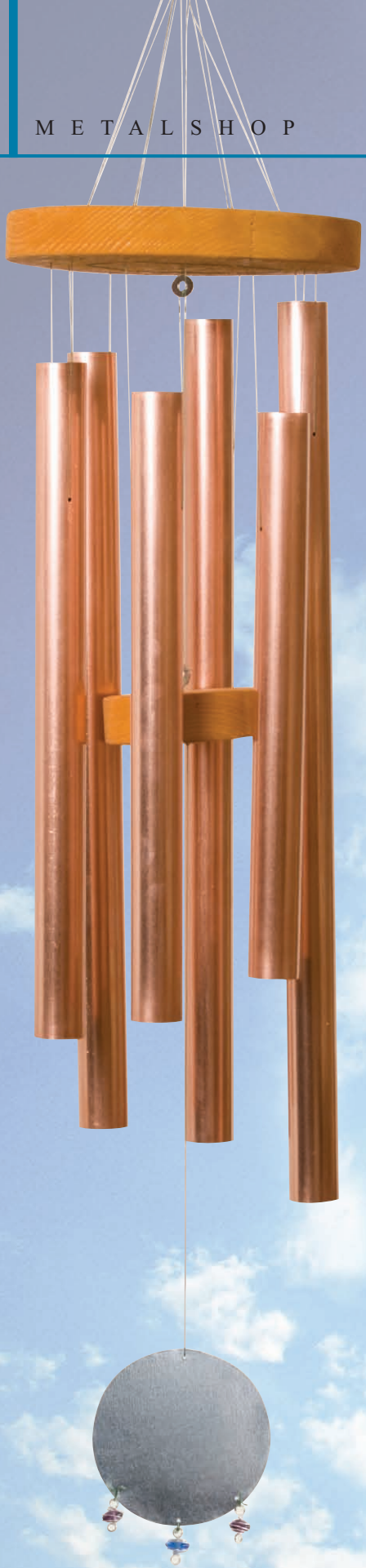


A Moment in Chime

Combining musical metals and the rhythm of wind, these chimes are designed with nature in mind

BY JENNY STANLEY

Most people concur that wind chimes add aesthetics (both visual and auditory) to outdoor spaces. Some even consider these musical devices therapeutic. But one thing few people realize is that you can make a good-quality custom set that's in tune with your senses and your budget. Here's how.

Material world

To kick off this project, first consider your materials: The choices you make for each part (from the chimes to the striker to the strings used for hanging) will affect the sounds produced. I used 3/4-in. type-M copper pipes for the chimes, which I found in the plumbing aisle of my local home center. The pipes are lightweight and have a pleasing tone and appearance. For alternative options, check out "Sound Advice," p. 72.

You have a variety of options when it comes to the top circle, striker and wind catcher, too. For the striker, the noisemaker located in the center of the chimes, I chose cedar because it's lightweight and creates a mellow tone when paired with the copper pipes. To match, I also used cedar for the top circle.

The wind catcher allows for more creative freedom because it doesn't directly affect the chimes' sound, but it must be weighted and flat. I used a piece of galvanized flashing weighted with glass-and-wire beads.

Piece by piece

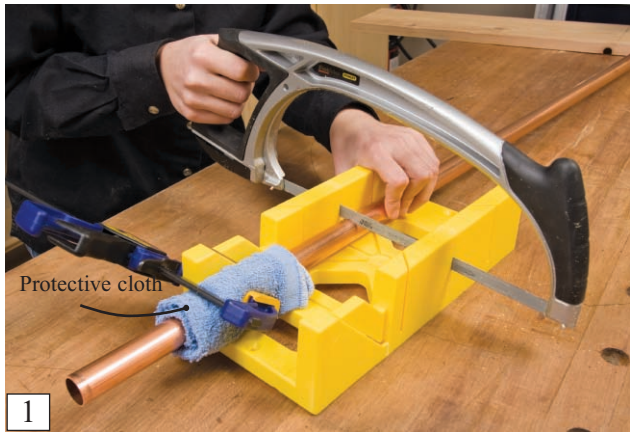
Once you've selected your materials, it's time to fabricate the parts. Begin by measuring and marking the cut lines on the copper pipes. I experimented and came up with six lengths (see cutting list) that produce harmonious sounds when struck with a piece of cedar. If you're not particular about notes, any combination of lengths will do — the quality of sound is determined by the striking point rather than the chime length. To cut the pipes, you can use a pipe cutter or a hacksaw and the 90-degree-angle slot of a miter box (photo 1, opposite).

Drill two holes through the top of each chime using a drill press or a power drill/driver, a right-angle drill guide and a 1/16-in. metal-rated bit (photo 2, p. 72). The holes should be about 2 to 2-1/2 in. from the top of each pipe, where the least vibration occurs (the node of vibration). To find this point on each pipe, lightly hold it with two fingers in the potential hole locations and then tap it with the striker material, listening for the purest tone.

Next use a compass to mark the striker and top circle cut lines on the cedar (see cutting list); then cut out the pieces with a jigsaw (photo 3, p. 72). Drill holes in the center of the striker and top circle.

Drill 12 evenly spaced holes along the edge of the top circle, about 1-1/4 in.

PHOTOS BY LARRY OKREND; ILLUSTRATION BY STEPHEN HUTCHINGS



Wrap the pipes with a cloth at the clamping point to prevent damage to the copper. Make the cuts with the hacksaw as straight as possible to reduce the amount of filing necessary.

apart and 3/4 in. from the edge, for hanging the pipes. You may have to make minor adjustments for even spacing. For hanging suspension cords, drill six evenly spaced holes in the top circle, about 1-3/4 in. apart and 1-1/4 in. from the edge; again, make minor adjustments if needed (see top circle illustration, right).

For the wind catcher, mark the shape with a compass (see cutting list) and then cut it out with heavy-duty snips. Drill one hole at the top for hanging and three along the bottom. To eliminate sharp burrs when drilling the holes, sandwich the flashing between scraps of wood.

CUTTING LIST

NO.	DESCRIPTION	SIZE
1	Copper chime	9-1/2 in.
1	Copper chime	10-1/2 in.
1	Copper chime	11-1/2 in.
1	Copper chime	13-1/2 in.
1	Copper chime	14-1/2 in.
1	Copper chime	15-1/2 in.
1	Top circle	6 in. dia.
1	Striker	2-1/2 in. dia.
1	Wind catcher	3 in. dia.

SHOPPING LIST

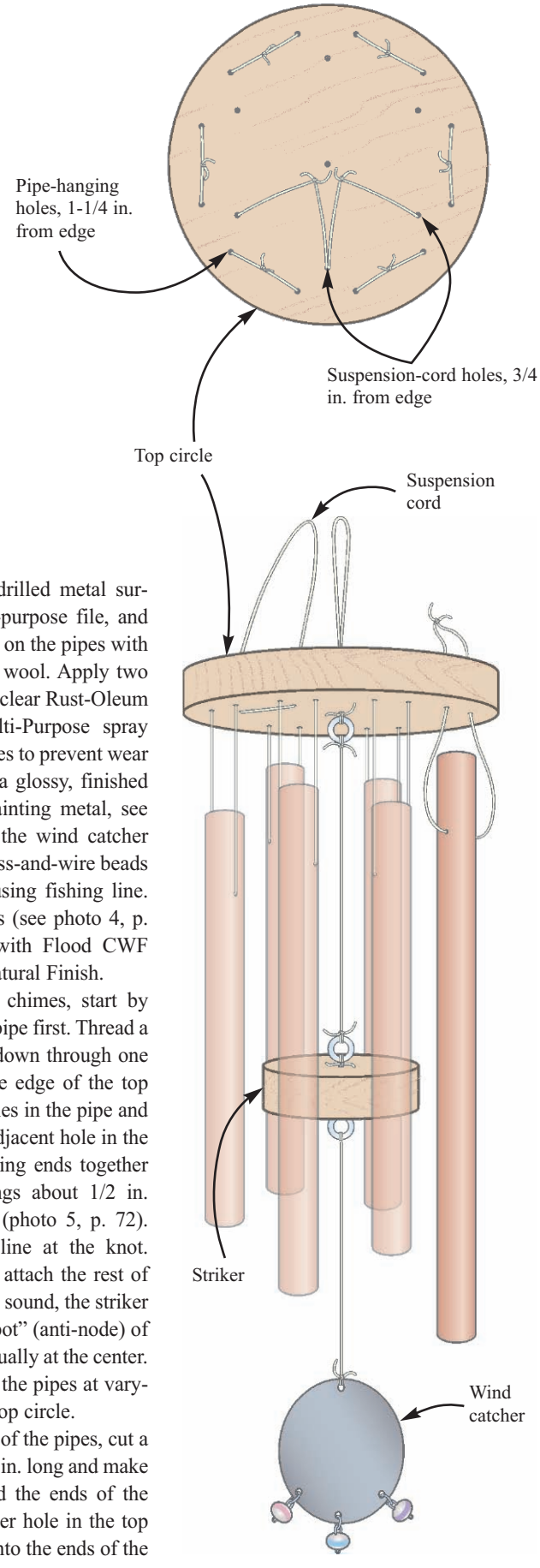
- 3/4-in.-dia. x 5-ft. type-M copper pipe (2)
- 1x8 cedar board
- Small piece (at least 4 x 4-in.) galvanized flashing
- Glass-and-wire beads (3)
- Heavy-duty fishing line (12 ft.)
- Carabiner
- Washers (3)

Take shape

Smooth all cut and drilled metal surfaces with a general-purpose file, and remove any markings on the pipes with super-fine 0000 steel wool. Apply two to three light coats of clear Rust-Oleum Painter's Touch Multi-Purpose spray paint to all metal pieces to prevent wear and give the chimes a glossy, finished look. (For tips on painting metal, see Web Extras.) Finish the wind catcher by attaching three glass-and-wire beads to the bottom edge using fishing line. Sand the cedar pieces (see photo 4, p. 72) and coat them with Flood CWF Ultralast Premium Natural Finish.

To assemble the chimes, start by attaching the longest pipe first. Thread a piece of fishing line down through one of the holes along the edge of the top circle, through the holes in the pipe and then up through the adjacent hole in the top circle. Tie the string ends together so that the pipe hangs about 1/2 in. below the top circle (photo 5, p. 72). Cut off any excess line at the knot. Repeat these steps to attach the rest of the pipes. For the best sound, the striker must hit the "sweet spot" (anti-node) of each pipe, which is usually at the center. To achieve this, hang the pipes at varying lengths from the top circle.

After hanging all of the pipes, cut a piece of fishing line 6 in. long and make it into a loop. Thread the ends of the loop through the center hole in the top circle. Tie a washer onto the ends of the



Drill starter holes for the jigsaw blade just outside the cut marks; then carefully cut out the circles.

For speedy sanding, clamp a belt or random-orbit sander on its side and create a spinning jig. Use a 1/8-in. nail as an axis, and make sure the piece extends past the scrap wood.

To get a better view when attaching the pipes, clamp the top circle to the edge of your work surface. Tie the longest pipe so it hangs about 1/2 in. below the top circle.

SOUND ADVICE

Get an earful (or should we say eyeful?) of the sounds that different chime materials make. I used a cedar striker to produce the tones described below. — JS

1. Steel tube
Smooth, high-pitched ting; long note

2. Solid aluminum rod
Sharp, high-pitched clang with a slight ring; shorter note

3. Aluminum tube
Mellow clang with a slight ring; long note

4. Copper pipe
Mellow, lower-pitched ding; long note

5. Bamboo
Woody knock, short note

loop directly under the top circle. Cut another piece of fishing line about 10 in. long; tie one end to the washer under the top circle and the other end to another washer at the appropriate striker hanging point. Cut a new piece of fishing line about 5 in. long; tie one end to the washer you just attached. Thread the striker onto the line and then tie another washer directly under the striker. Cut a final piece of string to the appropriate wind catcher hanging height (about 3-1/2 in. from the lowest-extending pipe). Tie one end to the washer you just attached and the other to the wind catcher. Cut off any excess fishing line.

To add suspension cords, thread a piece of fishing line (about 10 in. long) down through one of the designated holes in the top circle and up through an adjacent hole, tying it together to make a loop about 3 in. long. Repeat this step until you have six loops above the top circle. Gather the loops, including the central loop, with a carabiner, and adjust the loop sizes until the entire project is balanced; then cut off any excess fishing line. The completed chimes are ready to hang on an eye screw or hook in your favorite outdoor space. u

WEB EXTRAS

To learn more about painting metal, go to www.HandymanClub.com and click on WEB EXTRAS.