



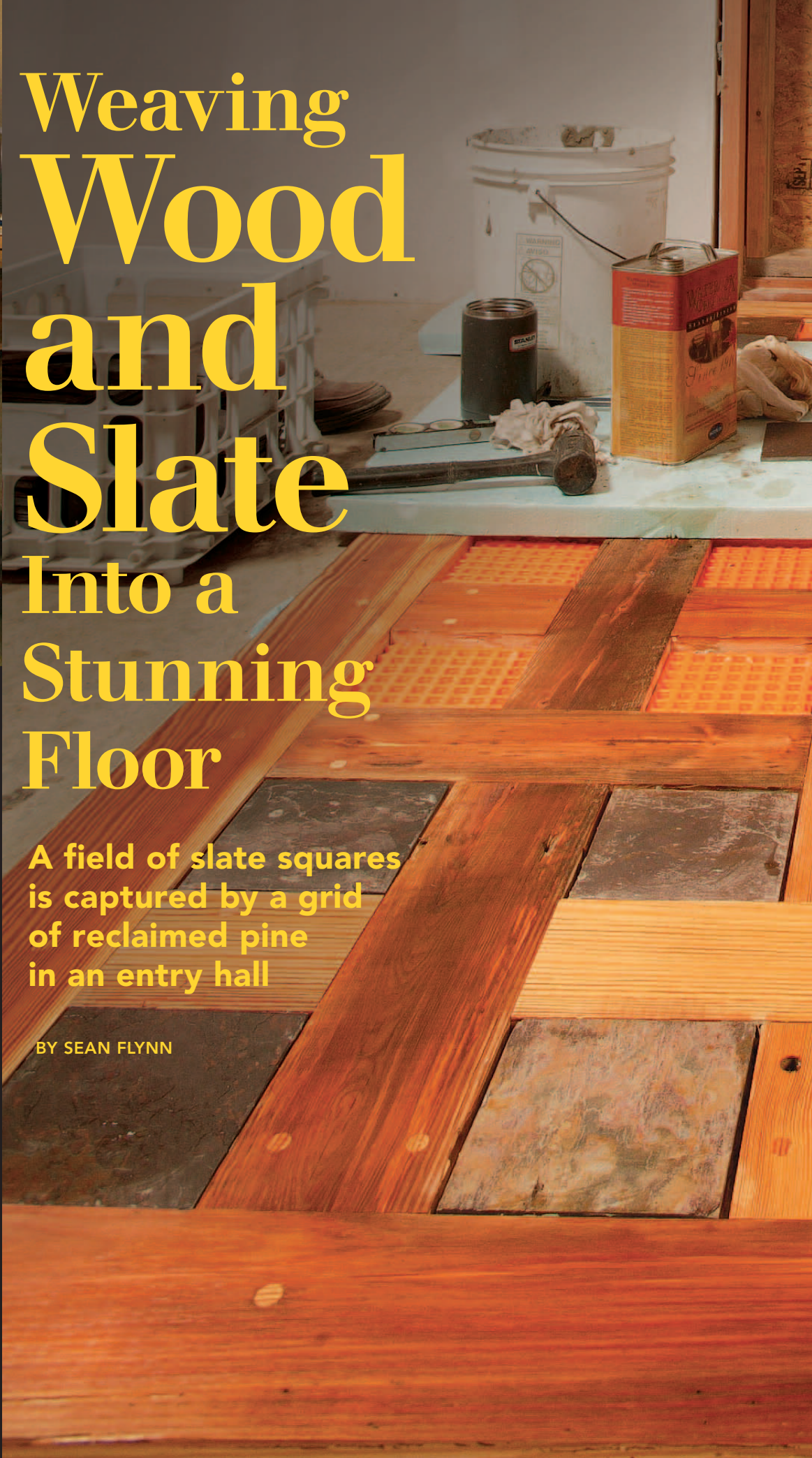
Weaving Wood and Slate Into a Stunning Floor

THE CRAFTSMAN

Sean Flynn is a custom builder and co-owner of Silver Maple Construction in Bristol, Vt. His dad was a handy guy who never let a moment pass without a tool or a shovel in his hands, and he instilled some of that quality in Sean. When he was a teenager, Sean was bitten by the carpentry bug and worked summers at a resort in the Adirondacks, learning the trade by building cabins and docks. After trying his hand at various aspects of the trade, he moved to Vermont and went to work for Alex MacDonald, whom Flynn says is the best builder he ever met. He learned a lot from Alex and the other guys on his crew—enough so that eventually Sean moved on and formed Silver Maple Construction with his best friend, Mike Steele, as a business partner. For the last seven years, Sean has had his hands in everything from the foundation to the roof peak. After one of Silver Maple's projects, a remodel with architect Gregor Masefield, was featured in FHB's 2010 Houses issue, we asked him to show us how he built this great floor.

A field of slate squares is captured by a grid of reclaimed pine in an entry hall

BY SEAN FLYNN





Master Carpenter

We all like to show off. On the job site, it usually seems to increase productivity when you set two trim carpenters to the same task in different rooms. Now that my wife and I are building our own house, I'm having a hard time keeping myself from showing off at every turn. Of course, as my wife keeps reminding me, someday the house will need to be completed, so I'm learning to pick my battles. One of the places where I've decided to ratchet things up is in the entry to the house.

We borrowed a concept from a project we did with Gregor Masefield of Studio III Architects of Bristol, Vt. ("Drawn to Detail," *FHB* #219), where the entry was a grid formed by the wood flooring that intersected with tile from the adjacent mudroom and bathroom. If executed well, this scheme can blend the dissimilar materials and pull you into the house.

On my own entry, I combined a grid of reclaimed heart pine and 6-in. squares of slate. After assembling the grid as a giant basket

Online members can watch the *Master Carpenter* video at FineHomebuilding.com/extras.

USE THE FLOOR TO ORGANIZE

Transfer the layout to the floor. After making the story pole, mark the centerlines of the space, register the story pole, and transfer the marks from the pole to the floor. To simplify things, establish the vertical lines, then the horizontal ones.



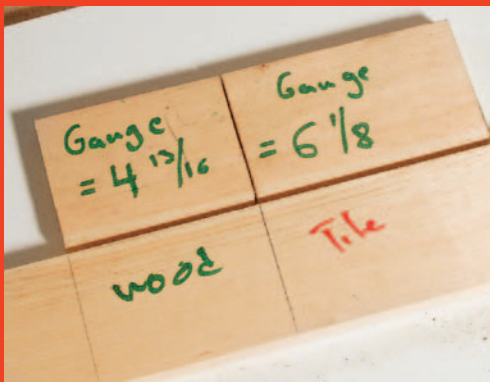
Colors and labels reduce confusion. Use different colors of chalk to snap out the respective vertical and horizontal lines. Write the orientation of each dado in permanent marker on the horizontal axis as reference.



Make chalklines permanent. After measuring, marking, and snapping chalklines, the last thing I wanted is smudged or erased lines. I've found that the easiest way to preserve a layout is to lay down a quick coat of spray polyurethane. It dries within minutes and holds up over the course of the job.



TOOL OF THE TRADE



Using a story pole for layout isn't the most original idea, but in this instance it helped me make an accurate layout on the floor and mark the dados on the stock in the exact same position. I started by cutting two gauge blocks, one to represent the width of the wood and one to represent the slate. The story pole was a 1x4 on which I marked a centerline. I then used the gauge blocks to lay out alternating wood and slate spaces. Different colored ink differentiated the two.



Gang layout. The pole comes back into play for marking the flooring stock for dados. Clamp all the boards of the same orientation to the story pole, and use a combo square to mark off the layout.



A critical step. After numbering each board's position on the grid, check the accuracy of the marks against those on the floor, and assign the orientation of each dado—whether it will face up or down. Once the horizontals have been marked, check the vertical boards and mark them in the opposite orientation.



Cut the dados. The author milled the half-lap dados with a dado stack and a 4-ft.-wide crosscut sled, making sure to have plenty of room and support for the boards on either side. Each dado's orientation was marked on the edges, so he flipped the board back and forth as he went. It's easier to cut to the lines on either side of the dado and then to plow the remainder away.

weave, I screwed it to the subfloor and installed the slate in the open spaces.

Start with a drawing on the floor

I started the design by overlaying a sketch on the floor plans, taking into account the width of the flooring and tile with grout lines, then making a color-coded story pole from the drawing. Next, I prepped the subfloor by hitting high spots with a belt sander, followed by a good sweep.

I transferred the grid onto the floor using the marks from the story pole, being careful to label wood and slate spaces. Measurements from the adjacent wall kept me square to the room. I then used two colors of chalk to snap lines, one color for each direction.

I also noted on the floor at each grid intersection whether it was to be the horizontal or vertical board on top.

Mill the stock and transfer marks

With the heart pine, I thought it was important to choose pieces of wood that had a reasonable amount of character. Sapwood that disappears at the joint and reappears on the other side will reinforce the idea that the boards are actually being woven together.

I ripped all the stock to width and left the lengths a little long. I ganged six boards at a time on edge and clamped them to the story pole, then transferred the lines onto the board edges. After extending the lines across the face of the boards and labeling each, I repeated the step with the boards assigned to the opposite direction. This could be done by measurement, but as with so many trim projects, a scribed line is often more accurate and impossible to forget when you take it back to the saw. I double-checked all the scribe marks against the chalk lines on the floor.

Next, I set up a dado stack on my tablesaw and crosscut the dados with a sled. A radial-arm saw could do the same job, as could a right-angle jig and router. Whichever way you cut them, the most important thing to remember is to alternate the notches facing up with those facing down.

Eat your Wheaties, then weave!

I started the grid by placing all the boards going one way and then slipping the first board into the notches. I coated the joint surfaces facing up with Titebond II on all sides. The joints should be tight, so I recommend a rubber mallet to persuade recalcitrant joints. While building the grid, I

THERE'S A SEQUENCE TO THE GRID



Pick a corner and start there. Begin the weave by interlocking two boards at one corner. After applying glue to the dado facing up, push the joint together, using a dead-blow hammer to help with tight joints.



A one-man weave. Run all the horizontal boards from the first vertical, then work in the next vertical. Bar clamps, and later the hammer, help to overcome the resistance of the weave, especially towards the end as the tension increases.



It's easy to work on when vertical. A rigid assembly will lean nicely against the wall. Apply construction adhesive to the back sides of the grid members, then lay the grid back down into place.



Fasten the grid to the subfloor. The author used a decking jig to locate concealed pocket screws in the board edges. Perimeter ends were fastened with two surface-mounted holes that were then plugged.



Make the frame and drop it on. For the grid's joints to be as tight as possible, trim the grid to the chalklines, take careful measurements, and assemble the frame with pocket screws in the shop.

used bar clamps to pull the crosspieces into place. The last two boards were tough, but once all the pieces were locked together, I leaned the assembly against the wall and applied construction adhesive to the back side of the grid. Then I laid it down and screwed it to the subfloor.

On the last job, we screwed and plugged the entire grid. This was time consuming, however, and it didn't add to the finished look. Pocket screws seemed to be a natural fit for this project. (Of course, when installing over a radiant system, you have to be careful to use short screws unless you're over a joist.) At the ends of each board, I added a pair of screws and plugs.

After trimming the perimeter to the chalklines, I installed a one-board border with screws and plugs for a decorative effect. Before setting the slate, I used a random-orbit sander to clean up the grid surface and to even out high spots. A couple coats of Waterlox sealed the wood.

Secure the slate with an isolation membrane

I didn't want any movement in the slate once the floor was finished, so I cut 6-in. squares of Schlüter-Ditra membrane and fixed them into the spaces with thinset. I made sure that every piece of slate would not sit proud of the wood surface. I buttered the backs of the slate squares with thinset and laid them in place. Once the thinset had hardened, I applied a sanded caulk around each slate square to allow the wood to expand. □

Photos by Charles Bickford.

FILL THE BLANKS WITH SLATE



Switch to stone. When the grid is complete, cut and apply individual squares of a decoupling membrane to the floor. Follow with the slate, using a 1/4-in. notched trowel to apply the thinset mortar to both membrane and slate.



Finishes need to be forgiving. The author used a sanded acrylic caulk by Laticrete (inset) as a flexible buffer between the seasonally mobile wood and the immobile slate. After laying down a careful 1/8-in. bead, he smoothed the bead with a wet finger, then used a damp rag to clean up the excess. The wood was sealed with several coats of Waterlox.

TOOL OF THE TRADE

Bundled convenience

My favorite tool for this job is a system of tools: a sander, vacuum, and track saw manufactured by Festool. On this job, I could get a reasonably high level of finish while keeping the area dust free, a nice feature because tiling was the next step. More importantly, I was able to use the track saw to square up and trim the perimeter of the grid right to the line without having to drag the stock back to the shop. A variation as small as 1/16 in. would have ruined the look of the grid. If not for these tools, I'd have spent a lot more time off site.

