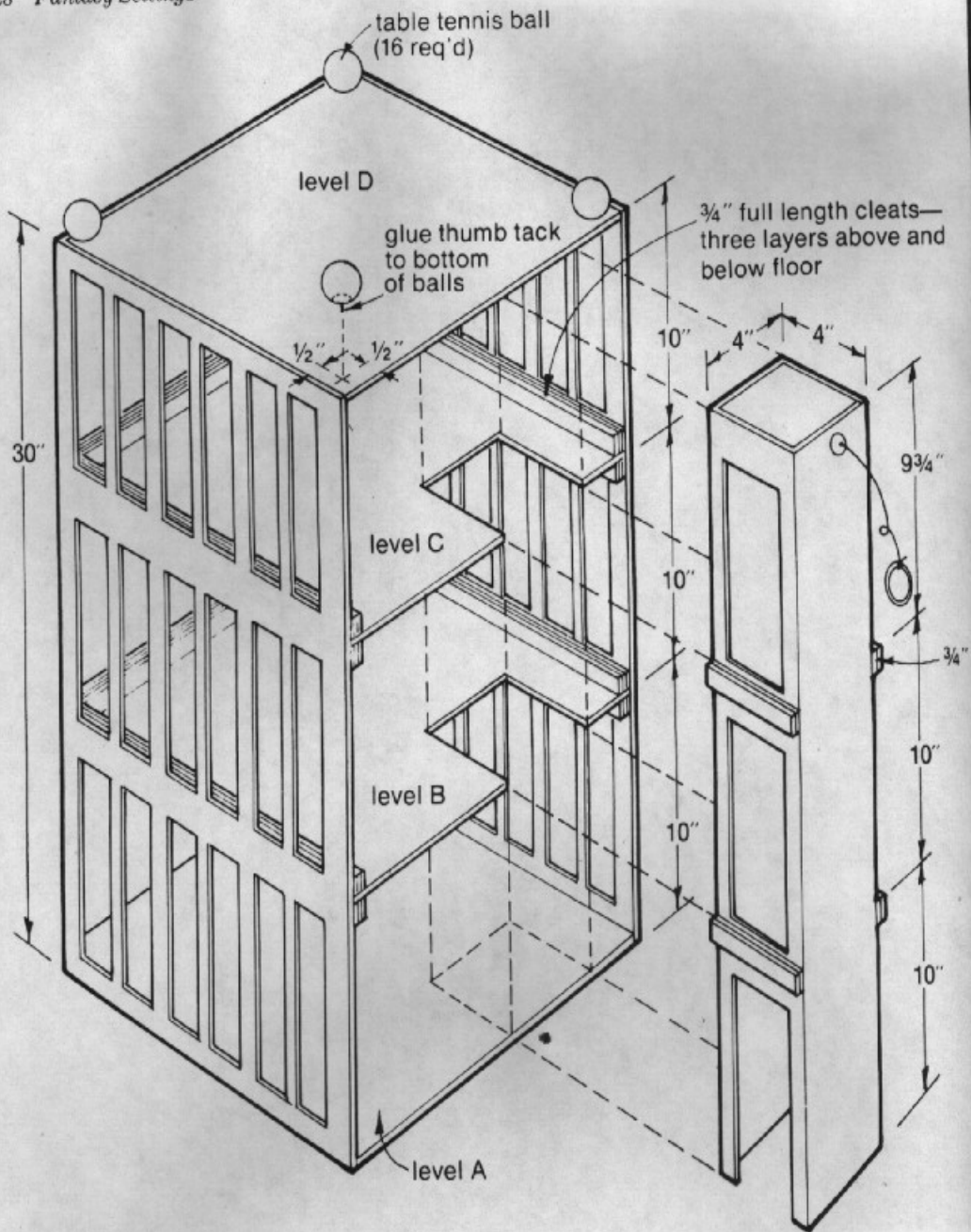
Read General Directions at start of project, and then cut out all major parts for the skyscraper. The building is composed of five separate sections. Only sections 4 and 5 (see Diagram) are attached to each other so that

section 5 with its heavy ball top doesn't topple easily. Sections 2 through 5 are four-sided; section 1 is three-sided with an open back. (The floors are removable.)

Assemble sides of section 1 around levels A and D with glue (see page 128). Then cut and laminate cleats for floors B and C. Install only the bottom cleats. Cut floors B and C with the large notch for the elevator shaft. Place floors on their cleats. While they are in place, glue on the top cleats, leaving a slight clearance so that the floor can be easily removed. Assemble all sections.

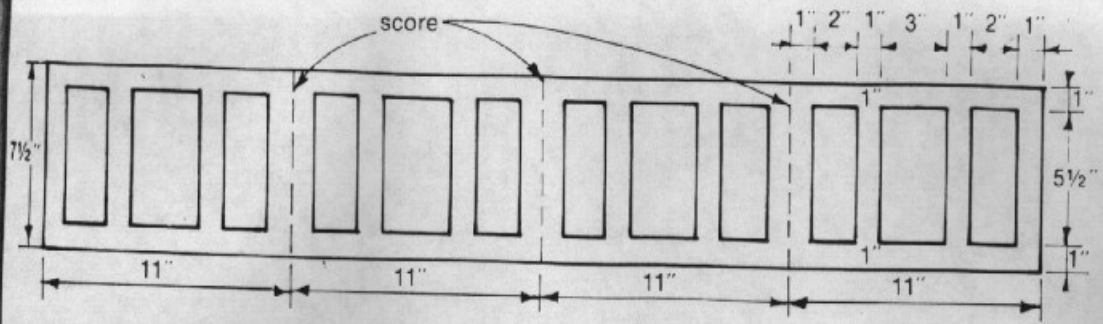


Section One

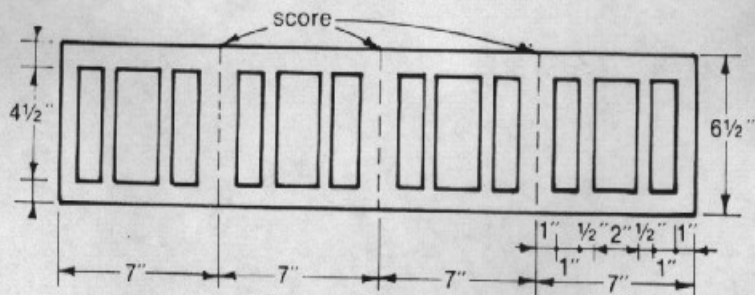
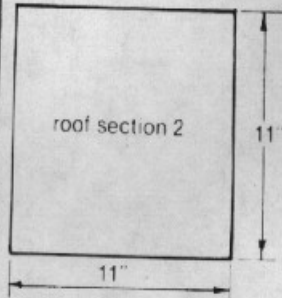


Construction Diagram of Skyscraper

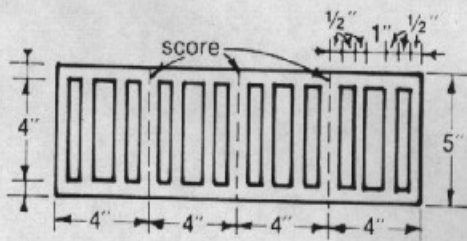
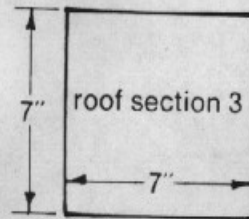
(Section One)



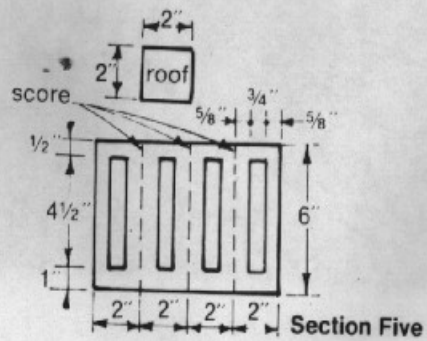
Section Two



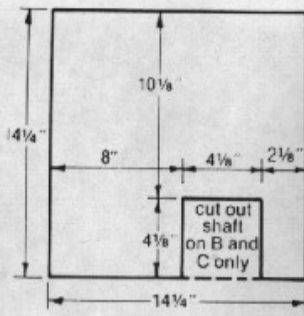
Section Three



Section Four



Section Five



Levels A, B, C and D

Cut out and score the elevator shaft; cut its top to fit. Glue a wooden bead (see *Gluing Wooden Beads*, page 117) to center of underside of top and one into the outside wall of the shaft as shown to make a path for the monofilament. Make sure bead holes are aligned. Assemble the shaft with glue. Place shaft in section 1. Mark the shaft on each side under floors B and C for the position of two-layer $\frac{3}{4}$ " cleats. Remove shaft; cut out cleat pieces. Laminate and glue onto the shaft. Cut out the elevator cab and assemble with

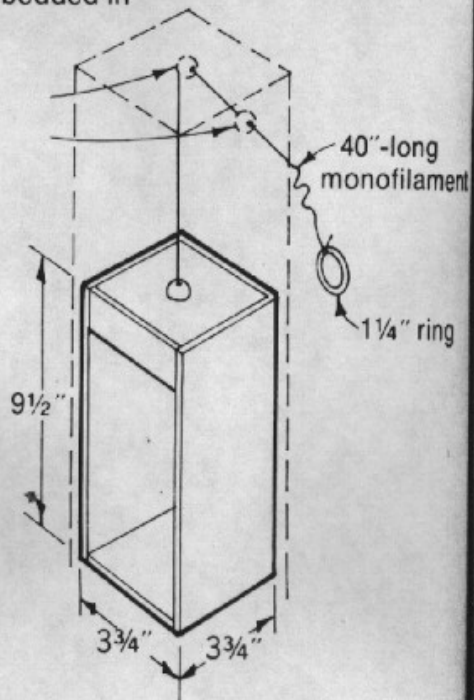
glue. Place and glue a wooden bead in the center of the cab top.

Cut a 40"-length of monofilament nylon. Thread one end through the bead in the elevator cab and tie a knot that is too large to pull through the bead hole. Tack knot against the bead with a dab of glue. Thread the other end of the monofilament up inside the shaft, through the top bead and then through the wall bead. Tie the end to a $1\frac{1}{4}$ " drapery ring so that cab can reach first level of building and cut off excess.

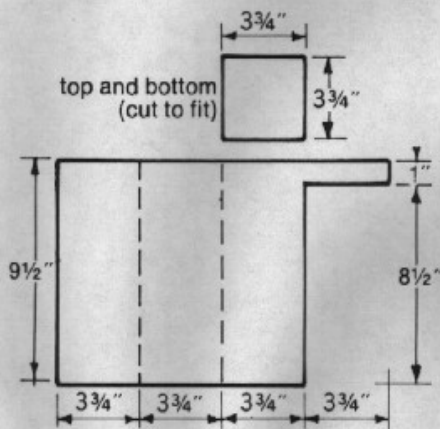
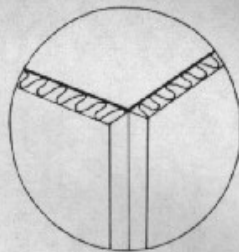
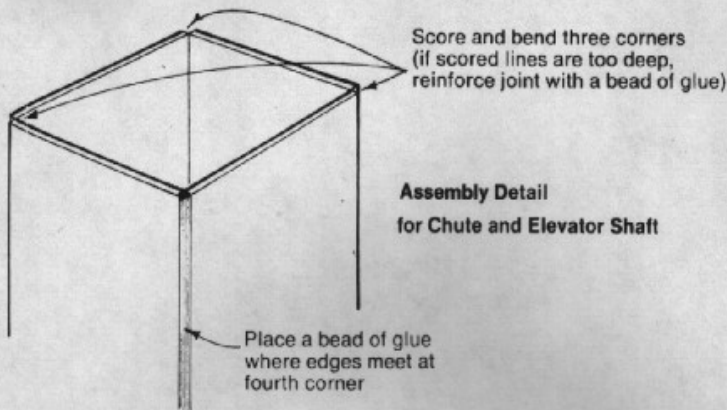


Elevator works on pulley of monofilament threaded through beads, tied to curtain ring.

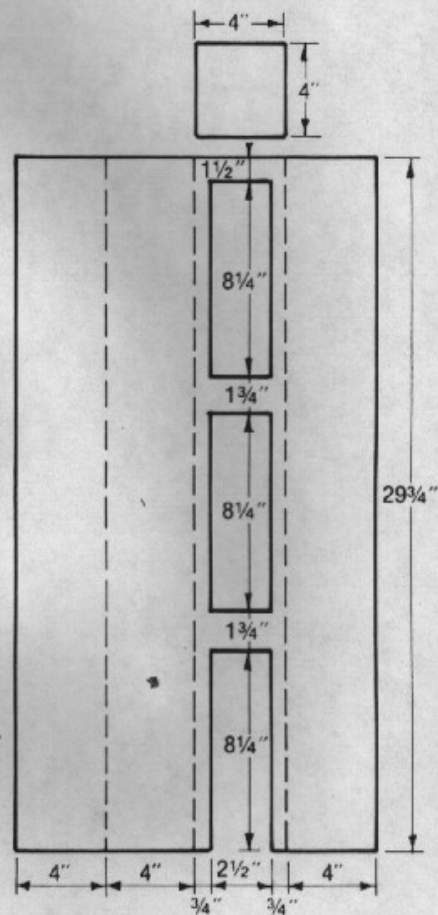
thread monofilament through bead embedded in ceiling of shaft and through second bead embedded in side of shaft



Elevator



Cab Pattern



Shaft Pattern

Decorate sections of skyscraper as desired. Decorate topmost ball with strips of tape. To attach ball to top of tower (section 5) center a glob of glue on roof; place ball on glue. Surround the ball with a circle of glue, making sure it touches ball and roof.

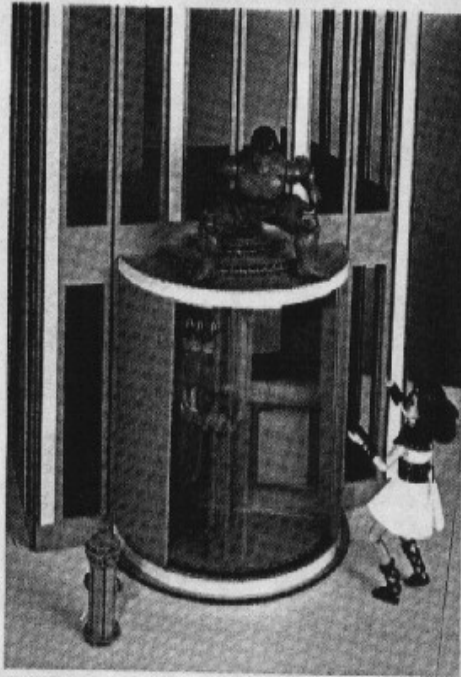
Table-tennis balls are used to further decorate the skyscraper. Paint them with acrylic artist's paints, mixing white and burnt umber to approximate the color of the cardboard after gluing one thumbtack to each ball. When dry, mark position of balls on each section; add a dab of glue on mark and push tack onto mark. (If young children will play with skyscraper, omit thumbtacks and glue on as for top ball, as described in preceding paragraph.)

Revolving Door for Skyscraper

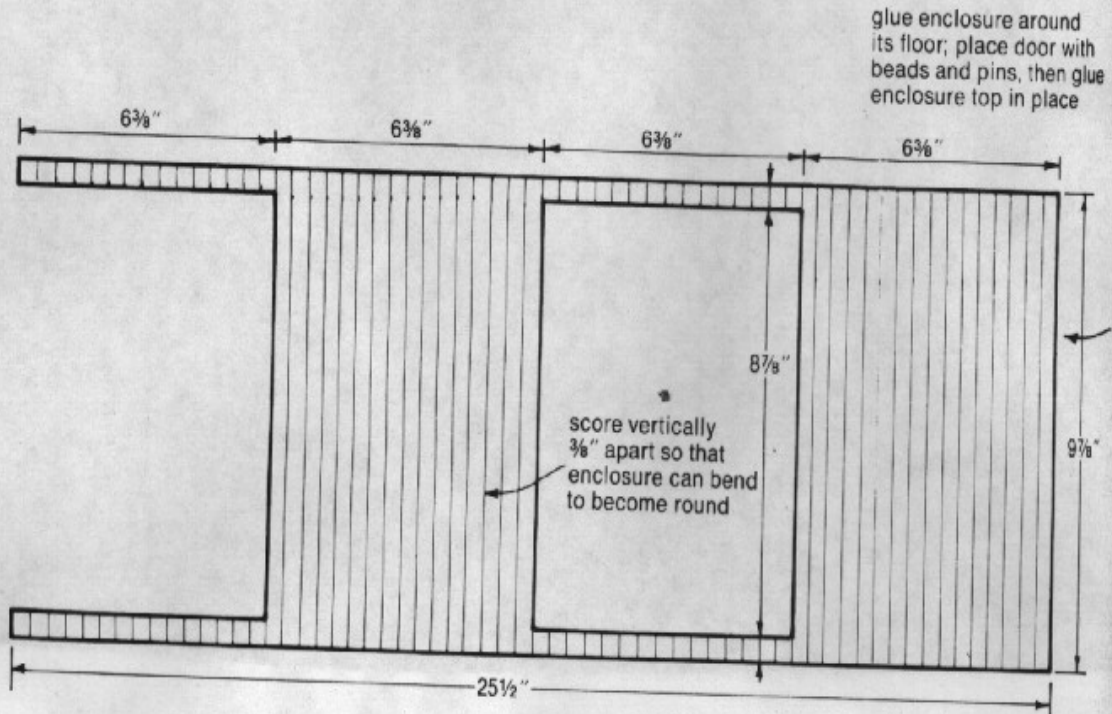
Cut and score all parts for revolving door as required, following diagrams. Glue the enclosure floor to the enclosure, bending enclosure around to form a circular shape as shown.

Assemble the doors and glue the pins, with points directed out, in place. Glue a 1/4"-diam. bead (see Gluing Wooden Beads, page 117) to the center of enclosure floor and top. Place the doors in the enclosure, with pin in center of the bead. Then glue top in place with bead on pin as shown.

Glue the entire revolving door assembly in place in the front opening in the skyscraper. Following detailed diagram, page 134, glue the semi-circular step to the floor and the three semi-circle units to the enclosure top.

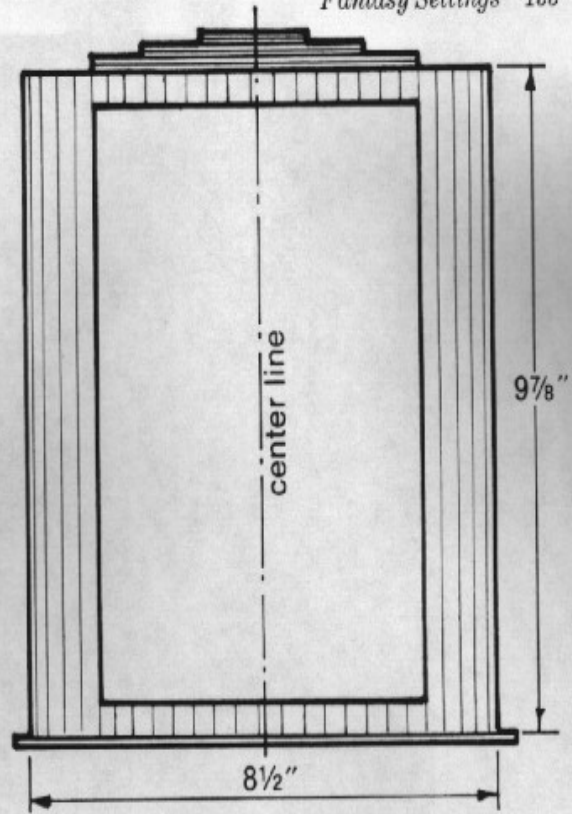


Skyscraper's revolving door turns on toothpick axis, sides are scored to curve.

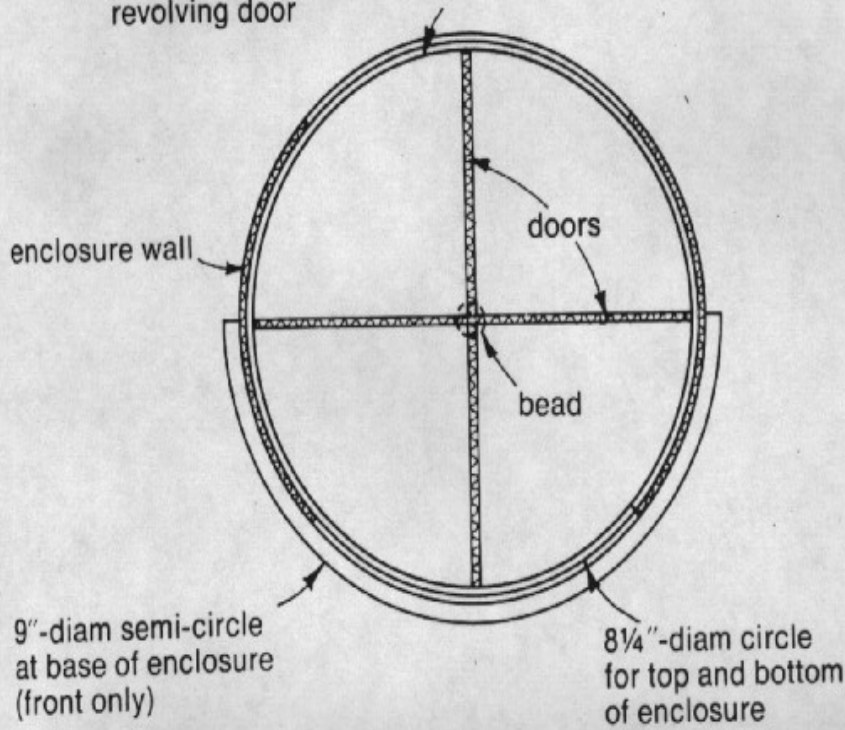


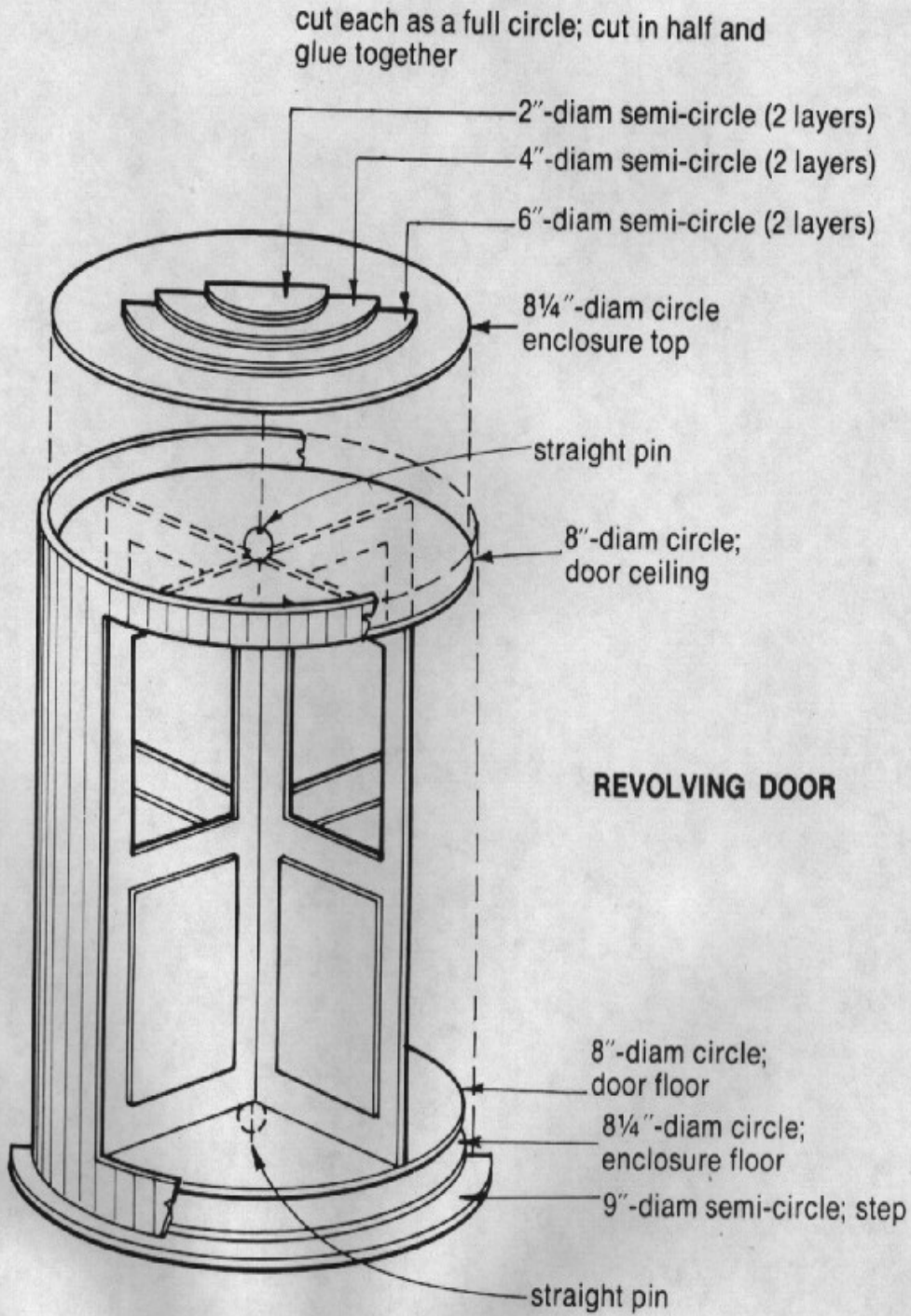
Revolving Door Enclosure Pattern

Revolving Door Enclosure Assembly



8"-diam circle for top and bottom of revolving door





Construction Diagram of Revolving Door

Apartment House

The apartment house is composed of three major sections. Each has its own floor and ceiling panels, except for the top section with arches, which does not have its own floor. The sections can be attached to each other permanently with hot glue or left in separate pieces to make storage easier.

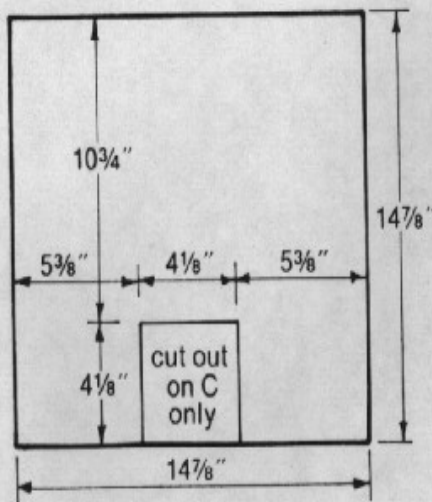
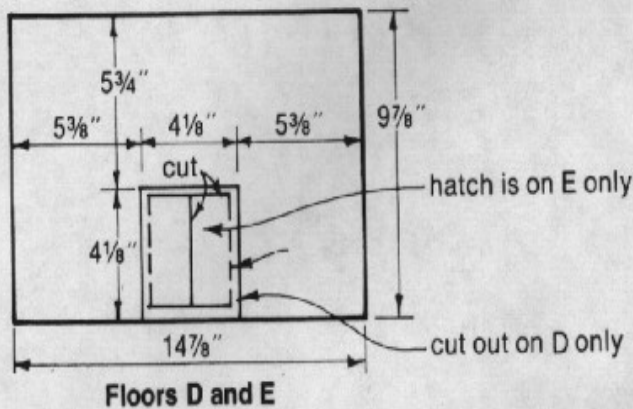
Read General Directions at start of project, and cut out all major pieces. Cut out the large notches in floor panels C and D and the trap door in floor E for the chute before assembly. Glue to assemble sections.

After assembly, cut pieces for the framing and the braces. Laminate them and install as shown on page 136.

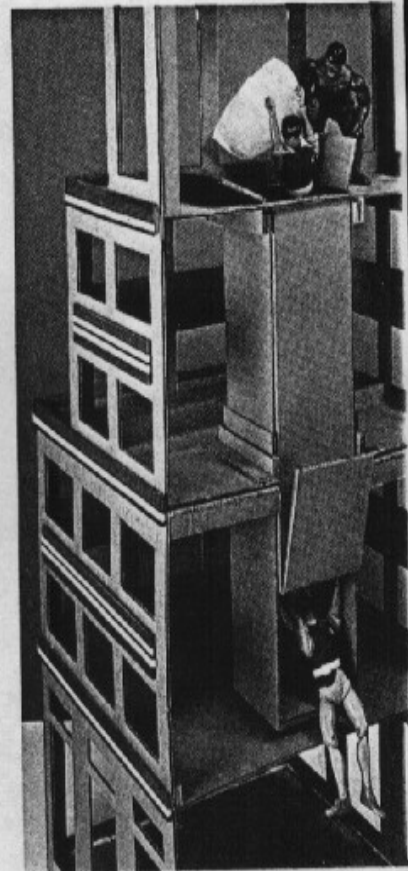
Cut and score the chute walls to fit between floors B and E (above and below) and

into the notches in floors C and D. Assemble chute around its floor and put in place in the building. (For a precise idea of chute assembly procedure, see detail on page 131.) Mark chute walls along framing on floor D for location of $\frac{3}{4}$ " guides on each side of the notch. Cut out and glue the guides to the chute walls.

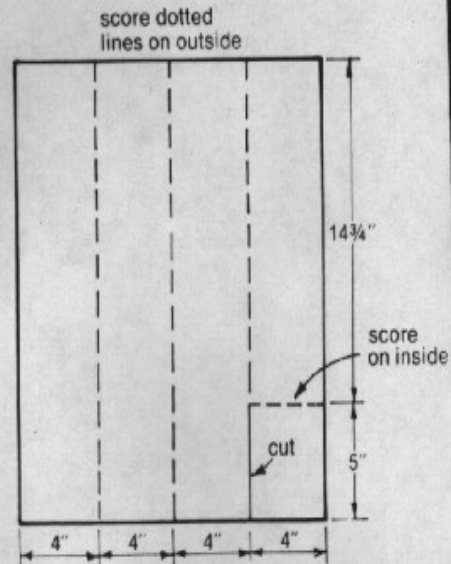
Cut 1" lengths of cardboard for building trim and decorate with self-adhesive plastic and tape as desired. Then glue to building, centering on top edge of each section as a low rail (to hold top sections in place) and placing one between the second row of windows and the door on the ground floor. Two additional sets of horizontal decorative panels are cut an inch narrower than the distance between rows of windows and to the same length as the total width of windows of each wall (see photograph, pages 116-117). After decorating with plastic and tape, they are glued in place, centered between windows.



Apartment Floors A, B and C

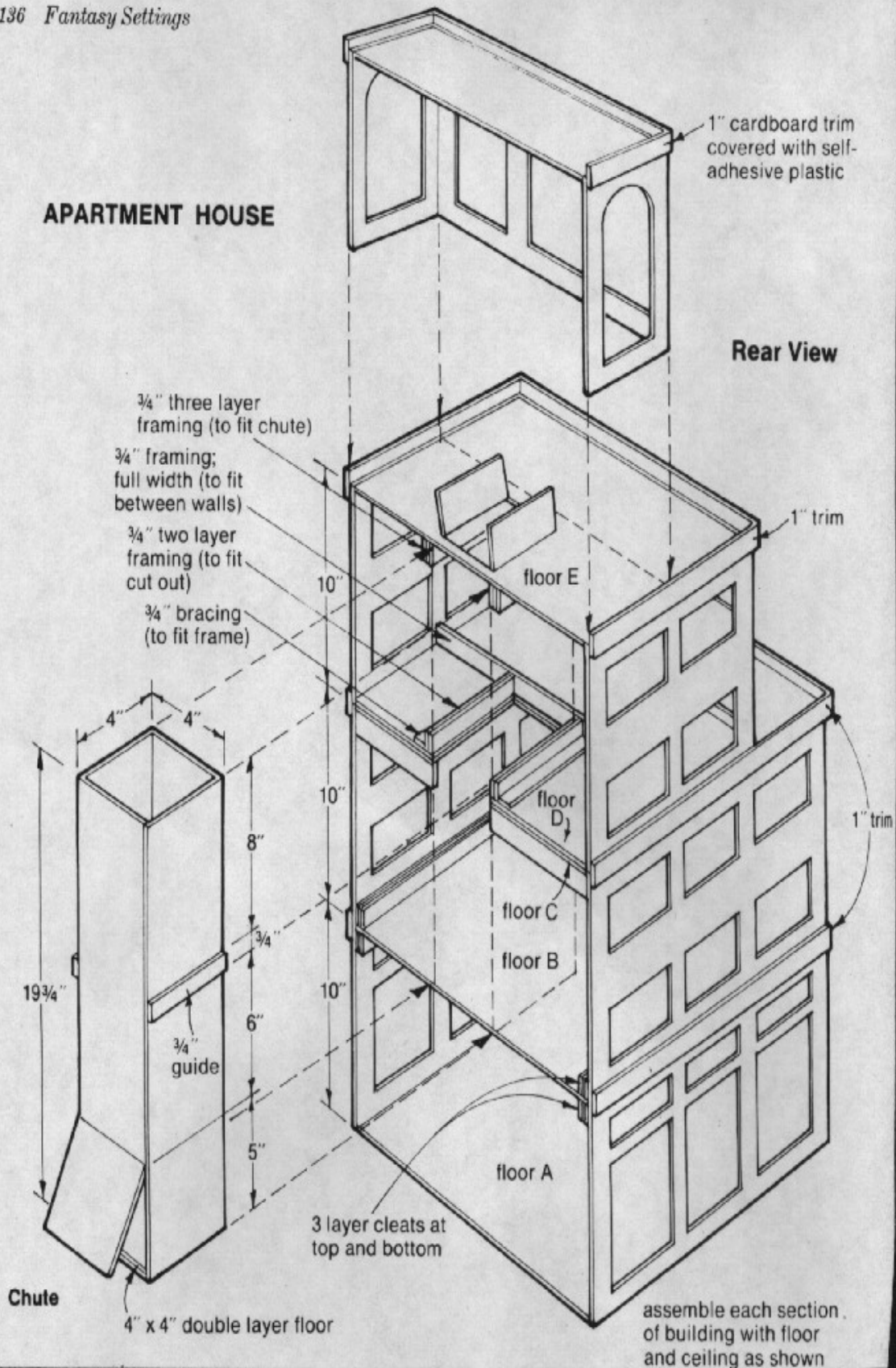


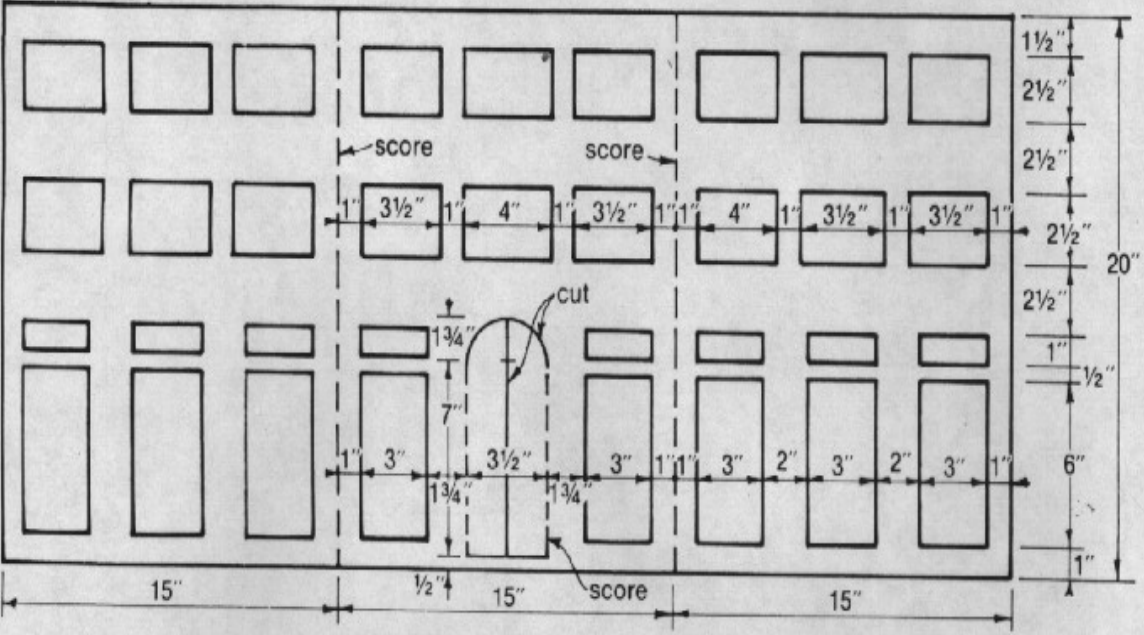
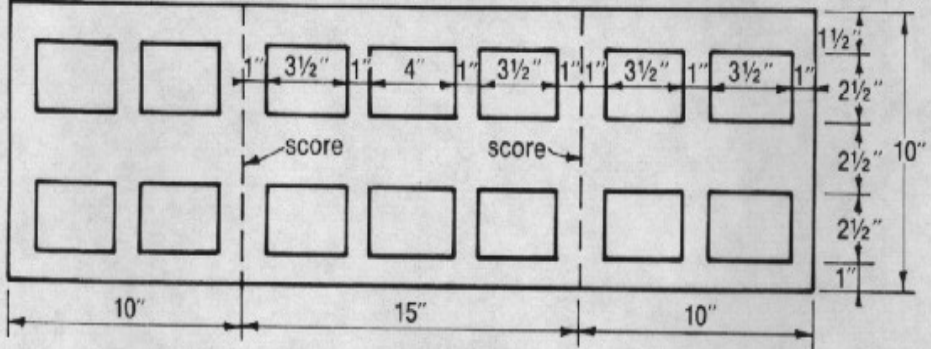
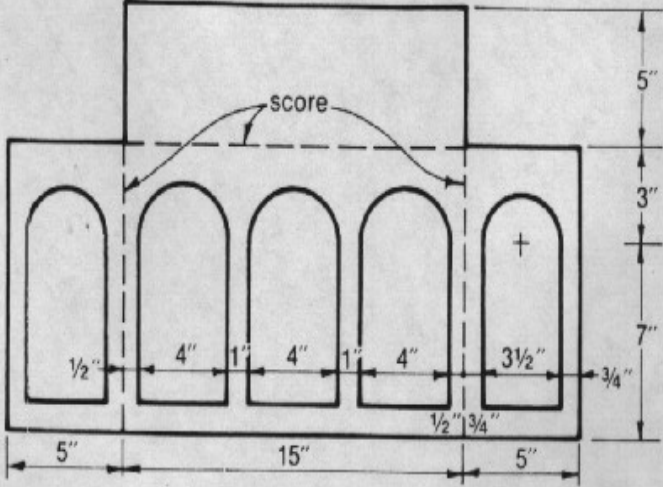
Tricky getaway route for Robin: through a trapdoor and down an escape chute.



Pattern of Chute

APARTMENT HOUSE



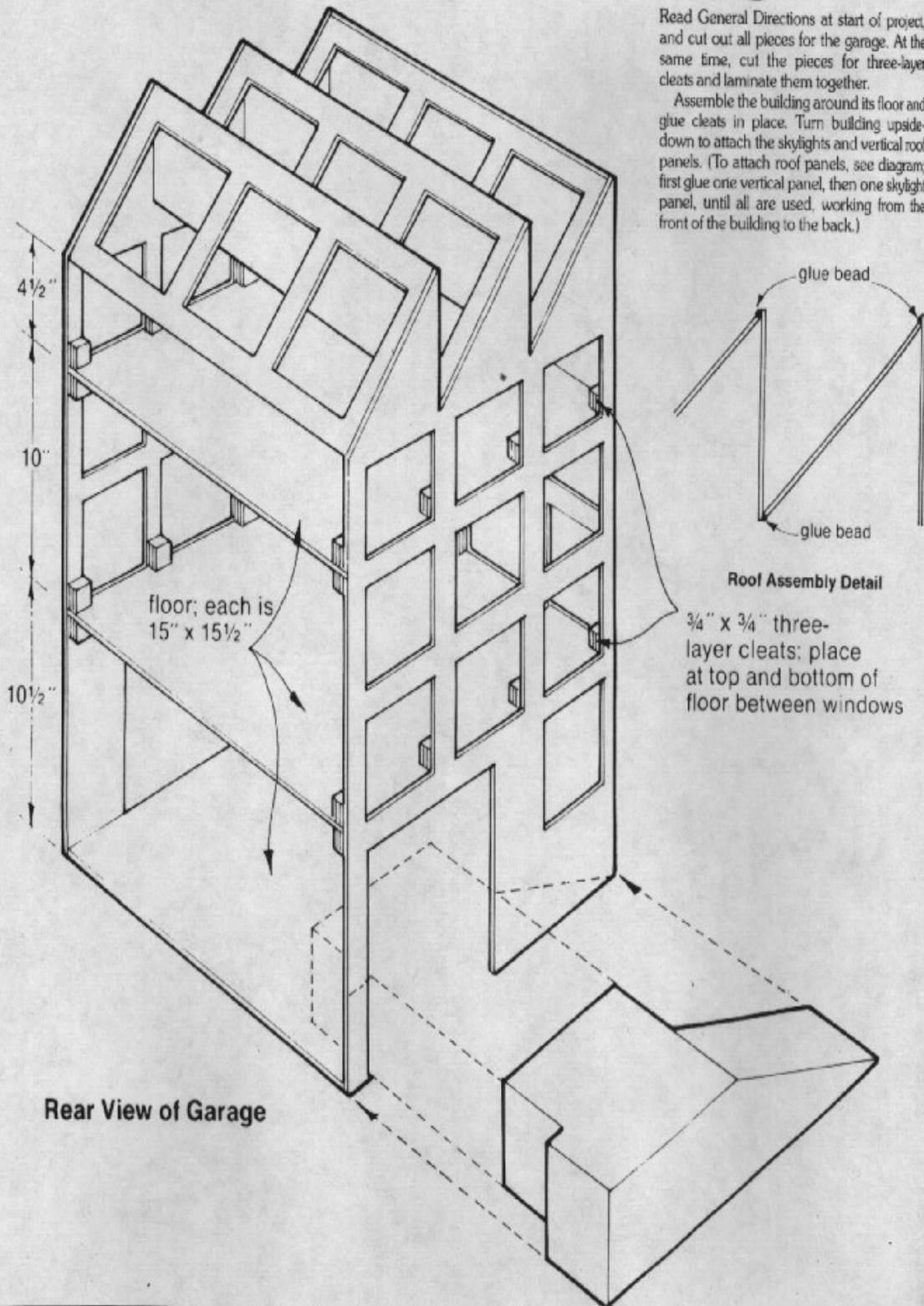


Apartment House Patterns

Garage

Read General Directions at start of project, and cut out all pieces for the garage. At the same time, cut the pieces for three-layer cleats and laminate them together.

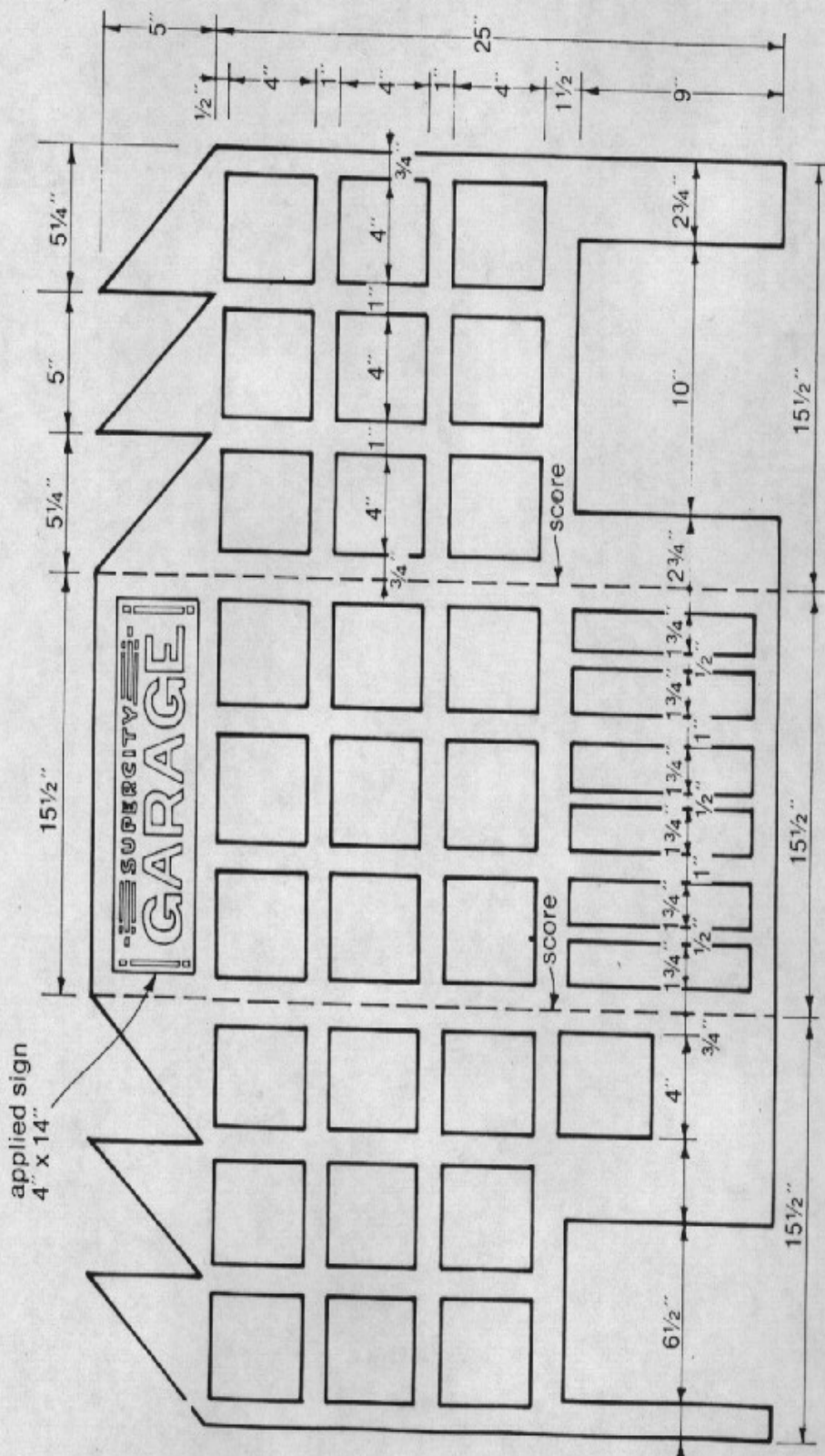
Assemble the building around its floor and glue cleats in place. Turn building upside-down to attach the skylights and vertical roof panels. (To attach roof panels, see diagram; first glue one vertical panel, then one skylight panel, until all are used, working from the front of the building to the back.)



Rear View of Garage

Roof Assembly Detail

$\frac{3}{4}$ " x $\frac{3}{4}$ " three-layer cleats; place at top and bottom of floor between windows



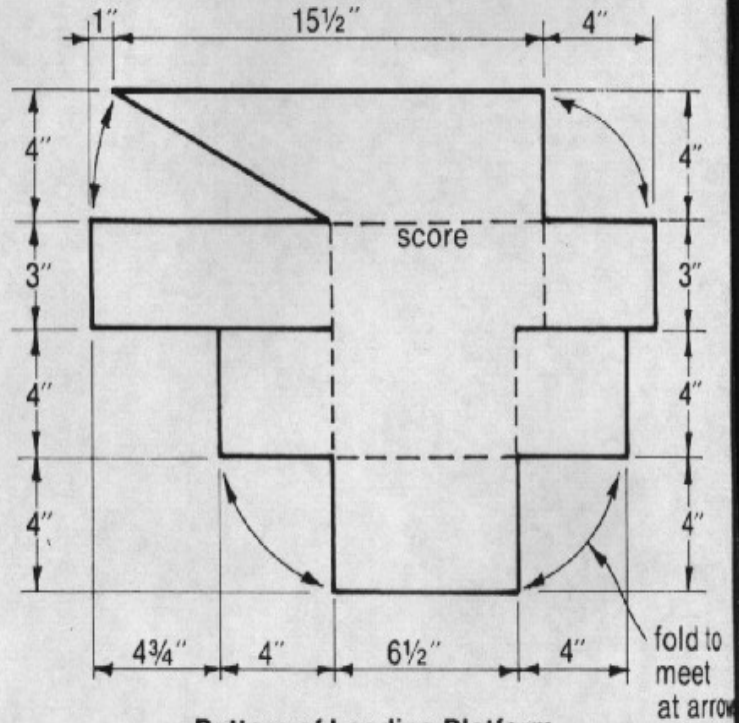
applied sign
4" x 14"

Garage Patterns

140 *Fantasy Settings*

On a 15" x 21" or larger piece of cardboard, lay out the pattern for the loading platform. Cut out and score on the dotted lines. Fold all parts down. Test-fit to make certain the platform fits the doorway in the garage. Secure folds and meetings with beads of glue along seams at underside. Place in garage.

Enlarge the pattern for the garage lights on lightweight cardboard (such as shirt cardboard) as follows: First connect lines across pattern to form grid over shape. Draw a true rectangle 5" x 6" on cardboard, then mark dots around edges, 1" apart, as indicated on diagram. Join dots across sides of rectangle to form grid. Be sure you have the same number of squares as diagram, then draw in each square the lines in corresponding squares on the diagram. Cut out enlarged shape; use as pattern to cut pieces from corrugated cardboard. Cut two table-tennis balls in half, sand cut edges, and glue to lights as shown; glue lights to garage.



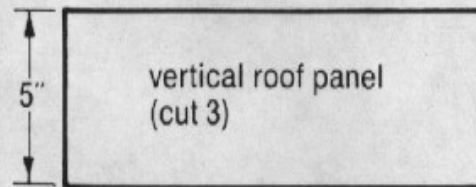
Pattern of Loading Platform

Each square = 1"

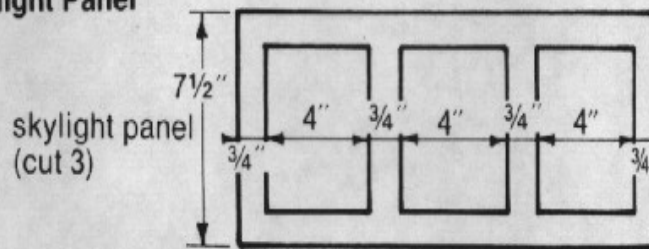


Garage Lights

cut table-tennis ball in half with nail scissors; sand cut edge and glue to cut-out cardboard piece where indicated



Skylight Panel



Enlarge the garage sign as directed. Trace on plain paper. Color it with felt-tipped markers and glue to a piece of cardboard (cut to the same size) using rubber cement. Mount sign on building, where shown, with glue.

Decorate building with self-adhesive plastic applied directly to building. Make treads on ramp with $\frac{1}{2}$ " blue and $\frac{1}{4}$ " yellow tape.



Garage Sign Pattern

TO ENLARGE PATTERN On a photocopy (or pattern itself if you don't mind marking book), preferably with colored pencil, connect lines across pattern to form grid. On rectangle of brown wrapping paper, mark dots $\frac{1}{2}$ " apart around edges, making as many spaces as pattern edges have squares; join dots to form grid. Make sure you have same number of squares as pattern, then draw in each the lines in corresponding squares on pattern.

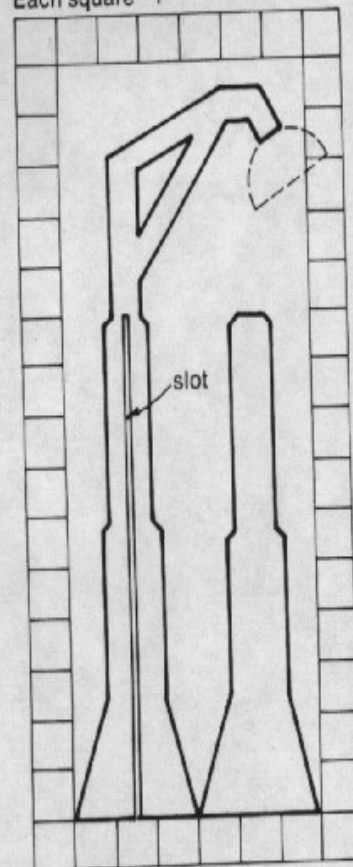
Lamp Posts

Enlarge the patterns on lightweight cardboard (such as shirt cardboard) as follows: First connect lines across pattern to form a grid over the pattern shapes. Draw a true rectangle 17" x 8" on cardboard (piece if necessary to get a large enough sheet), then mark dots around edge, 1" apart, as indicated on diagram. Join dots across sides of rectangle to form grid. Check to be sure you have the same numbers of squares as the diagram, then draw in each square the same pattern lines you see in corresponding squares on the diagram, and cut out the enlarged pieces. Using these as patterns, transfer lamp post diagram to corrugated cardboard, placing pieces so that the corrugations run vertically. Cut out pieces and slot in taller pieces.

Slip short piece into each slot. Test to be sure unit will stand and then run a bead of glue along the joint.

Cut a table-tennis ball in half with sharp scissors or single-edged razor blade; sand cut edges and glue to lamp post as shown.

Each square = 1"

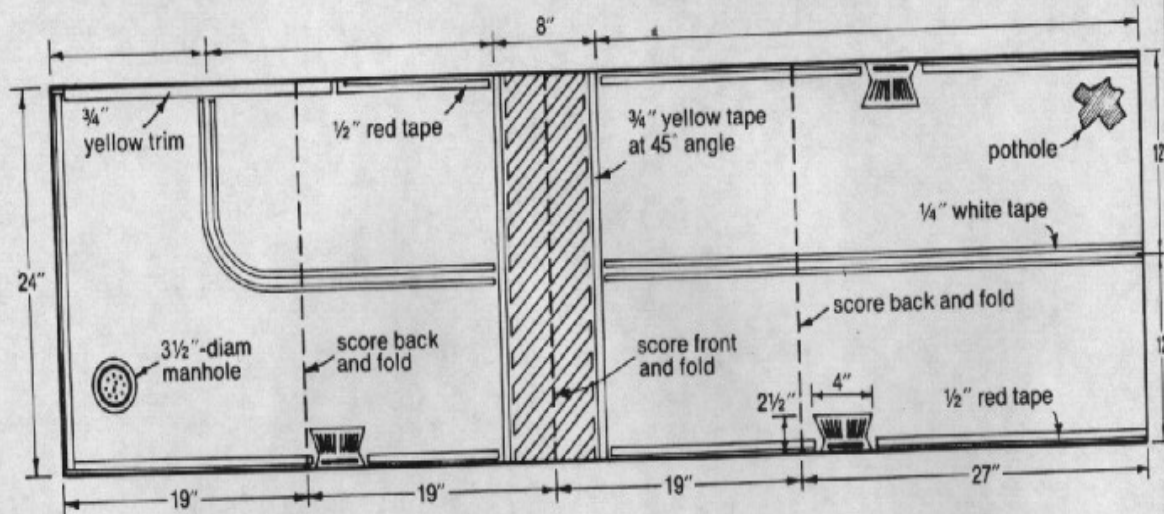


Lamp Post

Street

The street can be made on one piece of cardboard, 24" x 84", scored twice on the back and once on the face so that it can be folded up for storage. To make it with smaller pieces, use three: one 19" x 24", one 24" x 39" and one 24" x 27". Score the 39" piece on the face and then join the other pieces to each end with tape hinges on the back.

Use self-adhesive plastic cut into strips (see Decorating Buildings in General Directions at start of project) or tape to make the lines as shown in the street layout. Lay out all guidelines for taped decorations with light pencil marks. Cut and place self-adhesive plastic as desired, or follow the color photographs.

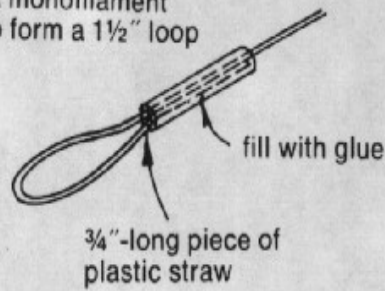


Street Layout

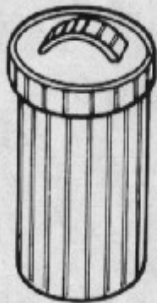
Skyline

Measure the distance between buildings where you want the skyline. The line in the photograph on pages 116-117 goes from the skyscraper to the garage, using a table-tennis ball at the top of one skyscraper section for one end of the line and a wooden bead attached to the garage near its bottom floor for the other. You can also use two wooden beads, attaching one near a roof of one building and the other near a bottom floor of a second. Cut monofilament nylon to the distance between buildings plus several inches at each end for attaching loops. Make skyline as shown in adjoining diagram, using plastic straws and glue. (The line must be taut to work properly.) Attach wooden bead to building (see Gluing Wooden Beads, page 117). Loop ends of line around beads (or bead and ball as was done in this project).

double back monofilament into straw to form a 1½" loop



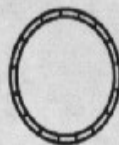
score 3½" x 7¼" cardboard vertically 3/8" apart; roll into body shape and glue seam; recess bottom ¼" and glue in place



Trash can

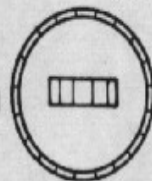
Using scraps of corrugated cardboard, cut out side and bottom as in diagram and assemble, recessing bottom slightly. Make lid to fit loosely; glue on handle as shown.

bottom



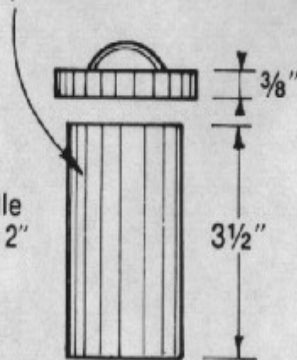
2"-diam (inside measurement; trim to fit if required)

lid



2½"-diam (inside measurement)

handle
3/8" x 2"



lid edging; 3/8" wide; score 3/8" apart and cut to fit; glue in place around edge of lid top circle

Fire hydrant

Using scraps of corrugated cardboard, cut out side and small circles for hydrant following diagram. Assemble side on bottom, then add top and tiny side circles as shown. Cut tiny circles with nail or other small, sharp-pointed scissors.

score 2½" x 2¼" cardboard vertically 3/8" apart; roll into body shape and glue seam

