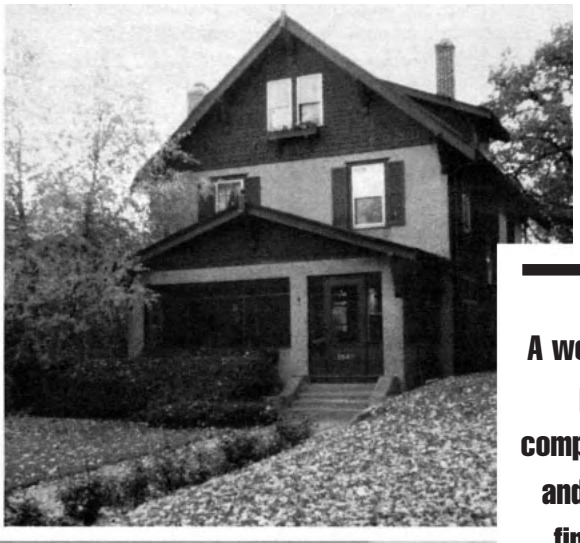
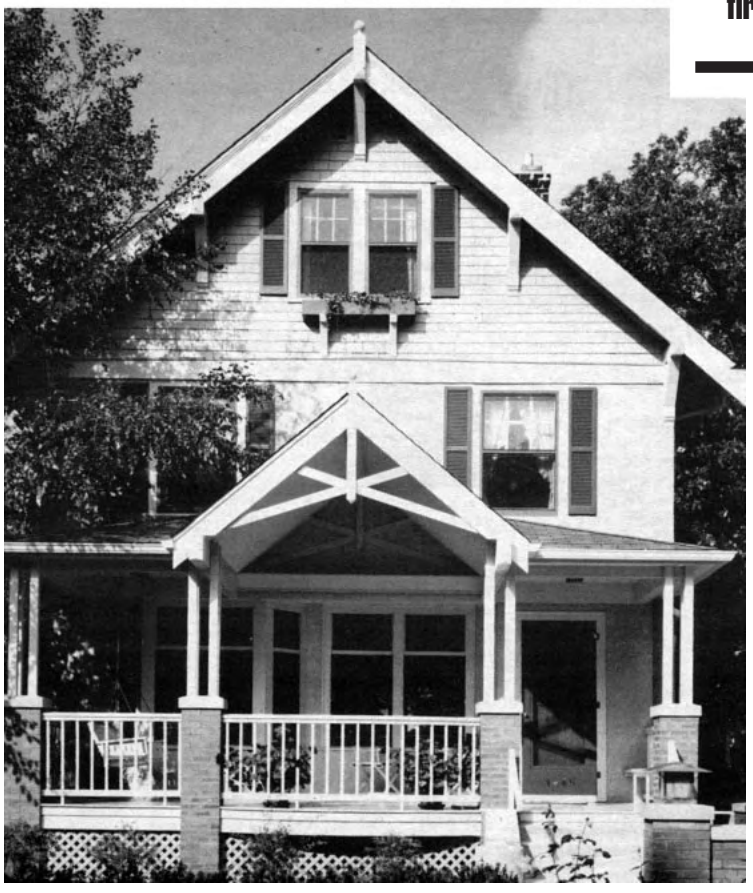
Designing a Porch That Fits

BY JOHN SYLVESTRE



The original porch (right) on this house in St. Paul, Minn., was drab and dark. The steep-pitched center gable on the new porch (below) gives a feeling of spaciousness and lets light into the front rooms. The decorative cross brace at the front also serves as a collar tie.



One of the rewards of being a designer/builder is making a house that is otherwise plain or unattractive into something lively, something that reflects the personalities of its owners. My company recently designed and built a new front porch on a 1920s Craftsman-style home in St. Paul, Minn. The transformation was so dramatic that, looking at our before and after pictures from the job, it's hard to believe it's the same house.

Unlike typical houses of that era, which have many fine exterior trim details, this house was nondescript. The existing porch was dark and unappealing. Instead of opening the house up to the outdoors, the porch prevented light from entering the rest of the house. It was a claustrophobic space that you wanted to pass through quickly, despite the beautiful views of a nearby lake. It was also in bad shape, with a leaky roof, rotten floor, and deteriorated substructure.

A well-designed front porch should complement the house and not darken the first-floor rooms

Our job was to come up with a porch design that suited the style of the house and gave it some character. With a budget of $23,000, we set out to build a porch with durable, natural materials that would require minimal maintenance from the homeowners. We also wanted to create an open porch space that provided room for seating while letting plenty of light into the house.

Letting in Light

A front porch will make the front rooms darker unless it is thoughtfully designed. Raising the roof usually allows light into adjoining rooms but, in this case, it would have blocked the two front bedroom windows. Instead we added a steep gable at the center of the porch. The gable gives the porch a feeling of spaciousness and adds character to the house.

The gable takes off at a 45-degree angle from the lower roof, which is pitched at 5:12. The ceiling is 8 feet high on either side of the gable and 11 feet high at its peak. The gable also juts forward approximately 12 inches to cover a bow at the center of the porch. This bow softens the front edge of the porch and provides a little extra space for planters and furniture.

Decorative Details

In keeping with the spirit of the Craftsman style, we tried to make the structure of the porch an aesthetic element. Instead of using a few pressure-treated 4x4s as columns, and then going back and wrapping them with a finish wood, we used groups of 4x4 redwood posts. Designing the porch this way made it more difficult to build since there was no chance of roughing in the structure and then later covering any mistakes with finish trim.

We used redwood for the porch's exposed structural members. (Because of the style of the porch, this was almost all of them.) In Minnesota we go through wide temperature changes, so we knew we couldn't afford the cracks and checks that form as pressure-treated wood dries and shrinks. Clear redwood is not only stable and naturally rot-resistant, it provides a good surface for paint.

Redwood is also about five times more expensive than pres-

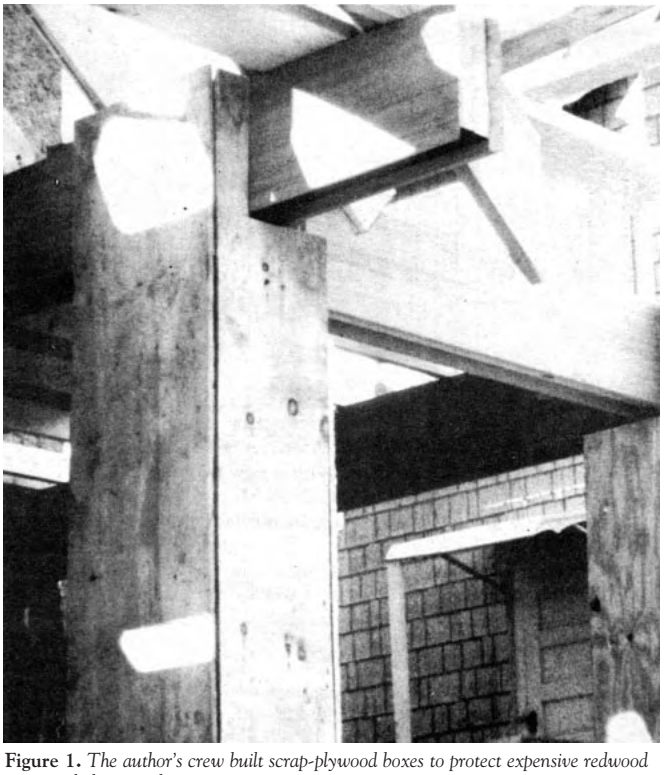


Figure 1. *The author's crew built scrap-plywood boxes to protect expensive redwood structural elements during construction.*

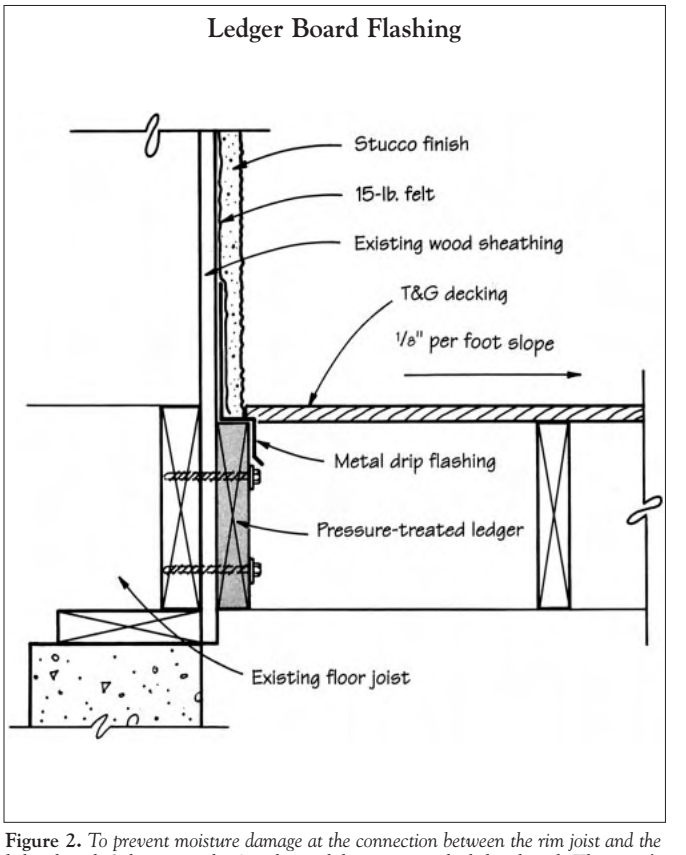


Figure 2. *To prevent moisture damage at the connection between the rim joist and the ledger board, Sylvestre used a 2-inch metal drip cap over the ledger board. The top of the drip cap extends up between the house sheathing and tar paper.*

sure-treated lumber, which forced us to be very careful with the material. During construction, we temporarily boxed in all the framing members with plywood so they wouldn't be nicked and dented (Figure 1). This created an extra step in the construction process but, as most of us know, it's easy to walk around a corner with a 2x4 over your shoulder and accidentally catch an edge on a pristine piece of redwood.

While all of the finish details are simple, we got creative with the cross brace at the gable's peak. The detail, which is mirrored at the back of the gable where the roof meets the stucco siding, is a take-off on the trim piece at the front peak of the house. The brace is functional in that it serves as a tension member, but it was also a good opportunity for our lead carpenter to show off his woodworking skills.

The brick piers are a nice contrast in color and texture to the wood framing. They also match the new chimney (the owners had recently added a fireplace) and the retaining wall that wraps around one side of the house. Making brick piers look finished on top is one of those design quandaries. You can make a brick cap, but it gets kind of clumsy with all those joints. It's also not as weathertight as other materials, and the end bricks have a tendency to loosen and tumble off. Wood caps work alright as long as they are well protected from the weather.

For this porch, we had caps made from a native Minnesota limestone. The stone is maintenance-free and will probably outlast the other porch materials. The only drawback is the expense — the caps cost $150 each, plus freight.

Since we'd never worked with stone before, we called one of the quarry owners, who asked us to fax him our sketches. The caps he designed overhang the brick on all sides by 1 inch. There is a slight taper (to provide drainage) up to a flat 12 x 12-inch surface at the top.

To attach the columns, we first used a hammer drill with a masonry bit to drill 1/2-inch-wide holes in the stone. We inserted 5-inch lag bolts and epoxied these in place, and then drilled pilot holes in the columns and screwed them onto the lag bolts. The pins prevent any lateral movement and the weight of the roof holds the columns down. We also inserted 1/8-inch metal spacers and caulked between the columns and the stone. This provides a sealant and keeps the posts from direct contact with the stone, thus inhibiting rot.

Keeping Dry

Since porches are good candidates for rot, it's essential to provide good water-shedding details. The roof line isn't usually a problem as long as there is proper flashing. But the connection at the rim joist is a prime spot for moisture damage since water can travel down the walls and seep in between the rim joist and the ledger board.

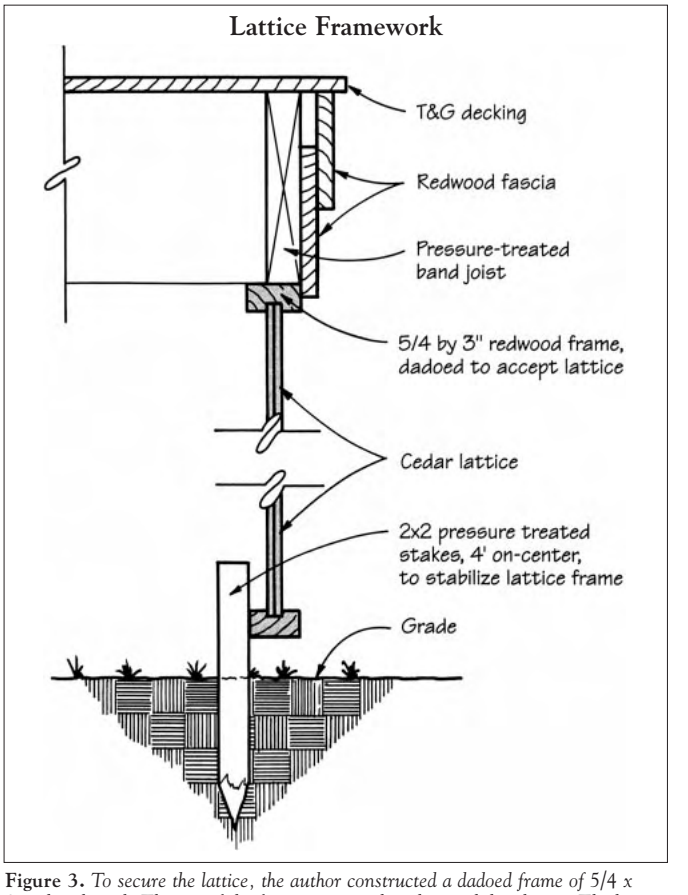


Figure 3. *To secure the lattice, the author constructed a dadoed frame of 5/4 x 3-inch redwood. The top of the frame is secured to the porch band joist. The bottom frame stops about 2 inches above grade and is nailed to 2x2 pressure-treated stakes spaced 4 feet apart.*

Since we had to remove the stucco at the connection, we ran 2 inches of flashing up above the rim joist and down over the top of the ledger board, forming a 1/4-inch drip cap along the edge (see Figure 2, next page). We covered the flashing above the rim joist with a layer of felt and applied the stucco over this. We also used pressure-treated wood for the substructure and pitched the deck 1 1/4 inches overall so any water will run away from the house.

Once the old porch was demolished, we made sure the ground beneath sloped away from the house wall so water wouldn't collect. We later went back and installed a layer of plastic sheeting. In some cases, you can cover this with 2 inches of gravel and place perforated PVC pipe 2 feet from the porch perimeter to lead water away from the porch. We also advise the homeowners to keep plantings a foot or two away.

The porch apron is a standard cedar lattice. This is not the most creative apron material, but it allows for plenty of airflow beneath the porch. It also does a good job of keeping the raccoons out. If the homeowners are worried about smaller critters getting in, you can put some screen behind it.

To keep the lattice securely in place, and to keep it from looking flimsy, we stiffened it at the top and bottom with 5/4 x 3-inch redwood. Since the area we covered was fairly large, we stabilized the lattice by securing the bottom framework to the ground with 2x2 pressure-treated stakes (Figure 3). Because the porch apron is often in direct contact with the ground, it should be dipped in a wood preservative and covered with at least two coats of paint. It should also be nailed in place since staples tend to rust.

Painting

During the design process, the homeowners asked us to "do something" about the drab, beige stucco exterior. Since we had to patch the stucco in several spots anyway, we suggested redashing the entire house. We tinted the bond coat off-white — just a shade darker than the color the homeowners selected for the porch and the trim. We also used a deep green for an accent color on the shutters, window frames, and doors.

The off-white porch ceiling and floors helped bring more light into the front rooms. The bright exterior made the house seem larger and livelier. Once the homeowners added some new plantings around the front, the once tired-looking house became something of a showplace.

Hanging the swing. Our last step, when the painting was done, was to hang the porch swing for our clients. One of their prerequisites before we started construction was that there be plenty of room for this. So we planned ahead and added an extra ceiling joist so the swing could be securely screwed into a structural member. ■

John Sylvestre is the owner of Sylvestre Construction, a 20-year-old design/build firm based in Minneapolis, Minn.