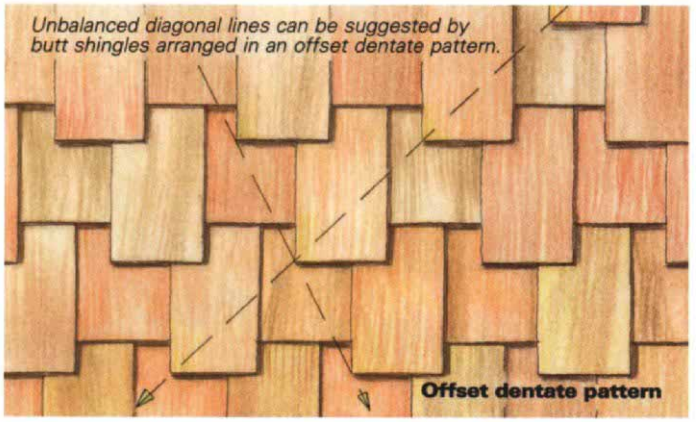
Decorative Sidewall Shingles

Custom-cut wood shingles make a variety of complex patterns

by Dave Skilton

In the summer of 1979, I was struggling to finish a house that we already occupied. The time had finally come to think about the exterior, which we had sided hastily two autumns before using ⅜-in. textured plywood as both a shear panel and a temporary finish. We had a look in mind—the silver-grey of redwood shingles weathered by the salt air—which was the signature of Manchester, our northern California coastal town. The more I looked at the local houses, the more I noticed fancy shingle work, and I liked its subtle beauty. It didn't take me long to decide to use a decorative pattern in the gable ends of our house. That was to be my incentive—a reward for getting the rest of the walls done. Since then, I've completed a number of decorative shingle projects.



Sheathing—Decorative sidewall work, like roof shingling, can be installed over "skip sheathing" (horizontal 1x4 boards spaced a board's width apart) or solid sheathing, such as planks, plywood or waferboard that is at least ½ in. thick. No matter what type of substrate you use, it should have a breathable water-resistant membrane under it to allow air circulation behind the shingles. Asphalt saturated 15-lb. felt is a commonly used membrane material, as are the new air-infiltration barriers, such as Tyvek and Typar. Because local requirements vary, you should check with your building department to find out what membrane materials have local approval. On plywood, the membrane goes on the outside. With skip-sheathing, you need to place the membrane between the sheathing and the studs.

The first course of shingles is doubled because the gap between shingles must always occur over the body of another shingle. The rule of thumb is that the gap should occur no closer to the edge of the underlying shingle than one-fifth the width of that shingle. Nails (4d or 5d hot-dipped galvanized box) should be placed about ½ in. from the edges of the shingles. No nails should be visible on a finished shingle job.

I don't have room in this article to delve deeply into the basics of sidewall shingling, but if you want to know more about the subject, get a copy of the *Design and Application Manual for Exterior and Interior Walls,* It's free

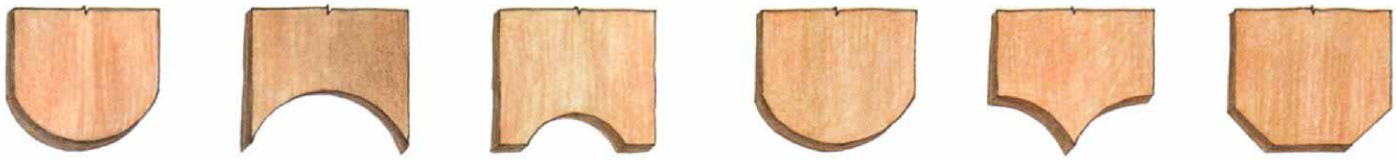
Drawings: Christopher Clapp

Typical shingle shapes

Square

Triangles

Swallowtails



Round

Cove

Half-cove

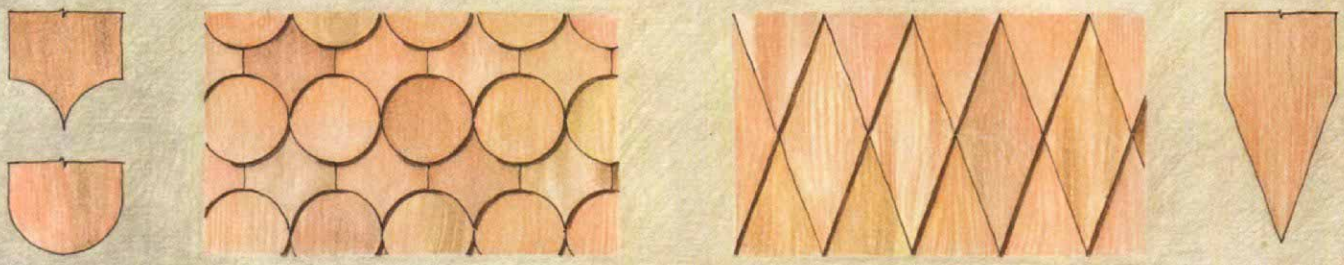
Fish scale

Dart

Octagon

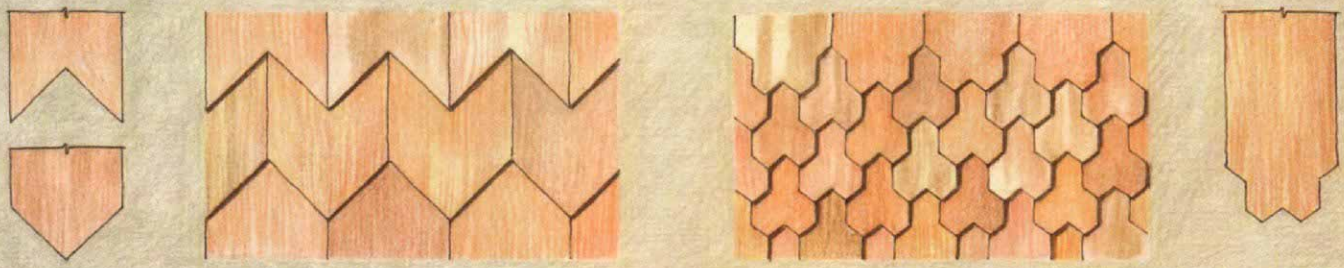
Shingle patterns

Complex textures can be made by offsetting shingles of a single shape (right column below), such as lozenges, hexagons and the tessellating pattern called propellers. By adding a shingle with a second or third shape (left column below), the possibilities are broadened.



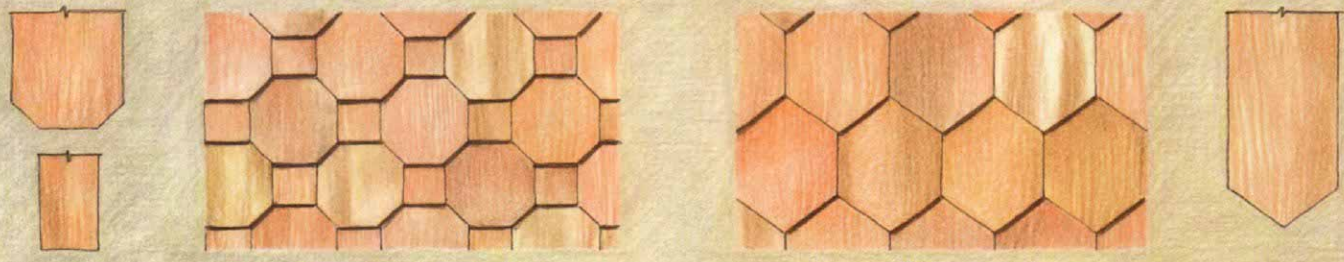
Rounds

Lozenges



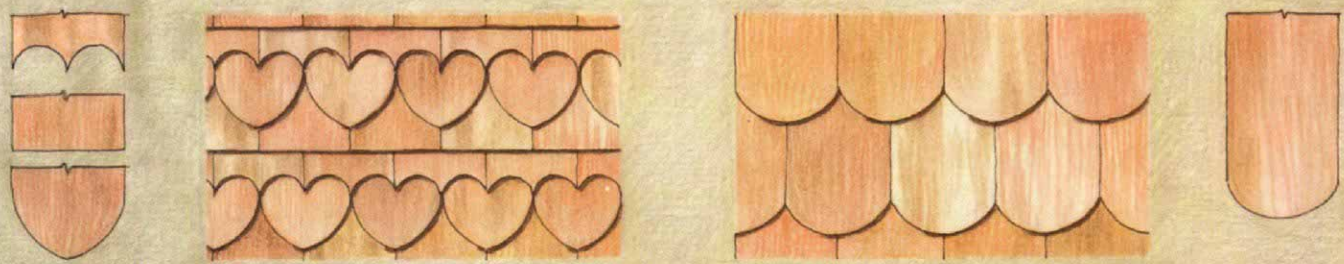
Sawtooth

Propellers



Octagons and squares

Hexagons



Hearts

Fish scales

to designers and builders from the Red Cedar Shake and Shingle Bureau (515 100 16th Ave. N. E., Suite 275, Belleview, Wash. 98004). You can also refer to *FHB* #28, pp. 63-67.

The three variables—Decorative shingling partakes of all the problems of any sidewall work, plus some special ones. In designing a decorative pattern there are three main variables to manipulate: exposure, width and shape of the shingles. It sounds boringly simple. But subjected to the folk imagination of ingenious carpenters over the centuries, these three variables have produced an astonishing number of patterns.

Exposure refers to the vertical amount of shingle that is "to the weather." This naturally varies with the length of the shingles and the designer's intent. On standard 18-in. shingles the exposure is normally 5 in. to 8 in., but it can be as little as ½ in. or less in the case of doubled or tripled coursing. At the other extreme I have seen so-called "barn" shingles that were 3 ft. long. They allow very generous exposures. Some patterns vary the exposure from shingle to shingle in a given course, making a dentate line. Others vary the exposure randomly for a kind of crazy-quilt effect. In theory the exposure approaches its upper limit at half the length of the shingle, but in practice it is generally held closer to a third.

Width refers to the horizontal measurement of the installed shingle. In many decorative patterns this is held constant because all the laps can then fall precisely over the middles of the shingles in the previous course. But just as with exposure, the width of the shingles can easily be varied within a pattern. The most important thing to keep in mind here is whether the courses lap properly to provide a waterproof wall.

Shape is, of course, what most often comes to mind at the mention of decorative shingling (drawings previous page). Many of these shapes are available precut, and you can even get them in preassembled panels (see sidebar right). Beyond buying precut old favorites, which offer a vast range of combinations, you can cut decorative ends on standard wood shingles and devise one-of-a-kind patterns. That's what I prefer to do.

If you decide to make your own shingles, there are a couple of things to keep in mind. First, if the bottom of a pattern is contained on one shingle, the top will be split between two shingles (bottom drawing previous page). For some patterns the shingles can be identical, and just the act of offsetting them creates a repetition of the pattern. This is true for lozenge and hexagon patterns. Other patterns, such as hearts, and octagons-and-squares require two different shingles. Second, keep in mind that complicated shingles with isolated tongues of wood that are crossed by the grain are highly susceptible to breaking off. Even if you succeed in installing them whole, the stresses of sun, rain, wind and frost will eventually do them in.

Roof pitch and shingle pattern—One of the primary design considerations that I discovered on my first gable project was the relationship of exposure to width. I chose a tessellating pattern of hexagons because I was keeping bees on my place and I was intrigued with the structure of honeycomb. However, the pattern proved poorly suited to the low, 4:12 pitch at the gable end. Hexagons establish a strong set of diagonals at 30° to the horizontal, and my roof's slope was 18°. Although I made sure my first course fit in whole-shingle increments across the width of the wall, subsequent courses didn't, and the resulting fragments made the finished gable look a little awkward. Hexagonally-based patterns work far better on gables of about 7:12 pitch because the resulting angle of the roof is more in harmony with the 30° angles established by the hexagons. Matching the apparent diagonals created by your pattern to the roof pitch (or for that matter intentionally opposing the diagonals), can add to the repose or drama of the finished project.

You don't necessarily need shingles with pointed ends to create the effect of diagonals in a wall. By simply offsetting square-butt shingles in a dentate pattern, you will impart a subliminal diagonal line to the wall (drawing p. 42).

Cutting decorative patterns—When I manufactured my hexagonal shingles, I used a wooden jig on a table saw (left photo, facing page). After ripping all my shingles to a common width, I held the shingles against the diagonal stops of the jig and made second and third passes on the saw to add the point to each shingle (for more on sliding jigs for the table saw, see *FHB* #53, pp. 58-61).

I think the best tool for cutting curves in shingles is a bandsaw with a narrow blade, although I've used a jig saw with a sharp, fine-toothed blade when I had to. To cut the dart-shaped shingles used in the heart pattern (right photo, facing page), I used a 2½-in. hole saw mounted in a drill press. While it's tempting to try and stack the shingles so that a bunch of them can be cut at once, it doesn't work well. Because they are wedges, each shingle in the stack ends up a little different than its neighbor.

Many tessellating patterns, such as the one I call propellers (bottom drawing, p. 43), are based on hexagons and require only one kind of shingle. This greatly simplifies installation and can still create a highly dramatic effect. A single band of special work in an otherwise static pattern can be very effective for emphasizing transition lines, such as the head-levels of windows and doors. Also, if you are creating a pattern that is not repetitive, consider if it might need centering or other special placement for best effect.

The possibility also exists of larger patterns where, for example, a wavy line might run the entire length of a wall in a given course of shingles. In this case, lay out the shingles on the floor as a unit, and then mark them for cutting. Avoid the temptation to move individual shingles up or down too far in place within a given row, unless you are prepared to live with the gaps under shingles that this will cause. Because wood shingles are wedges, they become out of plane with one another as soon as you move them up or down. Some elaborate patterns intentionally exploit this fact, so that the pattern bulges away from the wall.

Installation—A straight length of 1x, tacked up level as a guide, is a valuable aid in putting up courses of decorative shingles. I don't recommend snapping a chalkline; it's easy to fall out of register with a chalkline, and the chalk can stain the porous woods used for shingles.

After your hammer or nailer, an accurate square is the most important tool to have along on a fancy shingle job. The problem that seems to come up most often for me with decorative shingles is that they sneak out of plumb rather easily. Sometimes they have only a single point that rests against the guide. An out-of-plurnb shingle can cause a series of compounding problems further down the line, along with much cursing and teeth-grinding. Use the square often to check the plumbness of your shingles.

At the top of the wall there is typically a strip of 1x material (called packing) to which the top courses of shingles will butt. On a gable, trim the tops of the shingles near the ends of each course to fit the angle of the roof and keep the nails as high as you can. When all the shingles are on, a rake board, (plus any other moldings you may want to add), can be applied to cover the joint between the top row of shingles and the 1x packing.

Decorative shingles work in concert with adjacent rows of shingles to build patterns,

Sources of supply

The companies listed below all sell fancy butt shingles. Shakertown and Cedar Valley Shingle Systems also sell them in pre-assembled panels.

Shakertown Corp,
P. O. Box 400
Winlock, Wash. 98596

Teal Cedar Products
17835 Trigg Rd.
Surrey, B. C., Canada V3T 5J4

Cedar Valley Shingle Systems
943 San Felipe Rd.
Hollister, Calif. 95023

Southcoast Shingle Co.
2220 E. South St.
Long Beach, Calif. 90805

South County Post and Beam
P. O. Box 432
W. Kingston, R. I. 02892

Cutting and fitting. **A sliding-table jig for a table saw can make short work of cutting lots of shingles with diagonal points, such as the one being cut in the photo at left. Runners beneath the jig correspond to the grooves in the saw's table. The shingles are held against each tacked-on stop to register the cutting angle. Red cedar hearts emerge on the wall as the author places a row of shingles with half-circle cutouts over a row of pointed shingles (photo above). These decorative shingles are 5 in. wide, and they are centered over a row of square-cut shingles that are also 5 in. wide. Just above the shingles is a piece of 1x packing. It will serve as backing for the rake board that trims the top of the wall.**

but the starter row in a decorative scheme usually has straight butts that blend with the other shingles in the field. The shingles in the starter row, however, are ripped to the same width as those in the decorative rows. This allows the centers of the shaped shingles to fall directly over the gaps between the shingles in the starter row (photo above right). I used 5-in. wide shingles for the gable shown here because it's an efficient width to rip out of a bundle of standard shingles without much waste.

Applying shingles to curved surfaces can be a lot easier than trying to do the same job with regular siding. They are especially well adapted to a horizontally concave surface, such as a scooped mansard, because bowing the shingle inward brings it down even tighter on the preceding course. By the same token, a horizontally convex surface is not a good candidate for shingles, because the unnailed end will tend to ride up. Surfaces curved in or out vertically can take shingles equally well, the limit being in the tightness of the arc: the more a shingle must bend parallel to its grain, the more likely it is to split. The flexibility of shingles can be helped along by soaking them in cold water overnight, or by using those with a flat grain. Blunting nails so that they crush rather than split their way through the wood is also helpful, particularly when you have to drive a nail close to the end of a shingle.

Finishes—In Victorian times paint was the order of the day for everything from sofas to shingles. Unfinished shingles and furniture signaled rusticity, a condition to be tolerated only in cabins and lodges. Nowadays weathered, stained, or clear-finish woods are popular even in urban neighborhoods. Just think of all the pieces of cheaply made turn-of-the-century furniture that people have laboriously stripped and put in their living rooms as precious antiques.

Today, shingles are usually made from cedar or redwood, which are tough woods that will last a long time even without treatment. It is true, however, that a finish will extend the life of shingles, especially those exposed to harsh sun. There are finishes that will preserve the natural or weathered color of the wood, and there are also ways to speed up the weathering of shingles. Redwood painted with a vinegar and water solution, for example, will blacken quickly in sunlight. Or you can simply let shingles weather naturally to the desired color before finishing them clear. The natural preservatives in the shingles should be allowed to leach out for a year before you apply a finish.

While I like the look of weathered shingles, I learned a lesson about trim color while working on my own house. I chose a trim paint that complimented the raw color of the redwood shingles. But as the unpainted shingles weathered, the color combination got so ugly that I had to repaint all the trim.

Something I would like to try someday is staining individual shingles before putting them up, thus adding color to the variables in a pattern. To some extent this is already possible because of the variability of the natural color in shingle woods. But this brings up a potential problem to keep in mind: an inadvertent patch of chocolate shingles in a sea of cinnamon ones can really look like a broken tooth.

There are lots of reasons for choosing shingles, from pragmatic, to aesthetic to historical. For me, the human scale is what appeals the most. One person can put shingles on a house; one person can create a fancy design, from whimsical to elegant. Each shingle is about the size of an open book, and just as readable. Even with regular random-width shingling, each piece requires attention and judgment, fostering a satisfying intimacy between the builder and the project. □

Dave Skilton is a former builder who is currently studying architecture at the University of Oregon in Eugene.