



## Punch List

by John Leeke

Every renovation or restoration project winds up with a small list of details that need to be taken care of. The project of writing this Restoration Primer column is no different, and I find myself with a short "punch list" of questions from readers about articles appearing in past months.

### Columns

With regard to "Installing Wood Columns," (JLC, 9/89): Joe Paradis, Dolgeville, N.Y., asks: "Are the words column and shaft used interchangeably?"

I am careful to make a distinction between "column" and "shaft." Column excludes everything between the porch deck at the bottom to the soffit of the entablature that spans from the top of one column to the top of the next. The shaft excludes the capital at the top and all of the round base and square plinth parts at the bottom. Most current wood column manufacturers use the words with these meanings.

Getting the names of building parts right can be critical. Usually I go by what the manufacturers say because hundreds or thousands of dollars can be at stake when ordering. But there are others involved in restoration projects you have to communicate with. A homeowner might call columns "pillars." Carpenters and painters might call them "porch posts," even when they are 4 feet in diameter and 40 feet tall.

Experience has taught me to get everyone involved in a project together before work is underway. We review the work, pointing to and naming all the parts of the building involved. When we call the same part different names I ask everyone to agree on just one. Some think it pedantic and a waste of time. I know differently.

For instance, on one project the contractor ordered four 36-foot-tall columns when he should have ordered shafts. Because the columns were custom-made, the manufacturer wouldn't restock the capitals. With the shafts too short, the contractor had to fabricate special tall bases; and the bases really weren't in keeping with the style of the building. The cost of recovery ran into thousands of dollars. Everyone involved was unhappy with the result – all for a lack of clear understanding in the name of a part.

Also about columns, Jay Bright of New Haven, Conn., asks how to size column vents.

Hollow wood-stave columns need ventilation to prevent moisture build-up and decay. No matter how well you seal them, moisture will get inside.

After dealing with decayed columns for many years, I've noticed a common pattern. Column decay often produces holes at the base or plinth of the column. The decay progresses until the holes are big enough to provide adequate ventilation. Then the column dries out, and decay slows

**On one job a mix-up between "columns" and "shafts" compromised the style of the building and cost the builder thousands of dollars. So I get everyone on a job together before work starts to review and agree on names of building parts.**



considerably or stops. So, the size of these decayed holes provides a practical guide for sizing vents:

- 2 square inches for a 12-inch-diameter by 8-foot-tall column
- 25 square inches for a 42-inch-diameter by 39-foot-tall column.

These sizes are based on free air space. Vents with louvers and screens that limit free air space would have to be larger.

Louver sizes also depend on climate and weather. The figures above are based on the temperature climate of interior New England. Vents in the humid South might be larger. You might even want to use an adjustable venting system for very large columns in areas with wide seasonal swings in relative humidity.

### Vertical Grain

Regarding "Vertical Grain Proves Worthy," (JLC, 6/89), Jeff Parson of North Ferrisburg, Vt., asks if there are other suppliers for vertical grain clap boards. Here are three more I've learned about since the article appeared:

Ward Clapboard Mill, P.O. Box 1030, Waitsfield, VT 05673; 802/496-3581.

Granville Manufacturing Co., Inc., Route 100, Granville, VT 05747; 802/767-4747.

Colonial Clapboards, Sky Lodge Farm, 46 Wendell Road, Shutesbury, MA 01072; 413/259-1271.

### Structural Epoxy

Several readers called regarding "Structural Epoxy Repair" (JLC, 4/89), wondering whether the techniques explained were appropriate for their project's structural problems.

In structural epoxy repair, epoxy resins are used to bond metal or fiberglass reinforcement within structural timbers. Epoxy repair is often desirable for historically significant buildings because timbers can be treated in place without disturbing surrounding materials.

A good way to learn epoxy repair techniques is to start with smaller, simpler repairs – such as a small section of decayed sill. At first, you won't be saving money because epoxy is expensive, but you will get experience with the materials and methods. You're making an investment in your abilities, and you're gaining confidence. Eventually, you'll be able to handle more complex jobs in a profitable way.

### Weather Checks

Readers have asked about the "weather checks" I mentioned in "Wood Window Sills," (JLC, 1/89) and "Vertical Grain Proves Worthy."

Weather checks is my own term for the deep cracks or grooves that open up in bare wood exposed to the weather for many years. Understanding how and why this defect develops will help you prevent it, and extend

the life of your exterior woodwork.

Weather checks get started due to an inherent weakness in the structure of wood. The wood's rays are plates of dense tissue that radiate from the center of the log out to the bark. You can notice them, for instance, as the flash of light grain in quarter-sawn oak.

They are also what makes oak firewood split so easily on a radial line from the center of the log.

Pine, redwood, and other woods used for exterior siding (and exterior millwork) have rays that are too small to be seen. In flat-grain boards these rays meet the surface of the board at a vertical angle.

A bare board exposed to the weather expands and shrinks, stressing the rays. In a short time tiny checks develop along the rays. Sunlight shines into the check, and the ultraviolet light decomposes the newly exposed surface. The check gets bigger, and more light comes in.

Water soaks into the check, softening the wood. On horizontal surfaces like window sills and porch decks the checks fill with water. When it freezes, the expanding water opens the checks even wider. After many years weather checks get as wide as 1/4-inch and 3/8-inch deep. By then so much water gets into the wood that it can't dry out between rains, and fungus decay begins.

Use these methods to prevent weather checks:

- Concrete your efforts on the south and west sides of the building since weather checks are caused by the combination of sun and water.
- Use vertical-grain wood since it avoids the initial weakness at the surface of the wood.
- Paint or stain exterior wood as soon as it is installed. Even a few days exposure is enough for the checks to begin. After a few months even a three-coat paint job may not bridge the checks.

If you find exposed wood with a lot of fine weather checks, use stain rather than paint; it will penetrate better.

Fill large weather checks with a filler that is highly adhesive and matches the density and flexibility of the surrounding wood. Epoxy fillers are best for long life. ■

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