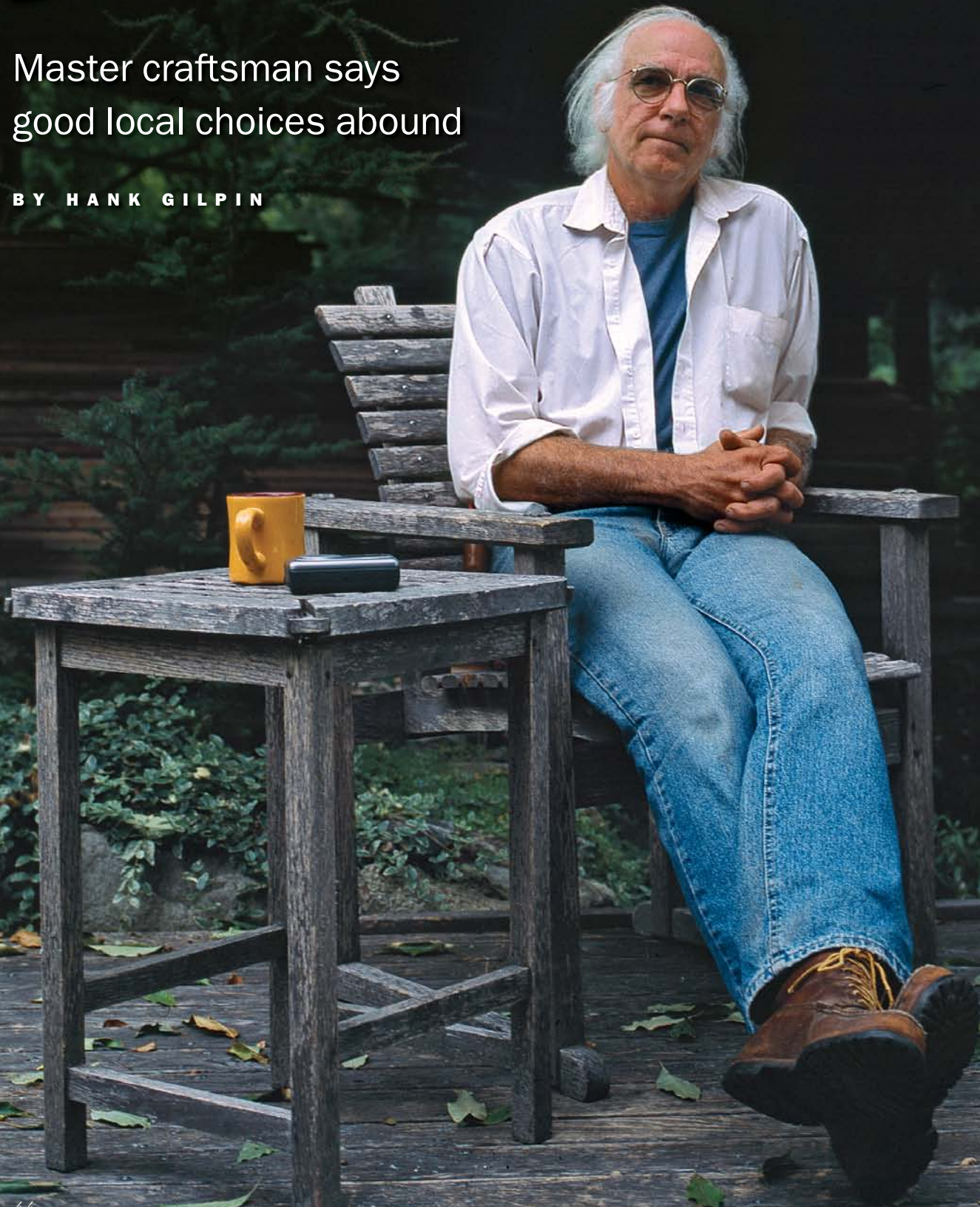


5 Woods for Outdoor Furniture

Master craftsman says good local choices abound

BY HANK GILPIN



After a long day in the shop, I like to head out to the backyard, sit back in a chair, and have a cold drink. It's relaxing, but I'm only there for a few hours at most. The wood chair beneath me is out in the weather all day, every day. And every minute, the elements are working to tear it down. Outdoor furniture won't last forever, but you can greatly extend its life by using the right wood (and the right joinery).

What makes a wood right for the outdoors? Its ability to resist decay. I've been making outdoor furniture for several decades, and I've used a wide variety of woods to do it. Teak is far and away the best. It resists decay, is very stable, and naturally fades to a beautiful silver-gray. But it also is very expensive, so I don't use it. In fact, I don't use any exotics. There are plenty of domestic species that do great outside and I'll tell you about the five that top my list: white oak, black locust, bald cypress, eastern red cedar, and northern white cedar. Some of these are more difficult to find than others, but you should be able to find at least one of them where you live (and the others you can get from online lumber dealers).

Regardless of which wood you use, here is one bit of advice that applies to them all. Use only the heartwood for outdoor furniture (and anything else you make for the outdoors). Sapwood is too rich in sugars and other tasty treats to survive very long in the wet, wild, and often warm wilderness out the back door. Fungi, the critters most responsible for decay, tear through sapwood, but have a much harder time with heartwood. Wind, rain, and sun also cause decay, but you can mitigate their impact with smart design, like making sure surfaces that face up are sloped and that exposed end grain has plenty of room to breathe and dry.

Also, applying a finish is a Sisyphean task, and it won't preserve the wood forever. The elements catch up with everything. So, skip the finish, let the wood weather to its natural gray, and relax.

Hank Gilpin is a professional furniture maker in Rhode Island.

White oak

White oak is widely available, much less expensive than teak and other exotics, and withstands the elements for years. The one knock against white oak is that it can be tough to work. Also, be aware that different parts of the growth rings weather differently. The light-colored early wood (the part of the ring that grows first) is more porous and softer than the darker late wood, so the surface becomes uneven. To minimize that effect, look for lumber with tight annual rings (check the end grain).

Latin name: *Quercus alba*

Average price (bd. ft.): \$4–\$5

Availability: throughout U.S.

Specific gravity: 0.68

Percent shrinkage:

Tangential: 10.5

Radial: 5.6

T/R ratio: 1.8



BEHIND THE NUMBERS

A wood's **specific gravity** speaks to how hard, dense, and heavy it is. The higher a wood's specific gravity, the tougher and stronger it is.

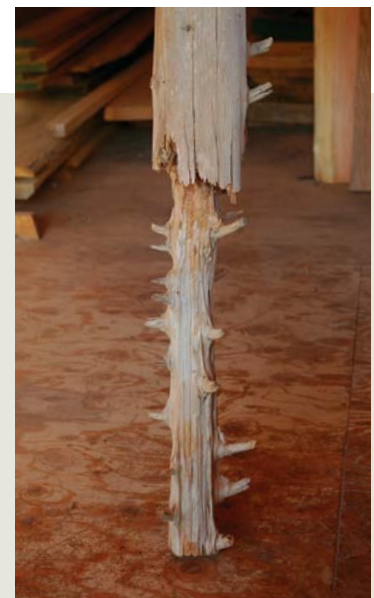
The **percent shrinkage** indicates a wood's stability. There are three numbers to consider: tangential and radial shrinkage and the ratio of the two. As the ratio of tangential to radial shrinkage gets higher, wood is more prone to warping.



Outdoor design, perfected. With surfaces designed to shed water, simple but strong joints, and stainless-steel screws, Gilpin's white-oak chair is sure to stand up to the elements for years.

Avoid sapwood at all costs

Sapwood, the outer rings of the tree where cells were still alive when it was cut, is a tasty treat for fungi. This fence post illustrates why you shouldn't use it in outdoor furniture. After just a few years of contact with soil, it has been eaten away. But the heartwood, the durable inner rings where the cells were no longer alive, remains as strong as ever. It's the same story with furniture. Sapwood will rot quickly, leaving you with a weakened or unusable piece of furniture.



Black locust

Of all the domestic woods I know—and I know a lot—black locust resists the ravages of fungi and moisture the best. More durable than white oak, it is the best choice for furniture parts that are in direct contact with the soil. As it never has more than three years' worth of sapwood, there is very little waste. Like white oak, it is tough to work. Although it grows just about everywhere,

black locust can be hard to find because it is only just appearing on the fringes of the commercial radar. However, with a bit of leg work (try an online search) you should be able to find it in your area.

Latin name:

Robinia pseudoacacia

Average price (bd. ft.): \$3–\$4

Specific gravity: 0.69

Percent shrinkage:

Tangential: 7.2

Radial: 4.6

T/R ratio: 1.6



Legs built to last. Because the end grain of its slab legs is in direct contact with the soil, Jessica Wickham made this bench from black locust. No other domestic wood is better at handling the stress of constant exposure to dirt, moisture, and fungi.

How to build furniture that survives outside

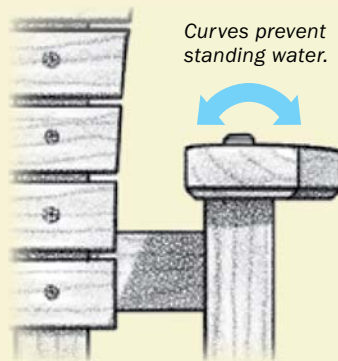
Building durable outdoor furniture isn't only about picking the right wood. It's just as important to build smart. That's because the parts expand and contract far more than they would indoors.

Start by creating surfaces that naturally shed water, such as angled seats. Keep parts narrow and give them enough space to expand. On a seat, for example, six narrow slats are better than four wider ones. And keep end grain exposed where possible. That allows the wood to dry more easily, making it more difficult for mold and fungi to start growing.

When it comes to joinery, simpler is better. Mortise-and-tenon joints, bridle joints, and lap joints are all good choices. Use a waterproof glue, like Titebond III, to hold the joints together, and reinforce them with a peg or two. Or you can forgo traditional joinery altogether, and use mechanical fasteners such as bolts and screws. Just make sure that you use stainless-steel or brass fasteners. Ceramic decking screws are a good choice, too.

—Matt Kenney is a senior editor.

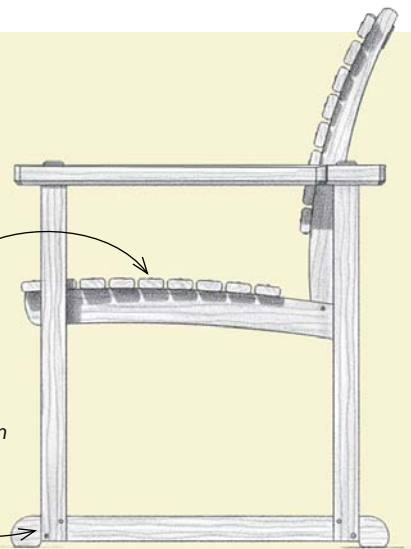
SHED WATER NATURALLY



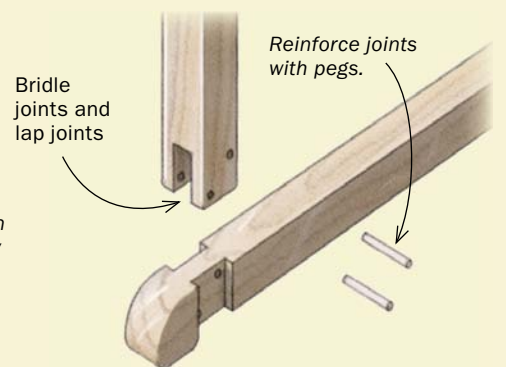
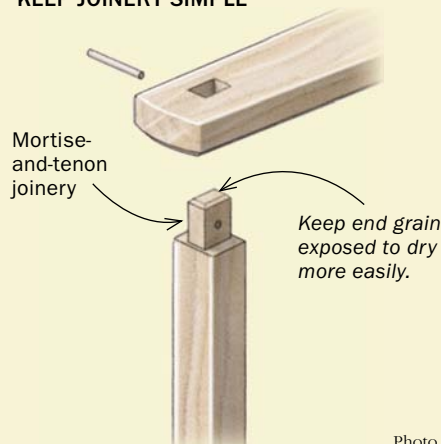
KEEP PARTS NARROW

Use more, smaller seat slats vs. larger ones.

Keep end grain off the ground if possible.



KEEP JOINERY SIMPLE



Bald cypress

A light but durable wood, bald cypress is great for furniture that you need to move around often. It works very well with hand tools, and doesn't clog sandpaper as fast as northern white cedar. However, it

Latin name: *Taxodium distichum*

Average price (bd. ft.): \$4–\$5

Specific gravity: 0.46

Percent shrinkage:

Tangential: 6.2

Radial: 3.8

T/R ratio: 1.6

can be oily, which makes glue-ups tough. Furniture maker Brian Boggs has tested many glues on it and recommends using Oak & Teak Epoxy Glue (glueoakandteak.com), which is specially formulated for oily woods. Bald cypress grows in a fairly large part of the country and isn't difficult to find.

Bald is beautiful. Although its parts are beefy, Brian Boggs's chair isn't heavy, because it's made from bald cypress. It's no problem to move it from spot to spot, so you're always sitting in the sun (or shade, if you prefer).



Two cedars

Red cedar challenges black locust in terms of durability, and is another great choice for any part that is in direct contact with soil. It's not difficult to work, but is often very knotty. However, if you design with foresight you can locate joinery to miss the knots, or use it only for those parts that touch the ground or are buried in it, and use another wood for everything else (it all turns gray in the end). It grows just about

everywhere, but to find it in sizes suitable for anything other than fence posts and wood chips for hamster cages, try local sawmills.

Northern white cedar isn't as resistant to decay as red cedar, but still holds it off for many years. It's light and fibrous, but resists splitting very well. It's another perfect wood for furniture that is moved around a lot. Galvanized fasteners will cause staining, so use stainless-steel, brass, or ceramic-coated decking screws instead.

Lightweight Adirondack. There's a lot of wood in an Adirondack chair, which can make them very heavy. That's why Tom Begnal made this one from light but strong white cedar.

Latin name:

Juniperus virginiana (Eastern red)

Average price (bd. ft.): \$5–\$6

Specific gravity: 0.47

Percent shrinkage:

Tangential: 4.7

Radial: 3.1

T/R ratio: 1.5

Latin name:

Thuja occidentalis (Northern white)

Average price (bd. ft.): \$5–\$6

Specific gravity: 0.31

Percent shrinkage:

Tangential: 4.9

Radial: 2.2

T/R ratio: 2.2

