Interchangeable wall panels let the living cube change to suit the season. In fall, Walker removes screen panel (above) for replacement with a window panel. Screen stores on sling under cube (left).

Make a LIVING CUBE

Modular wall panels let it change with the seasons for year-round multiple use on a compact scale

Design by LESTER WALKER/ *Architect*

Plywood beams for floor and roof support bolt to 4-by-4 corner posts. Note that holes are staggered so bolts will clear each other. Feet for the cube are cut from 2-by-10, treated with preservative, and bolted to columns.

Most homes are static structures. Once they're built there's little you can do to suit them to the seasons. You can take down the storm windows and put up the screens for summer, then reverse the procedure for the winter season, but that's about it.

Les Walker designed his country-living cube for much greater flexibility. Modular panels let you change whole walls to suit the seasons. Panels run the gamut from solid, pre-insulated type, to a floor-to-ceiling screened frame. In between are door panels, and two types of window panels. All are completely interchangeable.

This kind of flexibility adapts the living cube to a wide variety of uses. Build it as a backyard screened gazebo, or playhouse for the kids. Put it up on your country site where it can serve as your headquarters while you build a vacation home large enough for the whole family. Afterwards it can serve as a guest house or storage building.

You prefab all the parts—wall, roof, and floor panels, columns and feet—at home in your spare time. This lets you work at a comfortable pace in a comfortable place, where you'll have access to the power tools and electricity that may not be available at a remote country site. When you're ready, load everything on a small rented trailer and drive it to the site. You and a helper can erect the entire building in a single day.

As shown in the parts list included with the plans, next page, the living cube costs about $600 to build. This includes a small pot-bellied stove for heat. Options such as a Port-A-Sink, Coleman ice box, and a small Corlon chemical toilet raise the costs to around $700.

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Completely insulated walls, ceiling, and floor make the living cube easy to heat in winter with a small wood stove. Thus cube becomes good home base for snowmobiling or cross-country skiing.

for all seasons

Start by picking the modular panels you'll want for your needs. You'll need a door panel, plus seven others. (How *many* of each type is up to you. The numbers specified on the plans are one suggestion, but you may prefer to make seven screen panels for a gazebo.) Construction of all panel types is pretty much the same. First, cut all frame members to length, then rip rabbets in the perimeter pieces. Fasten the framing to interior cladding with adhesive and galvanized finishing nails. Place the insulation—foil face down—on the assembly, nail and glue on the exterior cladding. Use a prehung door for the door panel, ¼-inch glass for the fixed-glass panel, or an Anderson #X303 window for the window panel. The screen panel is the basic perimeter framing with screening secured under nailed-and-glued wood strips.

Floor and roof panels are simple plywood and 2-by-4 sandwiches with insulation filling. Be sure to make the floor panels as a pair—one right-handed, the other left-handed. Roof panels are identical except for the placement of the corrugated iron roofing, which is staggered to produce a rain-tight overlap at the center seam.

Building the beams for floor and roof

These are cut from plywood according to the layouts printed with the plans. Ledger strips and drip caps go on with the 3M glue and nails. Take care to stagger the bolt holes in the ends of the beams, so bolts will clear each other.

Once the beams are made, use them as templates to

Continued

1 **Wall panels** are glued sandwich of plywood and fir framing with a filler of foil-faced fiberglass insulation.

2 **Nails and 3M adhesive #5280** are used to assemble all panels. Outer framing members are rabbeted for seal.

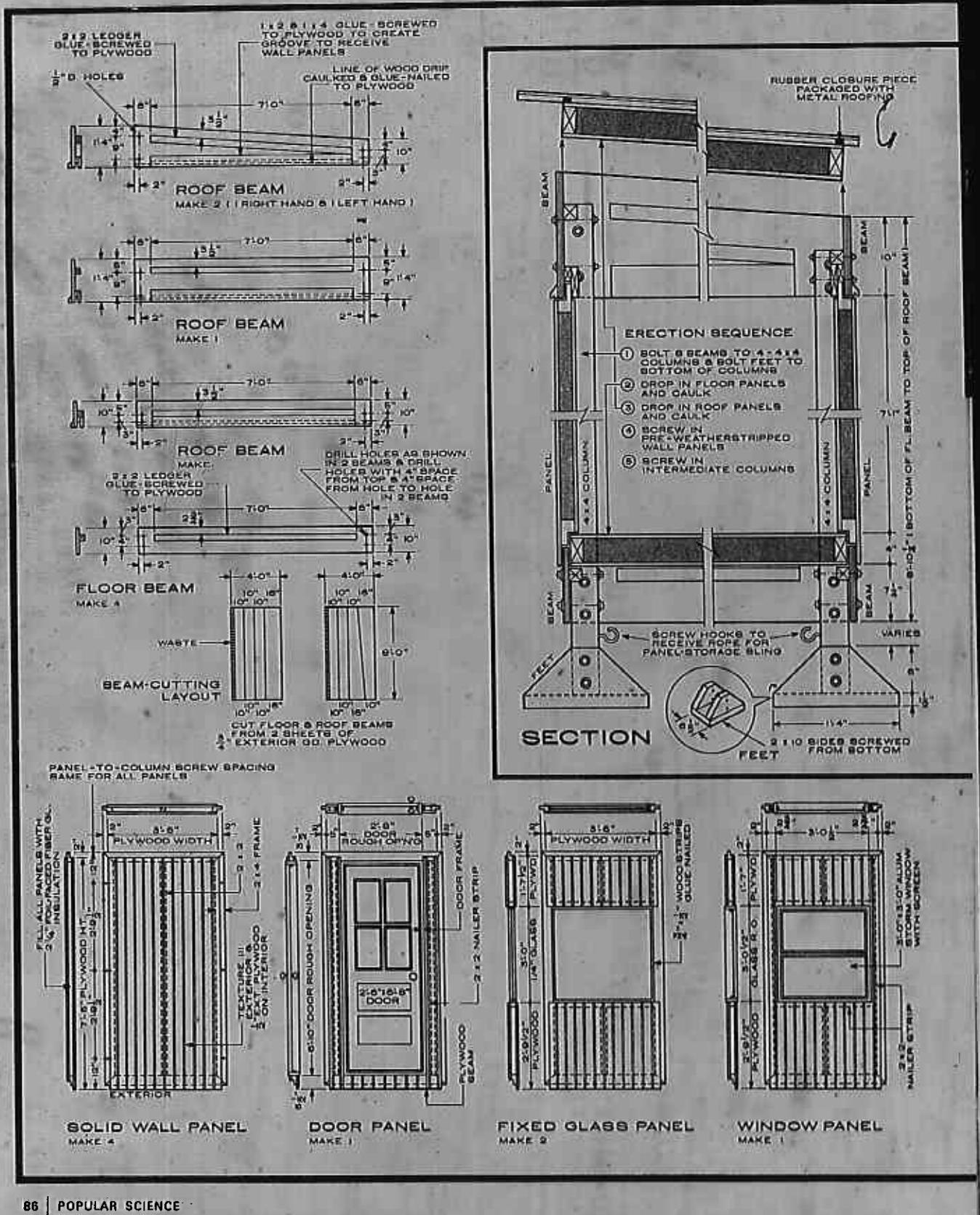
3 **Framework is bolted** together on building site. Floor beams attach to columns first, then come the four roof beams.

4 **Floor panels** just drop into place; center seam is caulked with silicone. Then the roof panels drop in, above.

5 **Wall panels are raised** up and into the grooves in the roof beams, then lag-screwed to columns. No caulking needed.

lay out the bolt holes in the 4-by-4 columns. Lengths of the columns are not given in the plans—you determine these yourself, once you've placed the footings for the cube. This allows you to vary column lengths to suit the slope of your building site. Footings for the living cube needn't go below frost. Even hard-packed earth would provide adequate support for the wooden feet—assuming your site doesn't require anchoring against heavy winds.

Once all parts are collected at the site, erection of the cube goes fast. To start, bolt the eight beams to



the 4-by-4 corner columns. Then bolt on the feet, place the framework in position and check to see that it's level. Drop in the floor panels and caulk. Then drop in the roof panels. Panel B goes in first, panel A goes in second so the steel roofing panels overlap. Next come the wall panels. Use lag screws to secure the panels to the corner columns, then bolt in the intermediate columns at the four panel-to-panel joints in the center of each wall. Do not use caulk on any of the panel joints; this would "glue" the panels in place. PS

MATERIALS LIST

Amount	Material	Use	Cost
6 4x8 sheets	5/8" texture III plywood	Ext. panel cladding	$ 72
14 4x8 sheets	1/2" exterior-gd. plywood	Panel cladding	$112
2 4x8 sheets	3/4" exterior-gd. plywood	Beams (paint yellow)	$ 16
8 8' lengths	1x4 #2 pine	Beams & int. cols.	$ 8
4 8' lengths	1x2 #2 pine	Beams	$ 4
20 8' lengths	2x2 #2 pine (rip from 10-8' 2x4's)	Beams & pan. (nailers)	$ 16
48 8' lengths	2x4 kiln-dried fir	Panels (frame)	$ 52
4 12' lengths	4x4 fir	Columns (paint yellow)	$ 16
2 13' lengths	2x8 fir	Feet	$ 8
8 8' lengths	1/2"x3/4" trim	Beam drips. & wdws.	$ 8
2 tubes	3M 5280 glue 1/10-gal. tube	Panels	$ 8
1 roll	150' 24" 2 1/4" th. foil-faced insul.	Panels	$ 10
1 door	2'6"x6'8" ext. door w/hrd. & frm.	Door panel	$ 40
1 window	3'0"x3'0" alum. storm window	Window panel	$ 10
2	3'6"x3'2" 1/4" glass lites	Wdw. (fixed gl.) panels	$ 40
200'	Rubber weather stripping	Panels	$ 12
8 lbs.	1 3/4" galv. fin. nails	Panels	$ 2
32	5"x1/2" d. bolts (r.h.) w/nuts/wash.	Beams to cols.	$ 8
24	2 1/2" hex-head lag screws	Panels to columns	$ 3
24	2" h.h. 1/4" bolts w/bols & wash.	Panels to int. cols.	$ 3
2 tubes	G.E. silicone caulk (1/10 gal.)	As needed.	$ 8
1 piece	3'6"x6'0" fine alum. screen	Screen panel	$ 10
1 gal.	Yellow exterior enamel	Beams & columns	$ 10
1 pt.	Orange enamel	Trim (door), feet	$ 3
2 qts.	Polyurethane fl. varnish	Floor panels	$ 7
8	8"x1/2" bolts w/nuts & wash.	Feet to columns	$ 4
32	2" #8 screws	Beams	$ 2
3	30" lengths 6" stovepipe	Heating	(Opt.)
1	Stovepipe cap	Heating	(Opt.)
1	Sears pot-belly stove	Heating	(Opt.)
1	Insulated elbow (6" dia.)	Heating	(Opt.)
2 sheets	5'x8'4" corr.-alum. roofing	Roof panels	$ 18
1 gal.	Wood preserver	Exterior cladding	$ 6
24	3" #8 screws	Feet	$ 1
		Total	$527