

LAST-MINUTE GIFTS TO MAKE **WORKBENCH**

THE DO-IT-YOURSELF HOME IMPROVEMENT AND WOODWORKING MAGAZINE

FREE
CALENDAR
FOR
1992

BUILD A PLYWOOD CABIN

- **Energy Efficient**
- **Simple Construction Techniques**
- **Gets Maximum Space from a Small Lot**

**8 NEW
WOODWORKING
PROJECTS—PLANS INSIDE**

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1992's COOLEST TOOLS, HOTTEST HOME PRODUCTS

PRESSURE IN THE SHOP

WAITING FOR THE LIGHT



Photographer Geoffrey Sutton stands atop his truck in Hamilton, Montana, waiting for the light to be just right to shoot this month's cover. Owner-builder Paul Butler waits for sundown in a more leisurely repose. The vacation cabin story begins on page 35.

As avid woodworkers, we like to take gift-giving literally into our own hands. We're proud of our skills and the projects we can build from scratch. After all, it's not everybody who can make toys, crafts and furniture from a slab of wood.

There's only one problem: Time. If you work full time, your free time is probably devoted to home and family. (I can almost hear retirees saying how busy they are, too. Believe me, today's retirees are some of the busiest people I know.)

When it comes down to crunch time, you scramble for gift project ideas. Besides the projects we publish year-round, you can find last-minute and belated gifts to make in this issue. The mug tree (p. 56) and cutlery rack (p. 60), both made of oak and walnut, are all-time favorites. Build them separately, or as companion pieces.

The baby block shelf on p. 63 is a *Quick & Easy* project made from store-bought blocks. It's a great gift for friends and family with infants.

The tie rack (p. 64) and step stool (p. 66) are easy gift projects for beginners to make with a sabre saw and a drill.

DON'T BUCKLE UNDER

Whether you build gifts from our plans or from your own imagination, remember that working under time constraints is precisely when most shop accidents occur. You force a dull sabre saw blade to make a cut because you don't want to take the time to change to a new blade. You don't replace the saw guard, sharpen the chisels or unplug the router to change bits, unsafe practices all.

Stop and think! At the risk of sounding like a public service advertisement, remember: The best gift you can give your loved ones is your health. Don't sacrifice safe procedures during those last precious moments before the gifts are due. Working safely can actually save time — a sharp blade cuts faster and smoother, saves on sanding time and wastes less wood.

So have a safe, happy holiday, and don't worry about giving your gifts a bit later than expected, if you must. Keep the shop floor and work surfaces clean, always don your safety goggles, and make sure your gifts don't come at a much greater cost than time and materials — your health and well-being.

Robert N. Hoffman

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BUILDER FRIENDLY

AN ALMOST ALL-PLYWOOD CABIN

The authors built their house like they build their boats—efficiently, cost-consciously, and with do-it-yourself techniques; see p. 44 for information on ordering plans

By Paul and Marya Butler

A few years ago we bought 15 acres of land in the mountains of western Montana. We built a small, one-room cabin for use as a vacation home and spent as much time enjoying the mountains as our schedule allowed. We eventually made an addition to the original cabin module and the extra room worked quite well until our business expanded, our daughter was born, and we found ourselves spending more and more time in the mountains. Previously we had lived on a sailboat, so operating in small spaces was not a problem, but it was clear we needed more room.

Over a period of years we collected design and building information from a variety of sources, while experimenting with different types of construction. After designing and building ocean sailing boats for over 20 years, we had definite ideas about what would work best. We were also interested in a structure that would be energy efficient in the extremes of Montana weather, yet simple enough to be amateur built. Combining our research with firsthand experience from the prototype cabin, we designed and built our new home.

As a starter home, this cabin can be built by someone with a small piece of land and not much else, and completed with economic practicality as time and finances allow. As a vacation cabin or second home, it can be finished rustic or upscale to accommodate tastes. It is designed to be as simple as possible for the first-time builder. Plans for the cabin (see How to Order Plans, p. 44) help the novice decide whether to build one or





Photos, Geoffrey J. Sutton

Construction photos by the authors



The three-level deck wraps the house on the east and south sides, and extends 10 ft. on the west side. The north side is open for adding on an optional garage, or more living space.



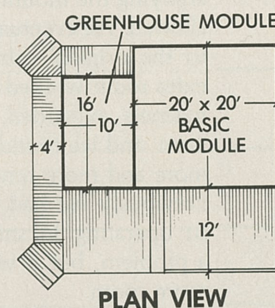
Deck joists are bolted to posts, which in turn are fastened to prefabricated footings. The owner/builders put in a gravel bed to eliminate landscape maintenance chores.

more of the cabin modules, and deal with budgets and varying skill levels.

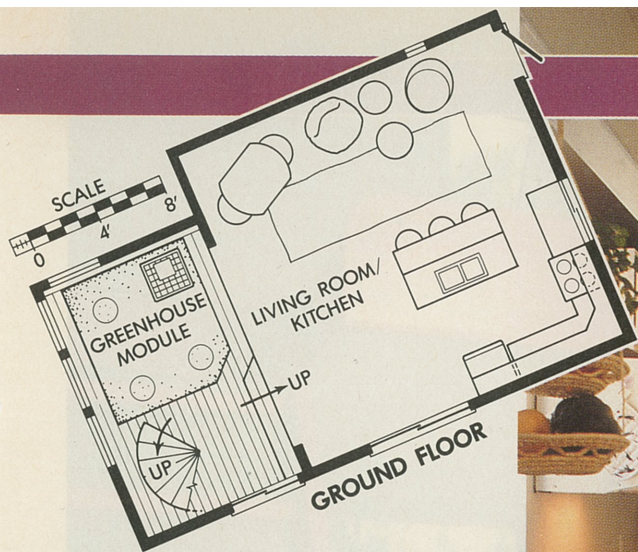
AN ENERGY-EFFICIENT CABIN

With 2x6 walls, insulated plywood beams, 3/4-in. exterior sheathing, R-40 roof and insulated low-emissivity (low-E) glass, the cabin is a cozy sanctuary during Montana winters with 30-degree-below-zero temperatures, and long periods without much sunlight. The large greenhouse windows and the bright interior take advantage of the short daylight hours in wintertime, and the gravel greenhouse floor acts as a thermal mass to store heat from both the sun and the wood stove. A reciprocal benefit to this type of design and construction is that the cabin stays cool on the hottest summer days: Opening the upstairs windows creates a chimney effect that moves air in from the cool north side of the house

The 20-ft. x 30-ft. house includes an optional 10- x 16-ft. module for the greenhouse, with space above for a bedroom. Cabin plans, available by mail (see p. 44), discuss the building options.



Large windows and a wood deck floor bring the outdoors into the greenhouse. The foundation created a ledge for the bench-deck. The woodburning stove sits on a 2-ft.-deep cement slab. Fans are used in



and up through the loft. On the hottest summer days, with the sun straight overhead, the indoor gravel surface stays as cool and moist as a cellar. The design lends itself to a variety of terrains, climates and decors.

According to our earlier experience living in our prototype cabin, with a wood-burning stove as the primary heat source and a portable electrical heater as a backup heat source, the total electrical bill should average less than \$15 a month due to tight and well-insulated construction, the highly efficient light bulbs and on-demand tankless water heaters. The new generation fluorescent light bulbs produce a natural warm light while using one-fourth the electricity of an incandescent bulb. They also last nine times longer than regular bulbs.



the winter to circulate heat from the wood stove. Prefabricated spiral stairs installed in the corner create as much downstairs floor space as possible. A quilted-fabric ceiling is insulative and easy to install.



The authors saved construction time by installing prefabricated kitchen cabinets, screwed to wall studs with washers. They added the bar, built from scrap plywood and 2x6 brackets. Homemade plywood beams (see drawing, p. 41, for construction details) create a country-cabin atmosphere.



The living room/kitchen, seen from the greenhouse, is the center of indoor activity. Small windows protect the room from the westerly winter winds, keeping down heating costs. Hardwood strip flooring in the 400-sq.-ft. space is installed with a rented nailer. The greenhouse deck boards (foreground, and inset) are rounded on all edges with a 1/2-in. bullnose. Boards are fastened with square-drive screws.



The cabin was designed around a basic 20- x 20-ft. module, so it could even be built on a 25-ft. lot. A builder can provide 800 gross sq. ft. of space, plus the loft area, with a 20 x 20 footprint. The greenhouse, child's room and loft added 400 sq. ft. of floor space to our cabin, and later we may add a garage. Using this approach, a simple bare bones version of the cabin can be built, used and added onto as time allows.

The economical shed roof configuration is the easiest to build and make watertight, and can be oriented for optimum solar gain, for shelter from prevailing winds, or to exclude or include a particular view. The roof also provides a shape

that allows the builder to take advantage of the overhead space for a storage loft or a delightful sleeping place beneath the peak that is cool in summer and warm in winter.

The cabin makes ample use of Sturdi-Floor 3/4-in. plywood manufactured under the American Plywood Association trademark. Except for 3/4-in. CDX exterior sheathing, the cabin is built almost entirely from Sturdi-Floor. It is used for all structural floor joists and roof beams, subflooring and upstairs painted flooring, countertops, doors and door framing, window framing, moldings and baseboard trim. Plywood is also used for window and door headers.

The large upstairs room (above) houses the office and a sleeping/storage loft.

All windows are installed flush with the walls to make them look built in.

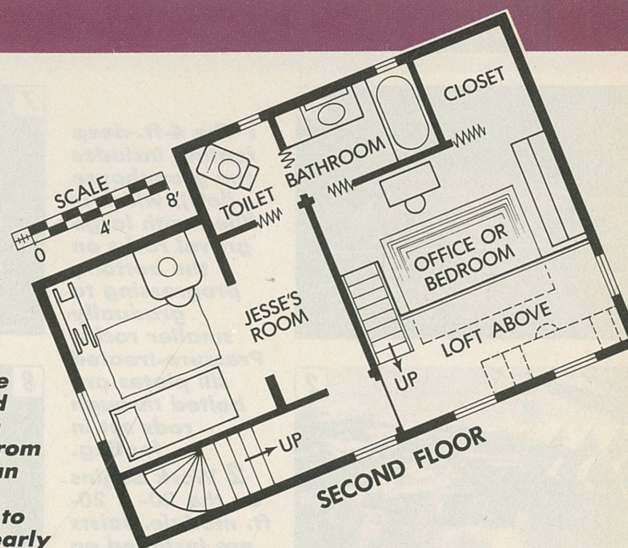
The floor "rug," painted on with high-grade enamel, is easy to keep clean.

The triple-wall stovepipe goes from the greenhouse up through Jesse's room (right). Her desk, built around the pipe, is easily removed to clean the pipe.





Marya and Paul Butler, shown standing opposite the loft, worked closely with engineers from the American Plywood Association to build the nearly all-plywood cabin.



BEAMS BUILT ON SITE

All the large structural beams and floor joists were built on site of 2x4 fir frames, filled with insulation, then covered with a 3/4-in. Sturdi-Floor skin glued and nailed in place. Building these large beams of plywood means the cabin can be built almost anywhere a sheet of plywood can be transported, and eliminates the need for locating, transporting and milling large solid-wood beams.

The insulated plywood-and-2x4 beams are also very stable and less prone to

warp or split than expensive solid-wood beams. Two people can lift even the large, 16-in.-deep x 24-ft.-long roof beams, or one person can move a beam by shifting one end at a time.

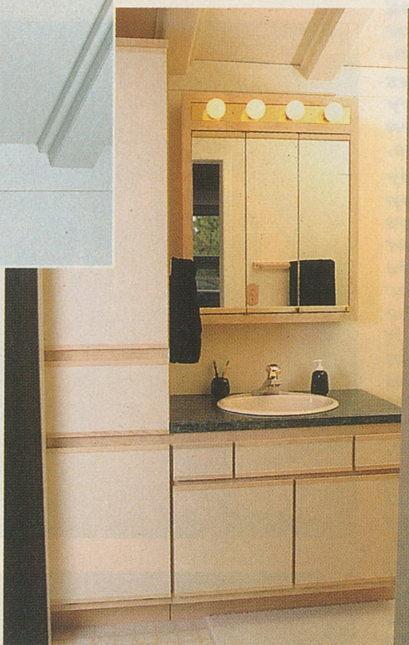
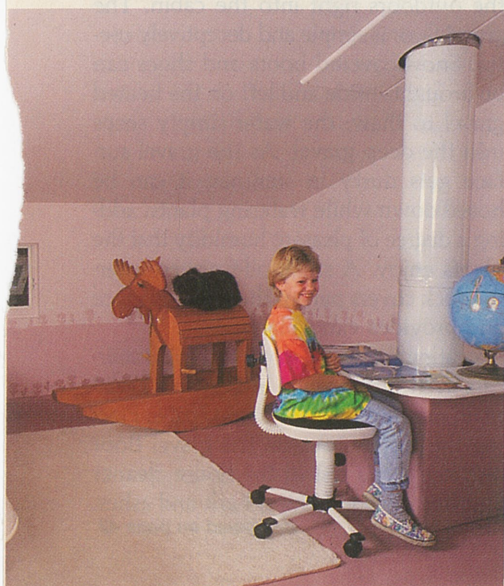
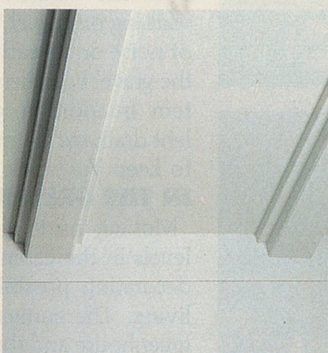
The roof has an insulative factor of R-40. Each of the hollow-insulated plywood beams has a small cleat or ledger attached on each side into which pre-cut panels of 3/4-in. Sturdi-Floor can be dropped to fill the space between beams. These plywood panels are fitted with the good side down, because they are visible overhead. The panels support two layers of 6-in.-thick insulation and can be

prefinished with paint or fabric to save time later. They can be dropped into place and left loose for easy access to the overhead for wiring or roof maintenance, or they can be fastened using waxed drywall screws for easy removal, if necessary. Ventilation to prevent condensation is provided by vent slots drilled between the beams at both ends of the roof.

ON THE EXTERIOR

The 3/4-in. plywood sheathing over the exterior of the framing contributes to the overall strength of the cabin, and should be nailed on 6-in. centers instead of the usual 12-in. spacing between nails. The thicker-than-usual sheathing is a pleasure

The plywood sections between beams rest on glued and nailed 1x1 cleats. Unlike the ceilings in the main module, the small bedroom (below, occupied by 9-year-old Jesse), above the greenhouse, has drywall nailed to 2x6 rafters.



Cabinets and sink are installed next to the tub (right of the cabinets, out of sight). The toilet and bathroom are separated by a privacy door; each room has its own entrance.



The composting toilet (see Where to Find It, p. 43) requires no septic system, holding tank or chemicals. This style toilet is now used on many boats.



1

1 The 4-ft.-deep footing includes the greenhouse (left), which is filled with large gravel rocks on the bottom, progressing to gradually smaller rocks. Pressure-treated sill plates are bolted through rods set in footing.



2

2 Work begins on the 20- x 20-ft. module. Joists are installed on the sill plates. 1x1 pine is nailed to the joists to hold 1/4-in. plywood.



3

3 Six-in. insulation is laid foil-side up on the 1/4-in. plywood.



4

4 Tongue-in-groove, 3/4-in. subfloor is installed with construction adhesive.



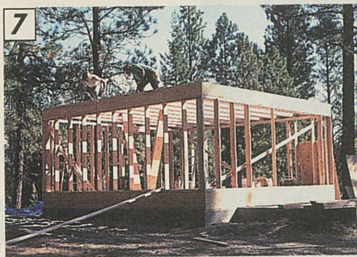
5

5 The 2x6 walls are constructed on the platform.



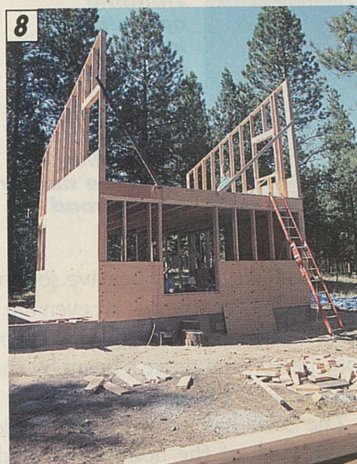
6

6 The north-south walls go up first.



7

7 Remaining walls go up and second floor beams go in.



8

8 Builders sheathed as they went to stiffen the structure.



9

9 "It was windy and scary up there," says owner/builder Paul Butler. He hired a crane for \$100 to raise the roof beams — it took but an hour.



10

Worker on ground holds tie line on low end to guide beam.



11

10 End beams are installed first, then filled in between.

11 The author builds beams and cuts materials on site on a benchtop table saw and a band saw.

to work with and helps smooth small framing irregularities. The lap siding provides another degree of weatherproofing to the exterior and is attached using special stainless steel ring nails. All exterior trim and molding is made from standard lumberyard dimension 2x4s.

THE WRAP-AROUND DECK

The deck can be arranged for privacy behind tall fences or for a panoramic view of the skyline, lake, mountains or ocean. The 2x6 Douglas Fir decking planks were selected for their straight edges and interesting grain, and all top edges were formed with a carbide-tipped, 1/2-in. rounding over router bit. We used a framing nail as a spacer between planks, which made for a smaller-than-usual gap, but provided a very comfortable and secure surface for bare feet. Over 2,500 stainless steel no. 10 x 3-in. square-drive deck screws are used to fasten the large rambling deck.

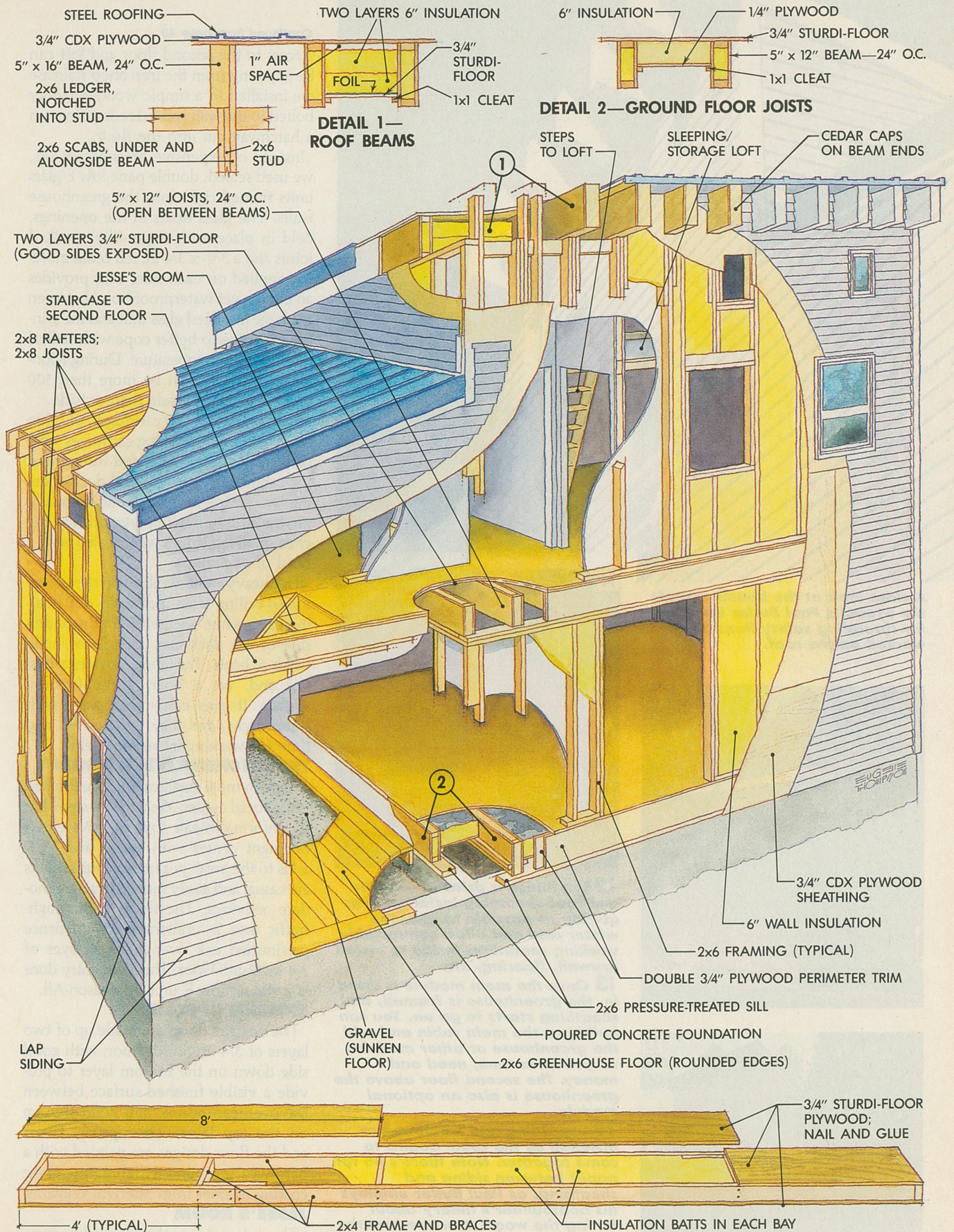
The entire cabin is surrounded by a bed of 1-1/4-in. graded gravel over a plastic ground covering, which provides a no-maintenance surface. We began using gravel around the outside of our prototype cabin because we are occasionally bothered by bears. In the nighttime quiet, even the smallest animal makes noise walking on gravel, and a bear makes lots of noise on its early morning rounds, so the gravel becomes an efficient alarm system. In addition, gravel provides excellent drainage for melting snow and mud to keep the inside of the cabin cleaner.

IN THE GREENHOUSE

Moving inside, there are four different levels in the cabin, making for unusual decorating possibilities and interesting living. The sunken gravel floor of the greenhouse and the large windows bring the outdoors right into the cabin. The gravel floor is simple and deceptively useful. Snow-covered boots and shoes can be brought inside and left on the heated gravel to thaw; the water simply seeps into the deep gravel. As the gravel surface gets dusty in summer, it can be hosed down while watering plants, adding a degree of pleasant humidity that the plants enjoy. A small oil-finished interior deck covers part of the gravel surface and provides extra plant space.

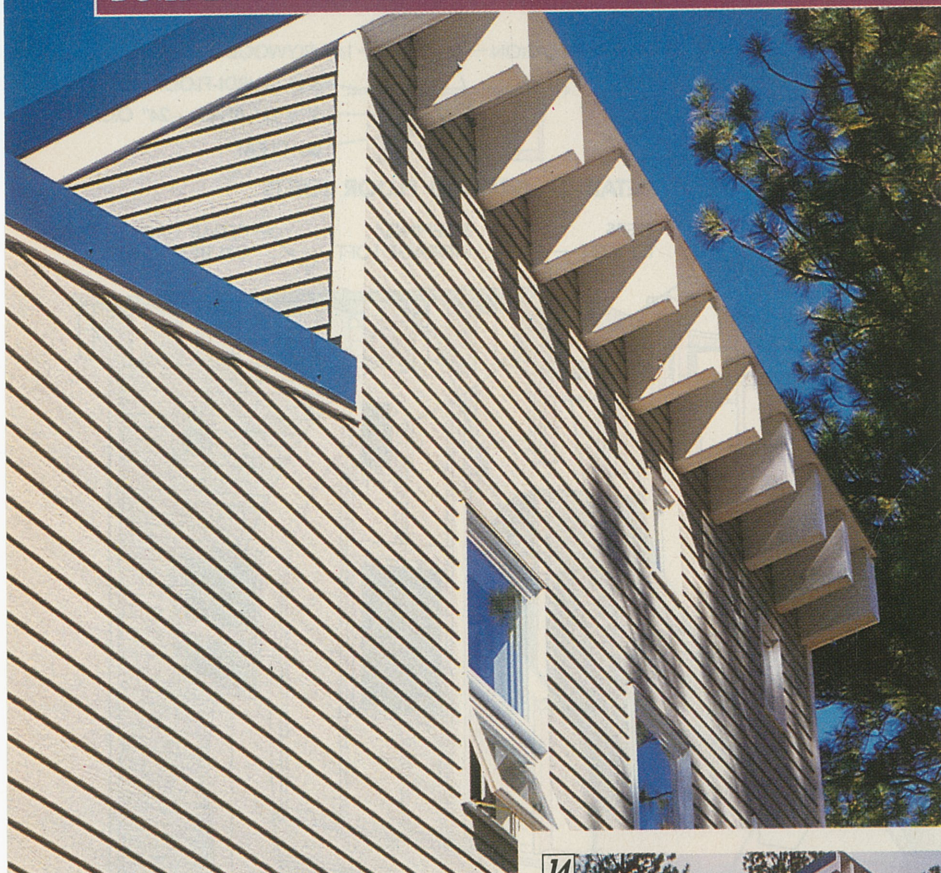
Locating the wood stove and spiral staircase in the greenhouse leaves the 20 x 20 main module clear for living space. Placing the wood stove on the gravel floor also keeps the rest of the house cleaner and free of wood chips, bark and ashes.

Continued on page 42



Technical drawings, Eugene Thompson

TYPICAL BEAM CONSTRUCTION



A close look at the beams reveals the eyebolts Paul Butler installed for threading safety lines as he worked on the roof.



12 The house is dried in — wall and roof sheathing installed — as quickly as possible to beat the winter cold and allow comfortable working conditions inside to install drywall, flooring, etc.

13 Once the main module is dried in, the greenhouse is framed, and sheathing starts to go on. You can build just the main cabin and add the greenhouse or other modules as you have time, need and money. The second floor above the greenhouse is also an optional module.

14 Lap siding and windows are installed as the cabin begins to come together. Note there's no tar paper between siding and sheathing, as Paul Butler employs his boatbuilder's theory about letting the wood structure breathe to reduce moisture inside the home and avoid wood rot.

Continued from page 40

Access to the second floor and loft can be anything from the Iron Shop staircase we installed to a simple wooden ladder bolted to the wall and extending through a hatchway cut into the floor.

Instead of expensive greenhouse kits, we used sealed, double-pane low-E glass units framed right into the greenhouse walls. The glass floats in the openings, held in place with finger-fillet caulked joints and a 3/4- x 3/4-in. red cedar molding applied on each side. This provides an elastic, yet waterproof bond between the large insulated glass unit and the window framing to better cope with radical differences in temperature. During Montana winters, it can be more than 100 degrees warmer inside than outside.

Six cartons (over 70 cartridges) of Ohio Sealants RS-225 caulking cartridges were used in the greenhouse and throughout the cabin. Each window and door opening was perimeter caulked after sheathing the structure with plywood, and the ends of all lap siding were sealed with a bead of caulking.

The heavy quilted fabric on the greenhouse ceiling is an idea from our boating days, when we used it on the underside of the deck and on interior bulkheads of boats. The fabric provides acoustics and, on a boat, a user-friendly surface. It pins easily into place with thumbtacks, and may be removed any time for washing or replacement.

THE KITCHEN/LIVING ROOM

As with most small cabins, the kitchen is the social center. We added a small bar for informal meals together. An entertainment center with stereo and VCR adds to the area's popularity. Furnishings are casual and easily moved to accommodate activities. The floor in this high-traffic area is utilitarian, 3/4-in. Bruce prefinished oak over a single layer of 3/4-in. Sturdi-Floor. The main entry door is a sliding low-E unit by Season-All.

MOVING UPSTAIRS

The upstairs floors are made up of two layers of 3/4-in. Sturdi-Floor, with good side down on the bottom layer to provide a visible finished surface between the overhead beams, and good side up on the top layer. The upstairs floors and the floor designs are painted with a hard-wearing, industrial-maintenance coating enamel from Sherwin-Williams.

JESSE'S ROOM

The optional greenhouse module is extended high enough to include a room

Continued on page 44

PRODUCTS FROM THE CABIN

Paul and Marya Butlers' primary concern in constructing the cabin was to create a flexible design that's easy to build by amateur builders. Plywood construction made it possible for them to build an energy-efficient structure with ample interior space.

Where the Butlers saved by doing much of the work themselves, they spent on quality construction, finishing, and decorating products. The manufacturer's listing represents the majority of products used in the cabin. You can obtain more information about the products used in the cabin by contacting manufacturers directly. Their addresses and specific product brands, where feasible and applicable, are listed below.

WHERE TO FIND IT

Plywood sheathing, Sturdi-Floor Flooring and APA Rated Lap Siding.

AMERICAN PLYWOOD ASSOCIATION, Box 11700, Tacoma, WA 98411; (206) 565-6600, ext. 186.

Spacemaker Plus line, HandyChopper Mincer/Chopper, Dustbuster Cordless Vacuum.

BLACK & DECKER, 10 N. Park Drive, Hunt Valley, MD 21030; (301) 527-7000.

Winter White oak strip flooring.

BRUCE FLOORING, 16803 Dallas Parkway, Dallas, TX 75248; (214) 931-3100.

Insulation.

CERTAINTED INSULATION, Box 860, Valley Forge, PA 19482; 800-523-7844.

Closets organizers, greenhouse shelves.

CLOSET MAID, CLAIRSON INTERNATIONAL, 720 S.W. 17th St., Ocala, FL 32674; 800-221-0641.

Long-lasting light bulbs.

EDCO ELECTRONICS, INC., 2209 American Ave., Hayward, CA 94545-1981; 800-544-5267.

Tankless water heaters.

EEMAX, INC., Box 200, Botsford, CT 06404.

Woodburning stove, model 1600.

ENERGY KING, Route 5, Box 190, Chippewa Falls, WI 54729; (715) 723-9667.

Gypsonite drywall.

FURMAN LUMBER, INC., HIGHLAND AMERICAN OF RHODE ISLAND, INC., Dexter Road, Box 14728, E. Providence, RI 02914.

Plastic plumbing pipe and fittings.

GENOVA PRODUCTS, 7034 E. Court St., Box 309, Davison, MI 48423-0309; 800-572-5398.

Greenhouse accessories.

GILMOUR GROUP, VERMONT AMERICAN CORP., 323 W. Broadway, Suite 815, Louisville, KY 40202.

Epoxy for coating, gluing and sealing wood.

GOUGEON BROTHERS, INC., 100 Patterson Ave., Box 908, Bay City, MI 48707.

Metal spiral staircase kit with oak treads.

IRON SHOP, Box 128, 400 Reed Road, Broomall, PA 19008; 800-523-7427, (215) 544-7100.

Antiques.

JACQUELYN'S, 221 S. First, Hamilton, MT 59840.

Barbecue and charcoal.

THE KINGSFORD PRODUCTS CO., 1221 Broadway, Oakland, CA 94612.

Kitchen appliances.

KITCHENAID, INC., 701 Main St., St. Joseph, MI 49085; 800-422-1230.



Some construction products used in the cabin: (1) plastic plumbing pipe and fittings from Genova; (2) Sherwin-Williams semi-transparent stain (deck); (3) insulation from CertainTeed; (4) caulks and compound from Furman Lumber for installing Gypsonite drywall; (5) Sherwin-Williams paints throughout; (6) triple-wall stovepipe from Simpson Dura-Vent; (7) West System epoxy and applicators from Gougeon Brothers, Inc. to coat, glue and seal wood; (8) VicWest Steel's steel roof panels (shown painted); (9) APA Rated Lap Siding; (10) Ohio Sealants, Inc. caulks and construction adhesives.

Greenhouse and gunport window double-pane, low-emissivity glass.

LIBBEY-OWENS-FORD, 1701 E. Broadway, Toledo, OH 43605; (419) 247-3731.

Stainless steel deck screws and siding nails.

MANASQUAN PREMIUM FASTENERS, Box 669, Allenwood, NJ 08720-0669.

Double-pane windows and sliding greenhouse door.

MARVIN WINDOWS, 8043 24th Ave., S., Minneapolis, MN 55425; (612) 854-1464.

Ceramic kitchen accessories.

MAX BURTON ENTERPRISES, INC., 502 Puyallup Ave., Tacoma, WA 98421; (206) 627-2665.

Moenstone kitchen sink and Casa faucets.

MOEN, INC., 377 Woodland Ave., Elyria, OH 44036-2011.

Chateau kitchen and Seville bathroom cabinets.

NORCRAFT CABINETRY, 30 E. Plato Blvd., St. Paul, MN 55107; (612) 297-0661.

Caulking and sealants.

OHIO SEALANTS, INC., 7405 Production Drive, Mentor, OH 44060; (216) 255-8900.

Sliding entry door.

SEASON-ALL INDUSTRIES, INC., 1480 Wayne Ave., Indiana, PA 15701-0370; (412) 349-4600.

Paint and stain.

SHERWIN-WILLIAMS CO., 101 Prospect Ave., N.W., Cleveland, OH 44115-1075; (216) 566-2000.

Triple wall interior and exterior stainless steel stovepipe and fittings.

SIMPSON DURA-VENT, Box 1510, Vacaville, CA 95688-1510.

Closet design.

SPACE PLUS, 12815 N.E. 124th St., Kirkland, WA 98034; (206) 820-2050.

XL Model Electrical Composting toilet.

SUN-MAR CORP., 5035 N. Service Road, C2, Burlington, Ontario, Canada L7L 5V2; (416) 332-1314.

Steel roofing, moldings and fastenings.

VICWEST STEEL, E. 6207 Desmet, Spokane, WA 99212; 800-456-9124.

Douglas Fir decking.

WESTERN WOOD PRODUCTS ASSOCIATION, 1500 Yeon Building, Portland, OR 97204; (503) 224-3930.

Patio furniture.

RED WILLOW, Box 541, Victor, MT 59875; (406) 961-3964.

Countertop laminate and moldings.

WILSONART, 600 General Bruce Drive, Temple, TX 76501; (817) 778-2711.



The authors installed green plastic laminate from Wilsonart, using Wilsonart's bevel-edge trim. White sink and faucets are from Moen, Inc.

Sliding entry doors from Season-All (below) have low-E glass, keeping with the cabin design commitment to energy efficiency.



**JOB TOUGH
JOB SMART**

\$24⁹⁵ plus \$2.50 shipping & handling

BUCKET BOSS
the hottest tool carrier in the nation. A superior organizer fast replacing the old fashioned tool box. Individual pockets protect tools and display them in an easy-to-see, easy-to-reach fashion.

- 27 Pockets, 16 outside, 11 inside
- Fits any standard 5 gallon bucket.
- Holds more than an average tool box.
- Built to industrial standards.
- Pays for itself in increased efficiency.
- 1 year guarantee.
- Patent pending.

PARACHUTE BAG
replaces baby food jars, coffee cans, and those flimsy cardboard boxes nails and screws are sold in.

- Six compartments
- 5 1/2" Hx10" Dia.
- Flat bottom design prevents tipping.
- Automatically closes when lifted.
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BUILDER FRIENDLY

Continued from page 42

above for our daughter, Jesse. The room itself is a separate module, and can simply be eliminated from the plans. With the sloping shed-type roof, it provides a cozy space with a private entry to the bathroom, and a large entry space for multiple bunk beds or desks with shelving. The triple-wall stovepipe goes through a corner of Jesse's room and is protected by a removable plywood desk.

OUTFITTING THE BATHROOM

We used an electrical XL model Sun-Mar composting toilet because it requires no plumbing aside from a vent, and it does not pollute the groundwater system. If the cabin is left vacant in the winter, freezing does it no harm. By using biodegradable soaps, the greywater system from baths and sinks has a minimal impact on the environment.

OFFICE

Since we choose to sleep overhead in the loft, the area that would normally be the master bedroom became a home office. To brighten the area, we painted the plywood floor with a colored pattern that suggests an area rug. A drawing table, computer work center and plenty of flat desk space are provided, along with a large walk-in closet.

THE LOFT

The loft is carpeted and provides over 90 sq. ft. of sleeping or storage space. The loft is always warm, even on the coldest nights. In hot weather the three small gunport windows provide ample ventilation, and a view of the Montana mountains. The gunport windows are small, frameless insulated units sealed in a plywood frame and hinged on top to make an awning type window. Simple and homemade, but very effective.

CONSTRUCTION TIPS

There are some good framing books,

although they may seem overly complicated for a project such as this. Studying a good framer in action makes you realize it's worth the money to hire a professional to help you get started. We hired Guy Steuer, a local framer, who showed us how to figure out neat little tricks like how to frame a corner and provide nailing surfaces for drywall.

Get a good circular saw before you start and the results will be worth the money. The Skil 6-1/2-in. worm-drive saw is my choice. We also recommend a 24-oz. framing hammer (ours is made by Vaughan & Bushnell) because of the number of nails in the plywood beams alone.

The only real scare came while I (Paul) was working alone, loading 14-ft.-long sheets of steel roofing onto the roof while balancing 20 ft. on top of a ladder. A number of roofing sheets started sliding down onto the ladder, and I was barely able to grab them before they pushed me backwards off the roof. It was like a Keystone Kops routine. After that I bored holes into the beams for 3/8-in. eyebolts and rigged climbing rope safety lines complete with a safety harness, carabiners and jumars so I could belay myself. I also clipped the ladder to the eyelets. All this slowed down the process somewhat, but worked beautifully. **W**

—Paul and Marya Butler have designed, built and created plans for sailboats, furniture and plywood projects for more than 25 years. They've authored three how-to books including Plywood Projects, recently published by Rodale Press. Their new cabin and shop are in Hamilton, Montana, where they do home schooling with Jesse, their 9-year-old daughter. They're currently working on a small rowing/sailing boat for use in Alaska.

HOW TO ORDER CABIN PLANS

The cabin is designed primarily as a starter or second home, and the plans relate to first-time or amateur builders. The plans contain blueprints, plus a spiral-bound construction book detailing the construction process from start to finish, as well as Paul and Marya Butler's personal insights, including the positive and negative experiences they had build-

ing the cabin. Second thoughts and ideas after living in the house are also included. The entire process is made as simple as possible. Source addresses for all the products used in the cabin are included. The cabin plans are available for \$45 ppd. third class from Butlers, Box 1513, Hamilton, MT 59840. Add \$4 for first class postage.—Robert N. Hoffman