



# Dovetail Saws

To cut dovetails by hand, you need a fast-cutting saw that's easy to control

BY CHRIS GOCHNOUR

Hand-cut dovetails are a hallmark of craftsmanship, adding unmatched beauty, detail, and strength to a project. I often tell students that dovetailing by hand isn't difficult. But mastering the dovetail saw requires perseverance, and having the best tool for the job can make all the difference in the world.

Some woodworkers like to use Japanese dovetail saws, which cut on the pull stroke. These saws tend to be razor sharp out of the box, but the steel is often very thin and the teeth are bent and broken easily. Japanese saws also

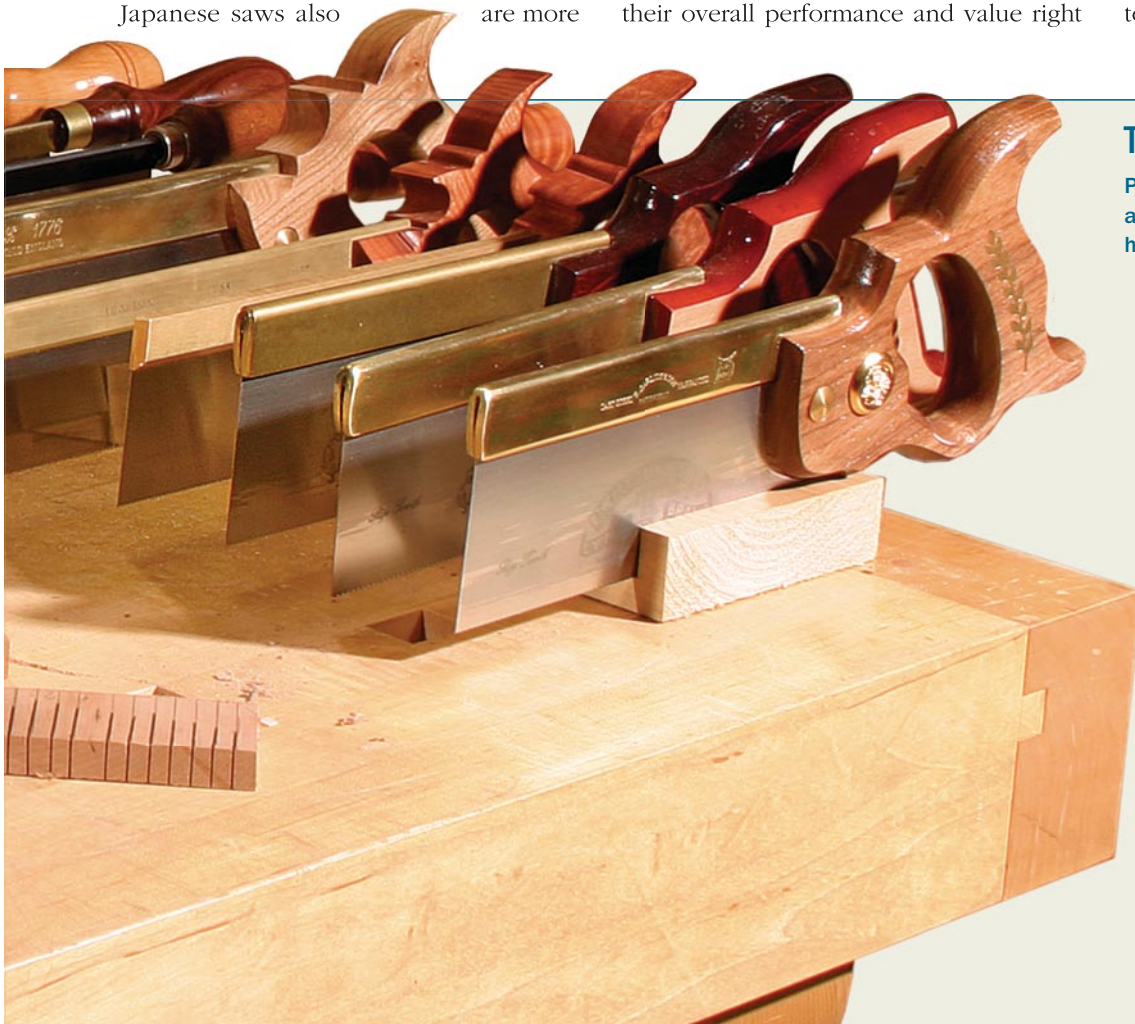
are more challenging to sharpen. The high-end saws frequently are returned to Japan for sharpening, and the moderately priced saws often are discarded once they become dull. Both Japanese and Western-style saws have their advocates; I prefer the Western style because of their sturdy construction and thicker steel. I also like that they cut on the push stroke and are sharpened easily. (To learn how to sharpen a dovetail saw, see *Master Class*, p. 94.)

For this review, I tried 11 Western-style dovetail saws, from \$10 to \$125, to evaluate their overall performance and value right

out of the box. I used each one extensively in cherry, oak, and maple, making cuts with the grain and across it. I observed how fast each saw cut, the ease with which it started a cut, how smooth the saw was throughout the cut, and how well it tracked a line. I also checked the saw's quality of construction and ergonomics.

## What to look for in a dovetail saw

To make fine dovetails, you need a saw that cuts fast, tracks a straight line, and leaves a smooth, narrow kerf. It should be easy to control and comfortable to hold. Other



## TWO HANDLE STYLES

Pistol-grip saws have open or closed handles at an angle to the blade, while gent's saws have straight handles.



# PISTOL-GRIP SAWS

Pistol-grip saws, whether open-handed or closed, provide a solid connection between hand and saw, ensuring optimum power to cut material of any thickness.



## ADRIA

**Source:** [www.adriatools.com](http://www.adriatools.com)  
**Price:** \$115

**Blade:** 8 in. long, 15 tpi

**Back support:** Slotted brass

**Comments:** Although it took me a while to get used to the hang of the Adria saw, once I did, the tool was impressive. The factory sharpening job is superior, making it the fastest-cutting saw of those tested, in spite of its short length. It left a thin, clean kerf and tracked a dead-straight line. The tradeoff with its speed is that the saw was slightly more difficult to start. The Adria is my choice for best overall in the pistol-grip category.



## CROWN

**Source:** [www.highlandhardware.com](http://www.highlandhardware.com)  
**Price:** \$62

**Blade:** 8 in. long, 20 tpi

**Back support:** Folded brass

**Comments:** The thin blade on the Crown saw is well-supported, and I had no trouble starting a cut. Although the teeth had more set than I like, which made it a bit more difficult to track in the kerf than the Adria, the saw cut fast and smooth. The closed handle provides

ample room for a large hand.

The Crown is a no-frills tool, but for the cost-conscious woodworker, I recommend it as the best value among the pistol-grip saws.

## LIE-NIELSEN

**Source:** [www.lie-nielsen.com](http://www.lie-nielsen.com)  
**Price:** \$125 (add \$25 for rosewood handle)  
**Blade:** 9 in. long, 15 tpi

**Back support:** Slotted brass

**Comments:** The Lie-Nielsen saw was easy to start and made smooth cuts. Although the saw cut a bit slower than others, its 9-in. length allowed for a longer, more efficient stroke. As with the Adria, it took a bit of time to get used to the hang of the saw, but the saw fit my hand comfortably.

Overall, the Lie-Nielsen is a great saw, with a classic aesthetic, and the company offers factory resharpening services.

important considerations are the tooth pattern (how the blade was sharpened), the blade length, how the blade is attached to the back, and the handle style.

**The right number of teeth, sharpened correctly**—A saw's performance out of the box will depend on how the blade was sharpened at the factory. The type and number of teeth and the set of the teeth all come into play.

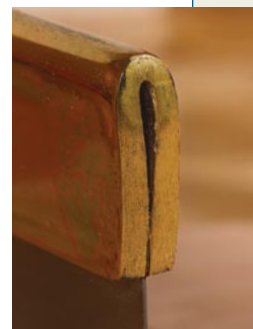
Because most dovetail cuts are made with the grain, a saw that is sharpened for a ripcut is ideal. Rip teeth have chisel-shaped points that tend to cut faster than crosscut teeth.

The number of teeth per inch (tpi) can boost or hinder performance. A saw with more teeth per inch will make fine cuts with little tearout, while a saw with fewer teeth will make a rougher but faster cut. Saws that performed well in this review generally have blades with 15 tpi to 20 tpi—fine enough to handle precise cuts but aggressive enough to cut quickly and take on the occasional cut across the grain.

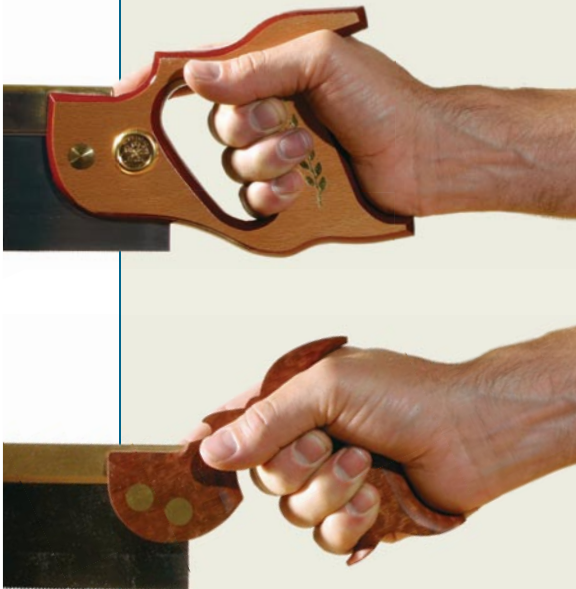
When cutting dovetails, I favor a saw that leaves a narrow kerf because the saw encounters less resistance and cuts with less effort. The kerf width depends on the thickness of the saw plate (blade) and the amount of set in its teeth.

### TWO WAYS TO MOUNT A BLADE

Because a dovetail saw has such a thin blade, it needs strong back support to prevent it from deflecting during the cut. Some blades are mounted in a slotted back (top); others are pressed into a folded back (bottom), the traditional method.



### THE HANDLE ANGLE MATTERS



When considering a pistol-grip saw, be sure the angle between the handle and the sawblade (called the hang) is comfortable. Ultimately, the mounting angle will dictate how you hold the saw.

The set is simply a measurement of how far the sawteeth, which are bent, protrude from the sides of the blade. The purpose of the set is to provide clearance so that the blade doesn't bind in the sawkerf. The blade should be set evenly on both sides; if not, the saw will drift toward the side with more set.

**Longer blades cut faster**—Dovetail saws range in length from 8 in. to 10 in. Saws with longer blades tend to cut faster and more efficiently because they allow longer strokes. Shorter saws, on the other hand, cut slower but their short strokes may give you more control over the tool for precise cuts. I generally prefer the longer saws because of the efficiency of the stroke and, consequently, the speed at which they cut.

**A thin blade needs a strong back**—Most dovetail saws have a thin blade (around 0.020 in. thick), so it's important that the blade be well supported at the back to prevent it from deflecting or

## LYNX

**Source:** [www.traditionalwoodworker.com](http://www.traditionalwoodworker.com)

**Price:** \$100

**Blade:** 8 in. long, 20 tpi

**Back support:** Folded brass

**Comments:** The Lynx dovetail saw was grabby at the start and rough through the cut. The closed handle, though spacious, felt a bit blocky in my hands. The handle also encroaches on the blade, which means cuts deeper than  $\frac{3}{4}$  in. are limited to  $6\frac{1}{2}$  in. of usable blade length. However, in spite of the rough feel and ergonomic shortcomings, the saw cut relatively fast and tracked well.



## PAX NO. 1

**Source:** [www.leevalley.com](http://www.leevalley.com)

**Price:** \$76

**Blade:** 8 in. long, 20 tpi

**Back support:** Folded brass

**Comments:** Pax saws are made by Thomas Flinn, the same company that produces the Lynx saw. The Pax No. 1 came with a quality sharpening job and cut quite smoothly. It was easy to start, but the kerf was wider than needed, making it wander a bit more in the cut. As with the Lynx saw, the large handle encroaches on the blade, reducing the stroke length for cuts deeper than  $\frac{3}{4}$  in.



## PAX 1776

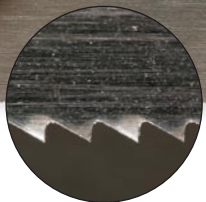
**Source:** [www.toolsforworkingwood.com](http://www.toolsforworkingwood.com)

**Price:** \$120

**Blade:** 10 in. long, 15 tpi

**Back support:** Folded brass

**Comments:** The handle on the Pax 1776 saw, made of English elm, was the most comfortable of the pistol-grip saws I tested, and its hang was the most to my liking. Its back is hefty and holds the long blade rigidly and in tension. The saw cut aggressively and fast, but it was a bit difficult to start and made for a rougher cut. However, the extra blade length allows for a long, efficient stroke, and the saw became a favorite of mine.



# GENT'S SAWS

A gent's saw is easy to control for precise work in thin material, but the straight handle can make it difficult to exert enough force to cut thick material.



## CROWN

**Source:** [www.highlandhardware.com](http://www.highlandhardware.com)

**Price:** \$19

**Blade:** 10 in. long, 16 tpi

**Back support:** Folded brass

**Comments:** The turned handle on this saw feels good in the hand, and its rigid back makes the saw feel solid. Given its low price, I was pleasantly surprised with how much I liked this saw. The palm grip was comfortable and made the saw easy to align with the cut and to track while in the cut. The saw started well and cut fast. It is my choice for best overall and best value among the gent's saws.

## DEER

**Source:** [www.toolsforworkingwood.com](http://www.toolsforworkingwood.com)

**Price:** \$10 (product No. PZ-30210)

**Blade:** 10 in. long, 20 tpi

**Back support:** Thin steel

**Comments:** The Deer saw is an economy saw, and its detailing reflects as much. The beech handle, though reasonably comfortable, is far from graceful, and a thin steel back, riveted to the blade, provides minimal rigidity. The biggest downside to this saw, however, was its poor performance caused by a subpar sharpening job. It's shaped with a peg tooth (the same angle on the tooth's front and back) and has excessive set, which produced a slow cut that was prone to wander in the kerf, making it difficult to control.

## LIE-NIELSEN

**Source:** [www.lie-nielsen.com](http://www.lie-nielsen.com)

**Price:** \$75 (add \$15 for rosewood handle)

**Blade:** 10 in. long, 15 tpi

**Back support:** Slotted brass

**Comments:** The Lie-Nielsen saw is impeccably detailed. Its long handle is designed to be grasped through the hand, similar to how you would hold a Japanese pullsaw. The saw's thin blade sliced effortlessly through wood, but the long handle was more difficult to grasp, drive, and control than the shorter handle styles.

### HOW TO GRIP A DOVETAIL SAW



For comfort, use a three-fingered grasp on a pistol-grip saw, with the index finger pointing forward.



The turned handle of a gent's saw is designed to be grasped in the palm of the hand, with the index finger providing control.

buckling during the cut. The saw back can be made from brass or steel, but a brass back looks good and adds heft, and a heavier saw requires less muscle to use.

Some saw backs are made from solid bar stock, with a slot milled in it to receive the blade. Other saws incorporate a folded or bent back, made from a plate 1/16 in. to 1/8 in. thick. Both solid and folded backs support the blade well, but I favor the folded back not only because of its traditional nature, but also because a damaged blade can be removed for straightening or retensioning.

**Pick a comfortable handle**—Because dovetail saws often are used for extended periods, a comfortable handle is key. But ergonomics is a subjective matter, so before purchasing a saw, you should try it out to ensure that it feels right for you. There are two styles: pistol grip and gent's (also called a straight-handle saw).

### How the saws measure up

A dovetail saw is a simple tool, made of a piece of thin steel with filed teeth, a metal back, and a handle. It is amazing how these simple parts combine to produce such a significant variation in results.

Some woodworkers prefer pistol-grip saws, while others like to use gent's saws. To satisfy both groups, I've awarded best overall and best value for each category of saw.

I've always preferred pistol-grip saws because they can handle any dovetailing task in materials of any thickness. Although it would be hard to go wrong with the Lie-Nielsen, Pax 1776, or Adria saws, I chose the Adria as best overall. The saw came with the best sharpening job, which made for fast cuts and crisp kerfs, was comfortable to hold, and has beautiful aesthetics and craftsmanship. For best value among the pistol grips, I chose the Crown because of its affordability and solid performance.

Gent's saws are best for making rapid, precise dovetail cuts in thin material ( $\frac{1}{4}$  in. to  $\frac{5}{8}$  in. thick). But I find them harder to control in thicker material. In this category, I chose the Crown as best overall and best value because it is affordable and easy to start, tracks a line well, and cuts fast. I also liked the way its rosewood handle fit in my hand.

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## PAX NO. 1

**Source:** [www.toolsforworkingwood.com](http://www.toolsforworkingwood.com)

**Price:** \$25

**Blade:** 10 in. long, 20 tpi

**Back support:** Folded brass

**Comments:** I really like the Pax saw, which is identical to the Crown gent's saw in all respects except that it has more teeth per inch. Due to the number of teeth, the Pax cut a little slower and just a bit smoother than the Crown.



## THOMAS FLINN & CO.

**Source:** [www.woodcraft.com](http://www.woodcraft.com)

**Price:** \$10 (product No. 15Q01)

**Blade:** 9 $\frac{3}{4}$  in. long, 15 $\frac{1}{2}$  tpi

**Back support:** Folded steel

**Comments:** This inexpensive saw has a short, stubby handle that was the least comfortable of all the gent's saws I reviewed. At one point the handle pulled off the saw. The saw has a folded steel back that held the blade tight and rigid, and it cut fast. However, the blade had much more set on its right side, causing it to pull dramatically to the right.



## HOW TO CUT WITH A DOVETAIL SAW

Cutting dovetails by hand requires precision. By employing the proper stance and cutting technique, you'll get good results every time.

Mount the board low in a vise to minimize deflection and vibration. Stand relaxed with your weight evenly distributed and your arm aligned with the saw. If you use your right hand, put your left foot forward (lefties, put your right foot forward). This wide stance will bring you closer to the work and will help you avoid fatigue.

Starting a cut in end grain can be tricky. A real light touch is the key. Use your thumb to guide the saw (see photo, right), and slowly apply more force as you cut.

Once the cut is established, angle the saw slightly upward. Check your progress frequently to be sure you are following the layout lines. As you reach the baseline, level the saw horizontally, ensuring that you don't cut too deep on either side.

