

# The 25 Best Innovations of the Past 25 Years



Imagine a woodworking world without portable planers, one-handed bar clamps, and Norm Abram. That was the landscape when *WOOD*® magazine made its debut in 1984. Looking back on the past quarter century, our editors came up with a list of the greatest breakthroughs since then. Agree or disagree, here it is.

## Ryobi benchtop planer

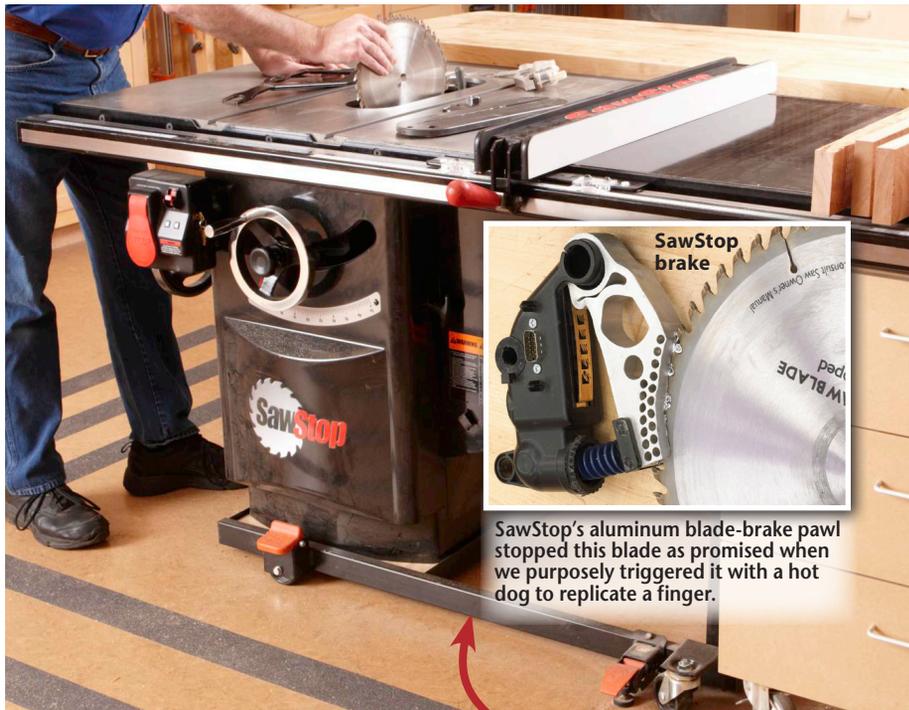
Prior to the mid-'80s, if you had a thickness planer it ran on 220 volts, used resharpenable steel knives, and weighed about a half ton. But Ryobi's AP-10 benchtop planer, launched in 1985, changed everything. It brought power planing to the masses in a portable, affordable, 110-volt machine. And it gave many hobby woodworkers their first opportunity to work with rough-sawn hardwoods. A few years later Makita introduced self-indexing disposable steel knives, eliminating the hassles of sharpening and resetting knives.

## Quick-Grip clamps

Nebraska boat-builder Joe Sorensen needed a third hand to hold assemblies during glue-ups, so he came up with a one-handed bar clamp that today we know as the Quick-Grip clamp. Joe sold his invention to a manufacturer whose brands were eventually acquired by Irwin Industrial Tools. The clamps debuted in 1989 to the delight of countless woodworkers, and spawned legions of similar clamps.

## Products that broke new ground in woodworking

Whether invented out of necessity or simply the result of someone's search for a better mousetrap, these tools and accessories made landmark impacts on the world of woodworking.



SawStop's aluminum blade-brake pawl stopped this blade as promised when we purposely triggered it with a hot dog to replicate a finger.

### SawStop tablesaw

Doing for tablesaws what airbags did for cars, SawStop could be the single greatest safety device in woodworking. Full-time patent attorney and part-time woodworker Steve Gass came up with the idea of making a safer saw in 2000 after his father caught his hand in a blade. Gass invented a blade brake, activated by skin contact, that stops a spinning blade in 1/200 of a second, leaving the victim with only a scratch. There are 17,000 models in use today, with more than 500 confirmed "finger saves," according to Gass.

### HTC mobile tool bases

The inspiration was surprisingly simple: With the ability to move machines around, woodworkers could make better use of smaller shop space and dust-collection hook-ups. So Tim Hewitt welded together angle-iron steel frames to match the footprints of heavy machines, added casters, and voila! Word spread quickly, and his mobile bases proved so popular that he couldn't meet consumer demand making each one by hand, so in 1984 the Hewitt Tool Company (HTC) went into mass production.



### Nova four-jaw lathe chuck

Square-jawed lathe chucks had been around for decades in metalworking, but in 1988 Teknatool introduced a self-centering four-jaw chuck with circular jaws, and that style has since become the standard in woodturning. The Nova chuck enabled turners to hold—and then shape—a wood blank by tightening the jaws around a simple tenon, which they cut off after finishing the bowl. It also featured an innovative removable screw in the center of the chuck, used to mount the piece initially while you turned the tenon—no need for a faceplate. Providing a secure method to hold stock without faceplates and invasive screws, four-jaw chucks have played a large role in the growth of bowl, platter, and hollow-vessel turning.

### Titebond II & III glues

In 1991 Franklin International debuted the first one-part, water-resistant wood glue that cleaned up with water and met the American National Standards Institute (ANSI) requirements for Type 2 water resistance. Ready-to-use Titebond II was a huge hit with woodworkers because it was the first yellow wood glue suitable for outdoor projects. Then in 2004, Franklin International topped itself with the launch of Titebond III, the first one-part wood glue to achieve ANSI Type 1 water resistance, the highest level possible. Both formulas remain the same today.



### JessEm router lift

With the rise in using router tables in home shops during the 1990s, Canadian Darrin Smith longed for a table with the precise height adjustments of a shaper. So, in 1999 he introduced the JessEm Rout-R-Lift, the first mechanism that enabled woodworkers to adjust bit height from above the table. His invention spawned an entirely new accessory category—router lifts—that now boasts more than a dozen models in various brands, as well as routers with built-in lift mechanisms.



### Leigh dovetail jig

It wasn't the first dovetail jig for routers, but the Leigh Industries D1258, created in 1984, was the first do-it-all, adjustable jig. While previous jigs (including one from Leigh) offered the ability to rout either through or half-blind dovetails, the D1258 enabled users to rout both types on the same unit. It also featured adjustable guide fingers for varying the width of pins and tails. Later models added the ability to rout sliding dovetails and box joints.

## Hitachi sliding compound miter saw

When Hitachi debuted the first sliding miter saw in 1988, few people realized it also marked the unofficial retirement of radial-arm saws. The model C8FB sported an 8½" blade and a direct-drive universal motor that slid forward and back on rails for crosscut capacity nearly double that of standard compound miter saws of the time. "Sliders" became popular with woodworkers who couldn't afford a radial-arm saw, and their lightweight portability made them easy to transport to jobsites. Later, manufacturers increased blade sizes to 10" and 12", all but replacing the 8½" slider.



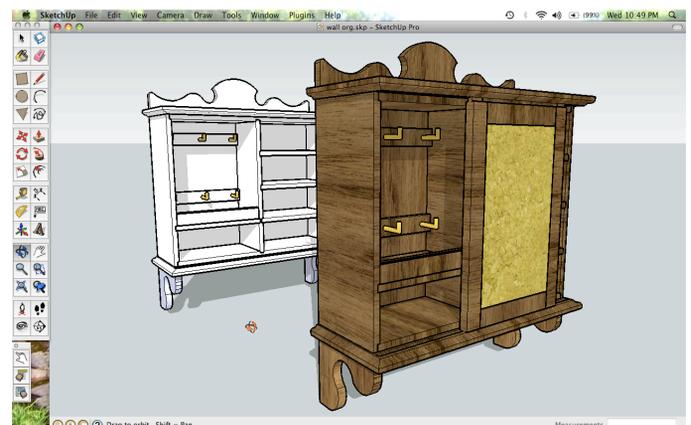
## Kreg pocket-hole jig

While building kitchen cabinets for his Iowa home in 1986, tool-and-die maker Craig Sommerfeld fashioned a metal jig and stepped drill bit to bore angled holes into the back side of face frames. He then joined the frame members with pan-head screws driven into the hidden pockets. Craig's jig soon became the Kreg jig. The easy, affordable, and effective joinery method enabled legions of woodworkers to build furniture, cabinets, and other projects for their homes without need for more complicated techniques and tools.



## Festool Domino Joiner

Invented by a German engineer searching for a way to combine a biscuit joiner's speed and ease of use with the strength of a mortise-and-tenon joint, the Domino made it possible to quickly, cleanly, and accurately bore mortises for loose tenons. Launched in 2005 by Festool, the Domino carries a \$775 price tag for its one-of-a-kind ingenuity.



## SketchUp design software

Until about five years ago, you either drew your project plans on paper, found them in magazines, or created them with expensive computer software. Then along came Google's free SketchUp software, a modeling program for creating three-dimensional virtual projects you can disassemble and view from any angle, or in a variety of wood species.

## They're not tools, but they help woodworkers grow

Not all woodworking innovation has taken place in manufacturing. Growth in educational materials and greater availability of tools and supplies has had as great an impact.



## NORM!—and various educational materials

There's no question *The New Yankee Workshop* and its host, Norm Abram, have, for the past 20 years, inspired countless people to take up woodworking. In addition, woodworking magazines, books, and videos (*WOOD's* Jim Heavey, above) have exploded in number and availability.



## Home center expansion

So-called "big box" retailers, found seemingly on every corner, make it possible to get nearly all your project supplies in one place, and at prices typically less than you'll find in specialty retailers.



## The Internet

Before about 1995, woodworkers had few resources for immediate help with their questions. Now, that assistance is as close as your computer, thanks to Internet forums and Web sites. You can even choose from thousands of project plans online. And the growth of Web retailers has driven down the price of tools and products, making it easier for beginners ("newbies" on the net) to get into woodworking, and for veterans to expand their arsenals.

## Pro tools made affordable for the home shop

Although the following tools and machines were not the first of their kind, manufacturers' ability to bring them to market at significantly lower prices created meaningful opportunities for cash-conscious woodworkers.



### Performax drum sander

Prior to the mid-'80s, only professional shops had wide-panel drum sanders, which typically cost a few thousand dollars. But in 1984, Performax created an affordable drum sanding attachment for radial-arm saws. Then, in 1993, the fledgling company introduced its innovative 16-32 open-ended drum sander for about \$500, giving the average woodworker the ability to sand surfaces as wide as 32". The brand was eventually sold to Walter Meier Holding Company, the owner of the Powermatic and Jet brands, among others.



### Delta benchtop mortiser

Powered hollow-chisel mortisers had been around for decades, but if you wanted one you had to shell out big bucks for a floor-standing unit. Benchtop mortisers arrived on the scene in the mid-'80s under the Delta name but manufactured by Multico, an English company. Several years later Delta switched to a similar unit imported from Taiwan, selling for about \$200—less than half the price of the English version.

### Porter-Cable pneumatic nailers

Air-powered brad nailers, pinners, and narrow-crown staplers, popularized in large part by Norm Abram on *The New Yankee Workshop*, have found a home in most workshops thanks to their quick convenience. Originally, pneumatics were made for professional contractors and assembly-line manufacturers. Then, in 1995, Porter-Cable began importing more affordable nailers from Taiwan. Since then, nailers and fasteners have become even more affordable, selling in kits with compact air compressors, typically for about \$300 or less.



### Improved Asian-made tools

Woodworking machines have been manufactured in Taiwan for much longer than 25 years, but until about the mid-'90s the quality of many of these tools lagged behind those made in the United States, Canada, and Europe. As quality control improved, so did the tools, and more manufacturing shifted to Taiwan and then China. Today, those countries dominate the making of woodworking machinery.



### Porter-Cable biscuit joiner

Lamello introduced the portable biscuit joiner in the late '60s, but at a price (\$400 to \$600) beyond the reach of most home-shop woodworkers. Then, in 1987, Porter-Cable came out with its model 555 biscuit joiner that sold for less than half the price of the Lamello, dawning a new era in quick, affordable joinery.



## Product evolutions that changed woodworking

Although the following types of products existed prior to 1984, evolution within each category has resulted in higher quality, accuracy, and safety for all of us.



### Improved dust collection

As we became more informed of the health risks of breathing wood dust, manufacturers kept pace. They introduced affordable dust collectors, cyclones, and tool-triggered vacuums that not only sucked up the dust at the source, but also kept it contained with ultrafine filters. And tool manufacturers have placed greater emphasis on channeling dust into ports for those machines to better collect it.



### Cordless tools

The earliest battery-powered drills in the 1970s were bulky and featured low-voltage batteries, but still seemed like a godsend because they had no power cord. Over the past 25 years manufacturers have boosted power significantly while cutting charge times and weight. They've also added keyless chucks and adjustable clutches, ergonomic designs, and other battery-powered tools, such as circular saws, reciprocating saws, jigsaws, and impact drivers.



### Carbide cutting edges

Although manufacturers offered carbide-tipped saw blades and router bits beginning in the late '70s, it wasn't until the late '80s that carbide came into widespread use. With edges that stay sharp about 10 times longer than steel, it's rare now to find saw blades and router bits without carbide tips. Today, many jointers and planers feature cutterheads with replaceable carbide inserts.



### User-friendly finishes

Responding to tighter regulatory restrictions, finish manufacturers began making more environmentally friendly products, such as water-based topcoats and stains, that also clean up easily. They also launched products—water and oil-based—that made finishing projects easier and more foolproof: gel stains, wipe-on polyurethanes, and oil-and-varnish blends.



### Hyper-accurate rip fences and miter gauges

For more than 50 years tablesaws came with ho-hum rip fences and run-of-the-mill miter gauges that proved unreliable. When the Biesemeyer T-square-style rip fence was introduced in the late '70s, its accuracy, ease of use, and popularity set the standard. Since the mid-'90s, the majority of tablesaw manufacturers have included this type of fence as standard equipment on all but the most basic machines. As for the miter gauges, most saws come with a bare-bones model with only three preset stops. That's why in 1988 JDS launched its Accu-Miter gauge that boasted accuracy to  $\frac{1}{30}^\circ$ , and featured a telescoping fence and flip stop. You can now find more than a dozen such aftermarket miter gauges, ranging from about \$50 to nearly \$300. 🌲



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