

Rules of Thumb

Why use nails in fine furniture

BY MIKE DUNBAR

Visitors to my workshop appreciate that I make chairs without nails. They think that making furniture with nails is a sign of poor workmanship. While you wouldn't want to join chairs with nails, they are the best fasteners to use for many other applications.

Nails have been around for thousands of years. Ancient Egyptians and Romans used them, as did every furniture-making culture since the dawn of woodworking. Despite this long and honorable history, nails have acquired a bad reputation.

Perhaps our association of nails with poor-quality construction dates back to a time when utilitarian furniture was often nailed together to avoid the high cost of making hand-cut joinery, which, of course, was more time-consuming. Nevertheless, large quantities of utilitarian furniture have survived years of hard use and abuse, proof that nailing does not necessarily equate with poor-quality construction.

Before the time of the Industrial Revolution, specialist blacksmiths, called naylor, hand-forged nails out of iron and produced specialized nails for furniture making. While some of these specialized nails have been superseded by other types of fasteners, many still exist and are used today.

These hand-forged nails, however, were expensive. By the end of the 18th century, inventors developed ways to mass-produce nails by shearing them from sheets of iron. These nails, known as cut nails, were still costly to produce. With the development of inexpensive soft steel in the late 19th century, wire nails rapidly took



Nails hold moldings in place while glue dries. Using only nails on the side moldings allows the case sides to shrink and expand.

the place of iron nails. These wire nails commonly are found in today's hardware stores and, like their earlier counterparts, have their place in fine furniture making.

Nails are effective fasteners

Nails give a little when stressed. This characteristic usually makes them the best choice for securing cleats or runners that are applied across grain, situations where wood would split or glue eventually would fail because of the wood's seasonal movement.

Nails generally do jobs that are difficult to accomplish with joinery. They fasten back boards to chests and cupboards and keep drawer bottoms in place.

Nailing still is the most common method of attaching moldings and other thin strips to a piece of furniture. Nails also are used to apply small ornamentation, such as brackets, where end grain or too little surface area prevents a good glue bond.

Furniture makers generally don't use common nails—the ones with flat, round heads. Instead, they use finish nails, which have heads that are less obtrusive

CUT NAILS VS. WIRE NAILS

CUT NAILS

WIRE NAILS

The coarse four-sided shanks and blunt points of cut nails cause less splitting than the round shanks of wire nails. When driving a cut nail, always align the wider face of the nail with the grain.

Rules of Thumb (continued)

WORKING WITH NAILS

When fastening with nails, all you need are small hammers and a square awl.



8-OZ.
HAMMER

TACK
HAMMER



A square awl for pilot holes. When twisted into wood, the awl bores a small hole. It's used where wood is more likely to split, such as near the ends of boards.



The right way to pull a nail. Use a block of wood to protect the project and pull out the nail in the direction it entered the wood to avoid enlarging the hole.

and easier to hide. They also use brads, or tiny finish nails, which are available in various sizes.

Cut nails are effective and attractive

In period pieces, and in restoration work, furniture makers often use cut nails. These nails have a unique holding power that comes from the shape of their shanks, which are square in cross section. The square shank causes minimal splitting of the wood and allows the wood fibers to spring back onto the coarse shanks, which creates a strong hold onto the nail.

Cut nails have heads that are narrow and rectangular. When set and filled, the hole is unobtrusive. Curiously, the square holes left by some small nails used in nail guns are very similar to the impressions left by cut nails. In some furniture pieces, the nailing done with cut nails actually can enhance the appearance. Because the nails in this case are decorative, you do not want to set them. When you leave nails visible, be attentive to your nailing pattern and make it uniform on both sides and throughout the piece.

Another effective nail application dates back to the 18th century, when hinges, cleats, and battens often were secured with special, spear-pointed clinch nails. Strictly speaking, these were hand-forged nails, not cut nails. Today, however, some cut nails are manufactured as clinch nails. The metal is malleable enough and the point thin enough for the nail to curve back onto itself. This technique permanently secures hardware to the furniture.

Owing to their authentic looks and their advantages over wire nails, I prefer to use cut nails whenever a nail is needed for furniture projects. The best-known cut-nail maker is Tremont Nail of Wareham, Mass. (www.tremontnail.com).

How to use nails properly

Hammering nails isn't rocket science. However, missing a nail or bending one can scar your work. Just as it is wise to practice cutting dovetails before building a Queen Anne highboy, a little practice with the hammer is a good idea.

When nailing thin parts or near the ends of boards, bore a pilot



CLINCHED NAILS WON'T PULL OUT



The anvil forces the malleable nail to bend back onto itself like a fishhook, which increases withdrawal resistance. The visible part of the nail all but disappears under a coat of paint.

Rules of Thumb (continued)

USING NAIL-GUN FASTENERS

NAIL STRIP
FOR GUN

OLD-
FASHIONED
CUT NAILS



Small nails driven with a nail gun leave holes similar in shape to those left by cut nails driven with a hammer.

hole to help avoid splitting. In the past, cabinetmakers used either a spear-pointed or square awl that was twisted into wood to bore a small hole. This type of awl is still available from Lee Valley (www.leevalley.com). But you can use a twist drill just as well.

Cabinetmakers use small, light hammers. An 8-oz. hammer can do most jobs, but a tack hammer is designed for smaller nails such as brads; the narrow bell of the hammer (the end of the hammer, adjacent to the face) gives better visibility of the head of the nail than a hammer with a wider face and bell. For some jobs, I find a 7-oz. hammer a good, intermediate choice.

When first assembling a piece of furniture, leave nail heads projecting about $\frac{1}{2}$ in. This way, if you need to make a correction, you can pull the nail without damaging the wood. If you need to pull a nail, use a block of wood as a fulcrum under the hammerhead so that the direction of pull is directly up and not to the side, which would enlarge the hole and damage surrounding wood. The block also protects your worksurface. Drive all of the nails flush after you have tested everything satisfactorily.

If a nail is driven into a visible surface, its head may need to be hidden, depending on the aesthetic you're after. Use a nailset to drive the head below the wood. Fill the space above the head with wood filler, and when it has hardened, sand it smooth. If you are using a clear finish, hide the nailing by selecting a tinted filler whose color matches that of the wood and the final finish. Remember that over time, wood will darken. Therefore, slightly darker filler will look better in the long term. □