An excerpt from the book

The Homeowner's Ultimate Tool Guide

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CHAPTER 6

Tools That Pound & Pry

People have called the hammer the "king of tools," since, in the skillful hands of a blacksmith, it can be used to forge all other metal tools—saws, pliers, wrenches, and more. A tool with ancient origins, hammers (along with mallets, sledges, and their other "pounding cousins") are still important tools today for myriad construction and fabrication jobs, which include: pounding nails; shaping metal hollowware and auto bodies; driving chisels, wedges, or punches through metal, wood, and masonry; and setting stakes and posts into the ground. Working in concert with pounding tools are wrecking bars, prying bars, nail pullers and sets, and punches, all of which serve to help build—or tear down—all kinds of construction projects.

▲ CLAW HAMMER No carpenter's tool bag or kit is complete without a good claw hammer, indispensable for driving and pulling out nails, pounding and aligning parts, and even doing light demolition work.

CLAW HAMMERS

Probably the most widely used type of hammers, claw hammers were developed specifically for carpentry jobs—building birdhouses, luxury hotels, and everything in between. Claw hammers combine a striking head for driving nails with a rear-facing claw for pulling nails.

Since nails come in many sizes, from delicate brads for tacking molding to gargantuan spikes for fastening construction timbers, claw hammers also range considerably in size. Claw hammers roughly split into two camps: smaller finish hammers and larger framing hammers.

A finish hammer usually has a head between 7 oz. and 16 oz. with a smooth striking face (see the following section), good for nailing up trim (primarily used to finish construction jobs, hence their name) and for general household duties, driving a range of fasteners from small tacks to nails up to 2 in. long.

Framing hammers have longer handles and heavier heads (usually in the range of 18 oz. to 32 oz.) that deliver the pounding force necessary for driving big nails—8d, 16d, or larger—used in framing and wood-frame construction. The chart at right shows various hammerhead weights and the kinds of tasks they're best suited for.

In addition to its basic style (finish or framing) and head weight, a claw hammer has several other variables that distinguish different types. Striking face, claw type, and handle material and style all vary from hammer to hammer; these factors are discussed in the sections that follow. Even head material is a variable these days, since claw hammers are being manufactured with titanium heads (see the Pro/Con box at right). The particular blend of features you choose will affect the suitability of a hammer to your personal style and the types of jobs you do.

CHOOSING THE RIGHT CLAWHAMMER

Head Weight (Steel-Head Hammers)	Best Use
7 oz. to 10 oz.  Framing hammer with rip claw	Light-duty household driving of pins, tacks, and brads
10 oz. to 13 oz.	Household use for brads and small nails; cabinetmakers use for driving brads and small dowel pins
12 oz. to 16 oz.  Finish hammer with curved claw	Best for general use and for small workshop projects with nails up to 16d
18 oz. to 22 oz.	Heavier carpentry and framing jobs
24 oz. to 32 oz.	For professional framers driving big nails in fewer strikes

Note: Long-handle Japanese and titanium-head hammers have lighter head weights relative to the amount of work they're designed to do. For example, a 16-oz. titanium framing hammer generates striking power equivalent to a 20-oz. to 24-oz. steel hammer.

Striking Faces

Claw hammers come with one of two basic striking-face designs: serrated and smooth. Framing hammer faces almost always have a serrated pattern milled on them, also called a waffle face (shown at right in the top photo on p. 156). A few specialized hammers have serrated faces as well (for example, drywall and roofing). Like car tread on a slippery road, the raised waffle pattern gives a hammer better traction on the nail as it's struck. This not only provides more control when toenailing (driv-

PRO CON

FOR DECADES, carpentry hammerheads have been made from steel that's either forged or cast into shape. The bigger and heavier the head, the greater the striking force—but the more muscle it takes to swing it. However, space-age technology now brings us an interesting alternative—a hammerhead made of strong, lightweight titanium (see photo below).

TITANIUM-HEAD HAMMERS

Pros:

- lighter; easier to carry and swing with less fatigue
- faster to swing; will more readily change direction
- transmits less shock than steel, which lessens likelihood of stress injuries

Cons:

- considerably more expensive
- fewer styles available than regular steel-head hammers

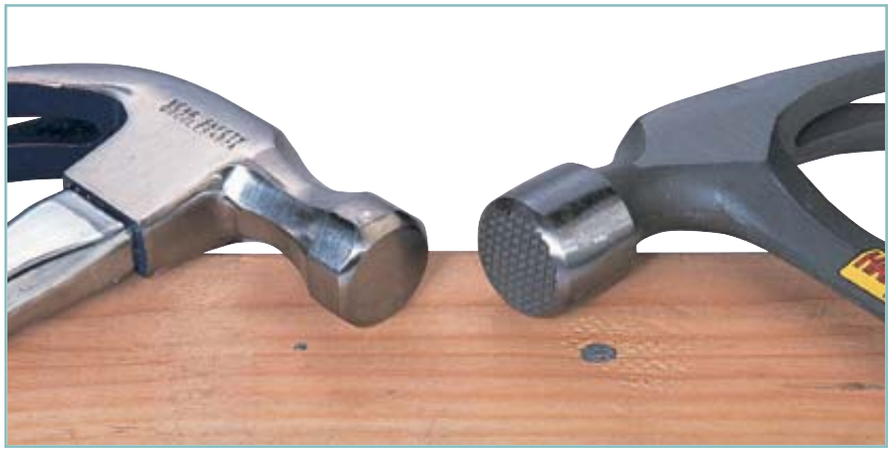
STEEL-HEAD HAMMERS

Pros:

- considerably less expensive than titanium-head hammers
- many sizes and handle styles available

Cons:

- much heavier
- more likely to produce fatigue and stress injuries



▲ WAFFLE AND SMOOTH HAMMERHEADS A smooth-face hammer (left) is best for finish-nailing jobs, while a waffle-face hammer (right) gives you more control when driving big nails into construction lumber.

Cool Tools **CONVERTIBLE HAMMER**

A CONVERTIBLE HAMMER is the perfect solution if you can't decide if you want your hammer to have a smooth or serrated (waffle) face. These unique hammers allow you to do either finish or framing carpentry jobs simply by screwing on the appropriate striking cap–either smooth or waffle face–to the front of the hammerhead (the overall weight of the head stays the same). Although they can be more expensive than buying a pair of framing and finish hammers, convertible hammers allow you to do most hammering jobs with a single tool.

ing nails at a steep angle) but also can even help coax nails to straighten after they've bent or hit a knot. However, serrated faces will shred the wood's surface on contact and are a poor choice for finish-nailing tasks, where the work must remain unscarred.

A finish hammer's face is smooth (shown at left in the photo at left), so errant blows don't leave pockmarks on the work. Smooth-face heads are slightly domed (also know as a bell-shaped), which allow skillful users to drive nail heads flush without leaving so much as a dimple.

Claw Types

Believe it or not, Roman claw hammers made more than 20 centuries ago are just like modern claw hammers: They have striking faces opposite a pair of claws for removing nails when things go wrong (how do you say "!@#*+%!!!" in Latin?). Modern claw hammers come in two styles: curved

▲ CURVED-CLAW AND RIP-CLAW HAMMERS If you need a hammer with the leverage to pull out bent nails, choose a curved-claw model (right). Rip-claw hammers (left) can also pull out nails but are better for prying up boards or tearing up walls and floors.

▲ HAMMER SIDE CLAW Long end claws found on most carpentry hammers are fine for pulling up large nails, but a side claw is handier for removing small nails and tacks.

claw and rip claw. Most finish hammers have curved nail claws, which provide good leverage for pulling nails directly from the work without massacring the surface. Rip claws can also pull out nails, but their pointier shape is primarily designed for prying up boards (the straight claws slip between planks easier than curved ones do) as well as for tearing up shingles or chopping holes in drywall and wood paneling. Some claw hammers have heads with a side notch, helpful for extracting small nails and fasteners (see the bottom right photo on the facing page).

Handle Materials and Styles

Claw hammers—as well as hammers of any size and type—need to have comfortable handles before they're ready to take on serious pounding jobs. Long gone are the days when you'd buy a forged hammerhead from your village blacksmith and whittle a wood handle for it yourself. Nowadays, the extensive array of claw hammers at a typical hardware or home-supply store feature handles in an extensive—and often confusing—array of materials, shapes, and lengths. What's more, the latest, most advanced ergonomic engineering has produced claw and other hammer handles that not only are more comfortable and less stressful to use (see "Ergonomic Handles" on p. 163) but also that actually absorb pounding vibration (see "Stanley® Anti-Vibe® Hammer" on p.159).

KEEPING YOUR HEAD

Believe it or not, one of the biggest shortcomings of hammers before the middle of the 19th century was that the fit between the wood handle and iron head loosened, and they lost their heads all too often. Norwich, New York, toolmaker David Maydole changed all that when he created the adze-eye hammerhead around 1840. It featured a wider socket where the handle joined the head (shown at right in the photo), similar to the one found on an adze–an ancient chopping and shaping tool. Most hammers made today retain the basic adze-eye style, although some modern designs buck this tradition (shown at left in the photo).

Pro Tip

West Coast professional carpenters often prefer framing hammers with wooden ax handles. Besides feeling good and looking really cool, the hammer's flared handle end, according to many, helps prevent you from losing your grip and having the hammer accidentally fly out of your hand.

▶ CLAW HAMMER WITH DIFFERENT HANDLES The shape, length, and material of the handle changes not only a hammer's feel and durability but also its performance.

Tool Helpers ELECTRONIC STUD FINDERS

You can't drive big nails into household walls without finding the studs inside them. If you've had your share of misses when using the old-fashioned wall-tapping method, you'll appreciate the latest electronic stud locators on the market. Using special density-sensing circuitry, these devices can find not only hidden studs and joists but also metal pipes, plates, and conduits. Top models, such as the one shown here, will also detect AC power, so you can trace live wires and avoid accidentally pounding nails into them–a most shocking discovery. (What's next: electronic X-ray vision?)

WOOD Wood is still the most common—and affordable—handle material found on hammers of all kinds. Hickory is the species of choice, prized for its strength and durability. Unfortunately, wood handles are particularly prone to overstrike (missing the nail and hitting the handle near the head), which can splinter, split, and ruin a handle in a hurry; at least wood handles are easy to replace. Wood handles come in straight or curved ax-type styles (see the tip at on p. 157).

SYNTHETIC Synthetic handles made from fiberglass- or graphite-reinforced resin are real durability champs and are popular with professional users who pound nails for a living. This kind of handle is actually

glued to the head with epoxy resin, making it practically impossible for the head to come loose during regular use. Synthetic handles always have a rubberized grip for comfort and to help dampen striking vibrations. Although the tough resins resist shredding due to overstrikes, some handles come with a molded overstrike guard as well, which further protects the handle.

STEEL Steel-handle hammers are made one of two ways: as a tubular steel shank mated to a standard hammerhead or as an integrated head and handle that are a single casting. Both kinds have leather or rubberized comfort grips. The tubular handles found on bargain-bin hammers are usually of poor quality and poorly made; better-quality tubular handles contain a wood core that adds strength and absorbs vibration. Since integrated steel transmits vibration more than other handle materials, several manufacturers have developed clever technological innovations that reduce the impact on the user's hand and arm (see "Stanley Anti-Vibe Hammer" at right).

SPECIALIZED HAMMERS

If you're used to thinking of a claw hammer as a universal tool to pound parts into submission when all other tools fail, here's a revolutionary thought: Using a hammer specifically designed for the job at hand increases your chances of successfully completing the job (and with less expletives uttered). Specialized hammers have evolved for a variety of tasks, from furniture upholstering to cabinetmaking, drywall installation to brick setting, and metal shaping and mechanical assembly to tool driving and demolition work.

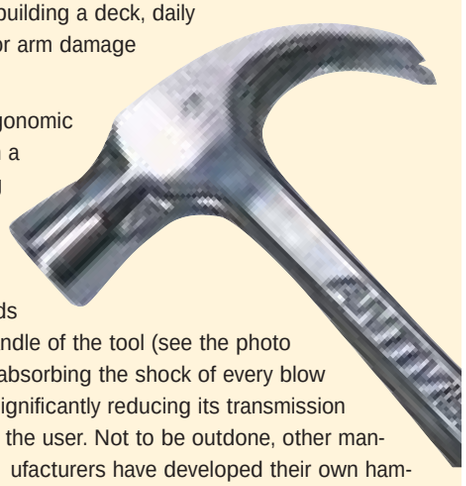
Pro Tip

Some old-timers bore a ¼-in. to ⅜-in. hole in the ends of their wooden hammer handles and fill them with beeswax. Quickly jamming the sharp end of a nail into wax provides a little lubrication, so the nail glides more easily into hard lumber.

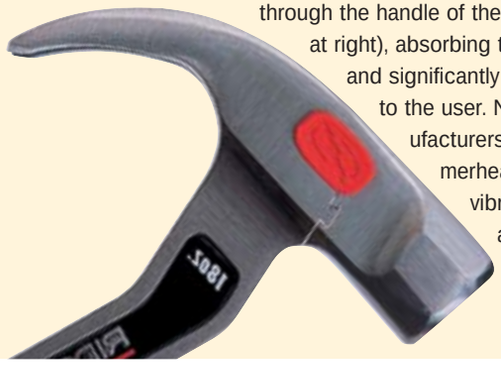
▲ FIBERGLASS-REINFORCED HAMMER HANDLE Fiberglass-reinforced plastic is a lightweight, durable material for a hammer handle. To protect against damage, the hammer here also features a resilient plastic overstrike guard.

Cool Tools — VIBRATION-REDUCING HAMMERS

The Stanley Anti-Vibe Hammer is the tool of choice for those concerned with the long-term, ill effects of hammer use. To the weekend warrior installing window trim or building a doghouse, swinging a hammer all day long means a sore arm, but to a professional carpenter framing a house or rebuilding a deck, daily nail pounding often leads to hand, wrist, or arm damage due to repetitive stress syndrome (RSS).



While researching the effects of RSS, ergonomic engineers at Stanley Works came up with a novel approach to reducing nerve-damaging hammer vibration. After measuring the frequency of hammer impact, they created a simple vibration-absorbing device: a tuning fork. The steel fork extends through the handle of the tool (see the photo at right), absorbing the shock of every blow and significantly reducing its transmission to the user. Not to be outdone, other manufacturers have developed their own hammerhead designs for reducing pounding vibrations (see the Robo Hammer® antivibration head, shown in the photo at left).



SWING WITH LESS STRESS

To prevent a sore arm and pock-marked surfaces every time you nail something together, make sure you're swinging your hammer properly. First, check your grip: Choking up on the handle (grasping it an inch or two up from the bottom) helps control a heavy hammer better. Next, instead of trying to slam the hammer down with your wrist, try to swing the head through a full arc using your whole arm. Don't jerk the hammer downward; allow the weight of the head to build momentum as it travels toward the nail. Don't fight the impact as the head strikes the nail–this energy helps the hammer rebound, thus returning your arm to its starting position with less effort.

►HAMMERS FOR DRIVING TACKS Here are three different hammers good for driving tacks and small nails (from top to bottom): upholsterer's hammer and regular- and claw-style tack hammers.

Tack and Upholsterer's Hammers

When even the smallest carpenter's hammer is overkill for driving tiny fasteners, it's time get out the tack hammer. A basic tack hammer has a magnetized, round face on one end for picking up steel brads, finish nails, and tacks, and a squarish face on the other end for driving them. The tool's light, narrow head and "magnetic personality" make it handy for driving nails single-handed and for reaching into places that are hard to get to—for instance, when fastening baseboards in a closet or setting thin moldings around the tops of cabinets, windows, and doors.

If you want to pry up tacks as well as drive them, choose a tack hammer that pairs a magnetized face with a small claw on the other end. And if covering (or recovering) furniture is your pleasure, opt for a specialized upholsterer's hammer: a tack hammer with a larger, slightly curved head that sports magnetized and nonmagnetized faces, made for driving tacks to hold fabric, webbing, and padding in place.

Bricklayer's Hammers

Also known as a brick or mason's hammer, this modern tool couples a chisellike curved pick with a smallish, square striking face (its predecessor, the bricklayer's scutch, had chisel tips at both ends). The chisel end of a bricklayer's hammer is primarily used for trimming bricks to size: You tap the brick on all four sides with the chisel, splitting it apart at that point. It's a quick and useful trick, but it takes some finesse and practice to master.

Contrary to what seems obvious, the striking face of this hammer isn't designed for hitting a brick chisel or pry bar; in fact, you should never do this, as it can shatter the face. Instead, it's used for tapping bricks into place when setting them into fresh mortar and for tweaking their alignment.

▲BRICKLAYER'S HAMMER A bricklayer's hammer has a wide pick end for trimming bricks and a striking end for tapping bricks into position when they're set in mortar.

Drywall Hammers

Also known as a wallboard hammer, a drywall hammer pairs a hammer with a stubby hatchet. It was originally developed as a tool for chopping thin wood lath to length, and then nailing it in place for a lath-and-plaster wall (old-timers still call them lath hammers). Although do-it-yourselfers primarily use this tool for driving drywall nails, skillful users employ the hatchet for scoring and snapping drywall and for quickly chopping out notches and rough openings for pipes and fixtures. The narrow hatchet can also be handy for wedging a sheet of drywall or lifting it at the bottom to position and holding it while it's tacked in place. A small notch in the underside of the hatchet pulls out bent nails.

Drywall hammers have an angled head, which allows you to nail into corners. Some have a flat side on the upper end of the face (see the photo at right) to further aid nailing

◀DRYWALL HAMMERS A flattened portion at the top of the head of the drywall hammer shown at left makes it easier to use when hammering nails in corners than the fully rounded head of the hammer at right.

Pro Tip

Having trouble driving small nails into thin moldings, strips, or trim without splitting the material? Try flattening the tip of the nail before you drive it by tapping it lightly with a hammer. The blunt end crushes wood fibers instead of cleaving between them, causing splits.

▶DRYWALL HAMMER FACE Specialized for driving cup-headed nails, a drywall hammer's slightly convex head leaves a slight dimple, allowing the nail to be hidden by joint compound when the drywall is finished off.

Pro Tip

To deal with the ragged edges of cutouts or notches in a sheet of wallboard, a professional drywall installer will use the milled waffle face of a drywall hammer like a small rasp to smooth the rough edges.

close to inside edges and corners. The hammer's serrated face lends more control when driving nails (see "Striking Faces" on p. 155). The prominently domed face creates a dimple in the gypsum wallboard as special cup-headed drywall nails are driven home. This dimple creates a hollow, which is filled with joint compound (a standard part of finishing drywall) to hide the nail heads.

Roofing Hammers

At first glance, a roofing hammer (or shingling hatchet) has a serrated nail-striking face and short hatchet like a drywall hammer. However, it has three holes and a little stud on the hatchet part. The stud, called a guide pin, provides a simple distance gauge for setting the overlap of consecutive courses (called the exposure) of wood or composition shingles (see the photo below). (When I was just out of school and working on a remodeling crew, I thought the stud was there to limit the hatchet's penetration when chopping wooden shakes to size . . . so much for a college education.) To use the guide, hook the pin on the course of shingles you've just nailed, set the bottom edge of the next row against the hammer, and then use the tool's milled face to nail them in place.

The hatchet is also useful for splitting wood shingles to width and for chopping out old roofing cement or flashing when replacing a roof. Some hatchets have a small razor edge designed to cut roofing felt or to score composition shingles before they're bent and split to size.

▲ROOFING HAMMER Also known as a shingling hatchet, a roofing hammer's adjustable-gauge peg provides a handy way of spacing subsequent rows of shingles evenly.

Ball Peen Hammers

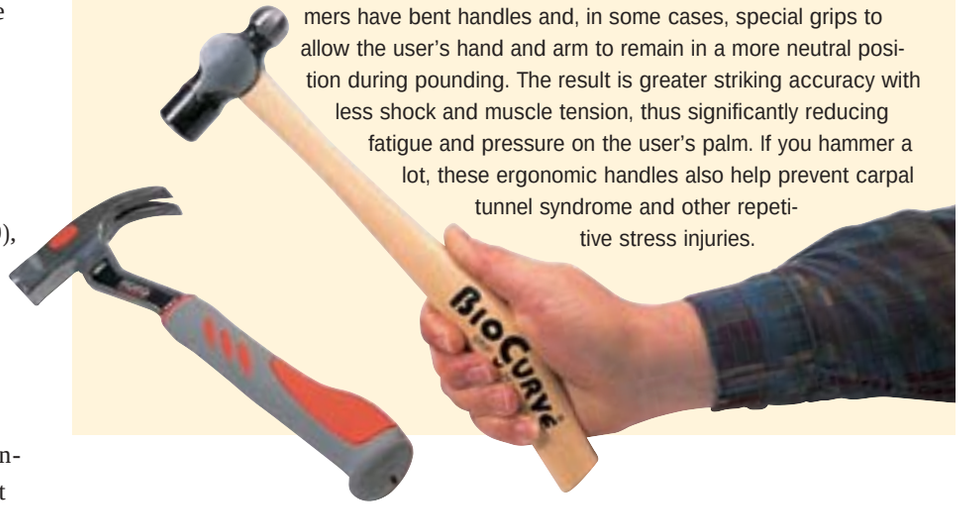
Although they're used primarily for metalwork and auto-body work, the ball peen—or pein—hammer (also called an engineer's or machinist's hammer) is a versatile tool and a jack of many trades. Ball peens have a smooth striking face (like a finish hammer's) that's specially hardened so that it won't chip or shatter when used to hit a hard tool or surface. These hammers are just the ticket for pounding the end of a cold chisel (see the bottom photo on p. 69), center punch, or nail set when tackling jobs like bolt cutting, rust descaling, or slag chipping (after welding).

The ball peen's other face has a hemispherical head (hence the tool's name) because it was originally intended for peening rivets: flattening the end to set it tight in its hole—a traditional way of joining bridge girders and structural framework. Nowadays, the ball end is more commonly used for forming parts from soft metals or for creating a decorative pattern of concave hammer marks.

Ball peen hammers come in a wide range of weights, with heads weighing from 2 oz. to 3 lb. For chiseling or punch-driving duties, choose a hammer with a face approximately ⅜ in. larger in diameter than the head of the chisel or tool you wish to strike.

Cool Tools — ERGONOMIC HANDLES

THE MAJORITY OF HAMMERS—ball peen, claw, drywall, etc.–have been fitted with a straight, wood handle since their origin. But the modern science of ergonomics has put an entirely new spin on handle design. The latest ergonomic hammers have bent handles and, in some cases, special grips to allow the user's hand and arm to remain in a more neutral position during pounding. The result is greater striking accuracy with less shock and muscle tension, thus significantly reducing fatigue and pressure on the user's palm. If you hammer a lot, these ergonomic handles also help prevent carpal tunnel syndrome and other repetitive stress injuries.



▲BALL PEEN HAMMER FACE
A ball peen hammer gets its name from its half-round striking face, which can be used to form metal parts or to decorate surfaces with a pattern of overlapping dimples.

◀BALL PEEN HAMMERS
Whether you're driving a chisel or punch, you'll get the best results by selecting a ball peen hammer of the right size and weight.