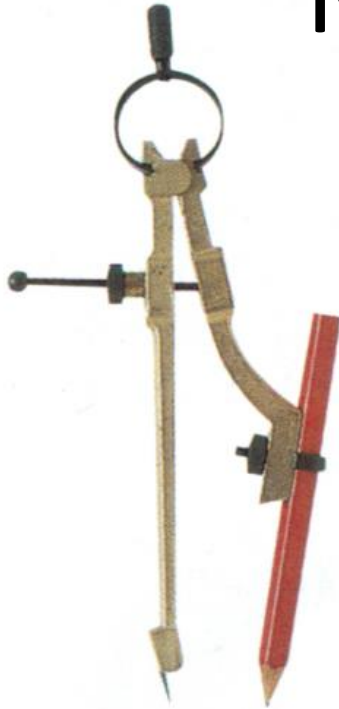
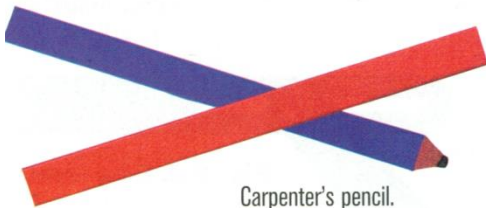


Hand Tools

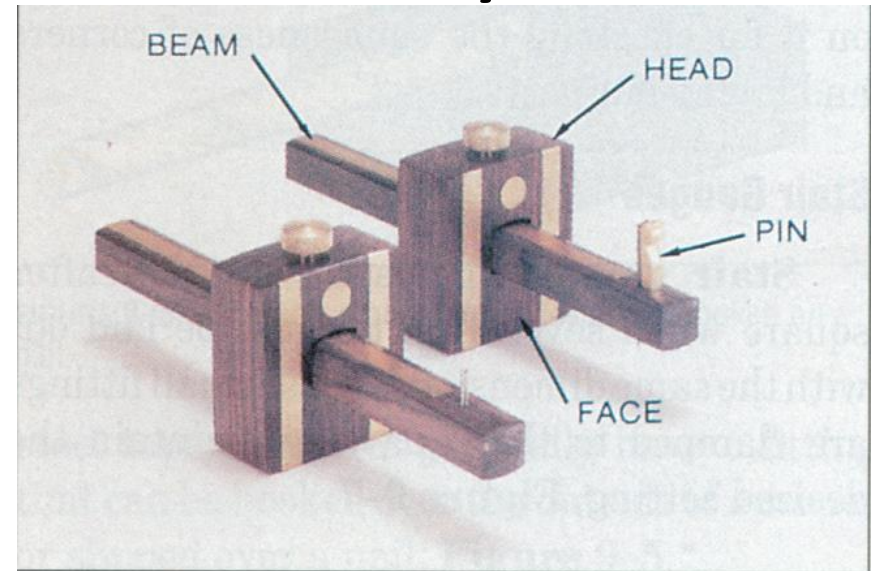
Measurement & Layout



Compass,
one type of dividers.



Carpenter's pencil.



Parts of a marking gauge (*Courtesy of Sears, Roebuck & Co.*)



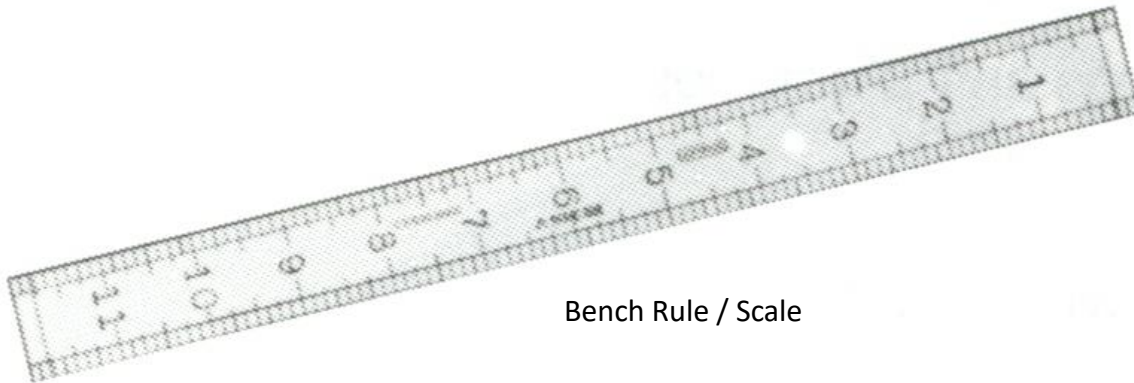
Measurement & Layout



Folding rule.



Layout tape measure.

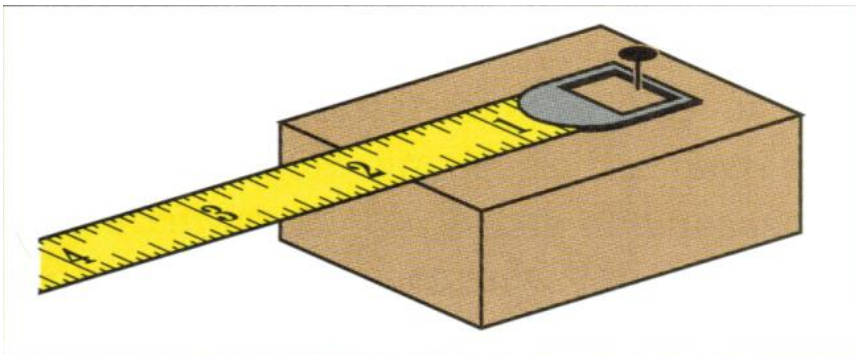
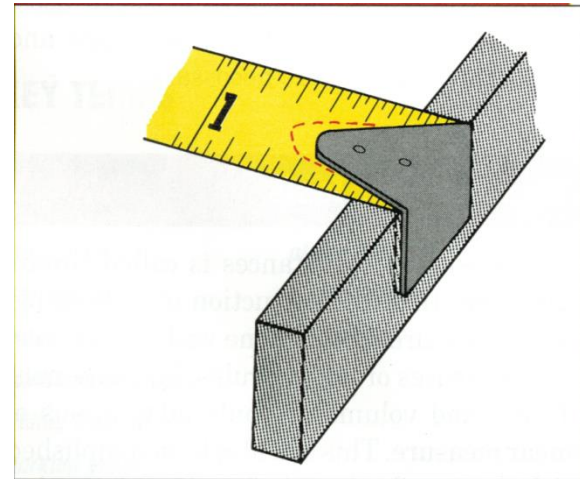
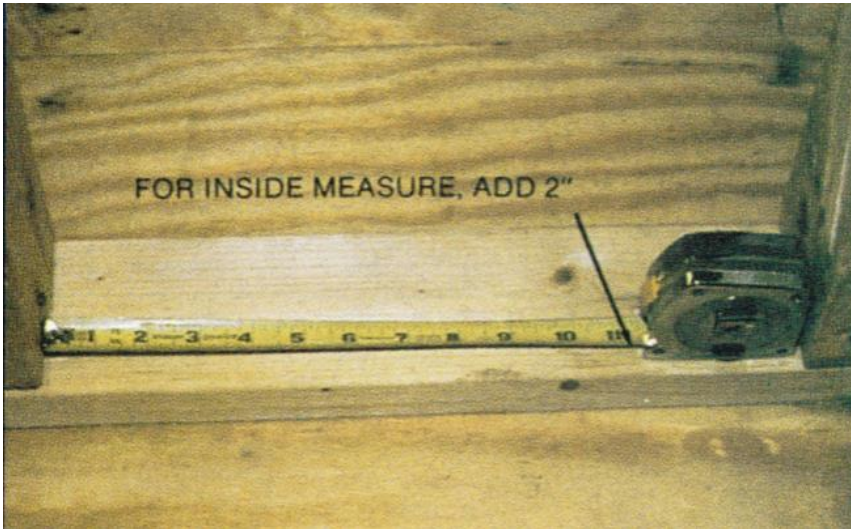


Bench Rule / Scale



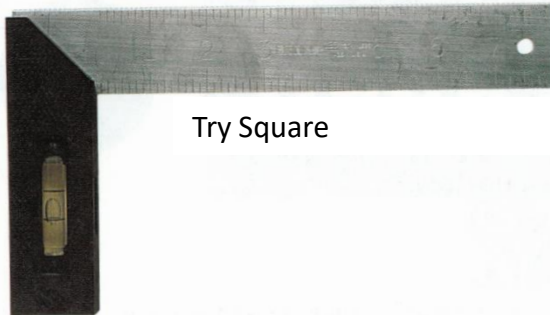
Steel tape measure.

Measurement & Layout

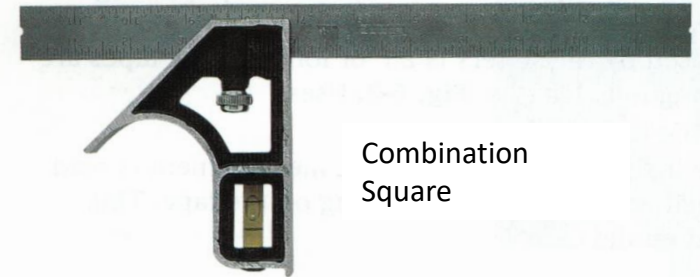


Measurement & Layout

SQUARE — a tool that is used primarily to measure or check angles.

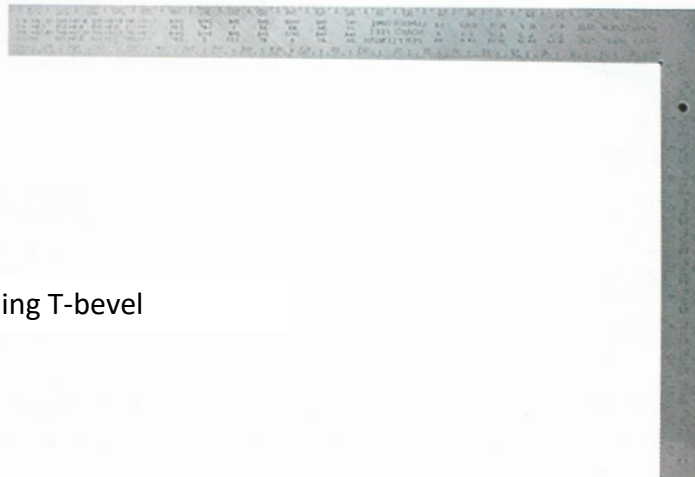


Try Square

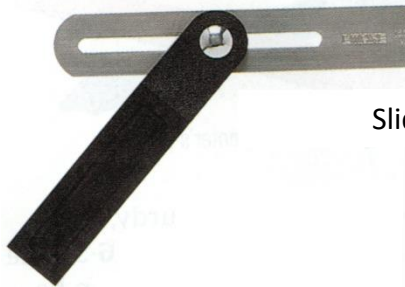


Combination Square

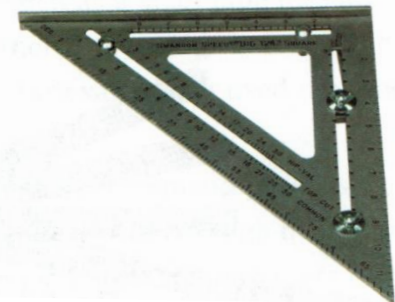
Framing Square (Carpenters or rafter square)



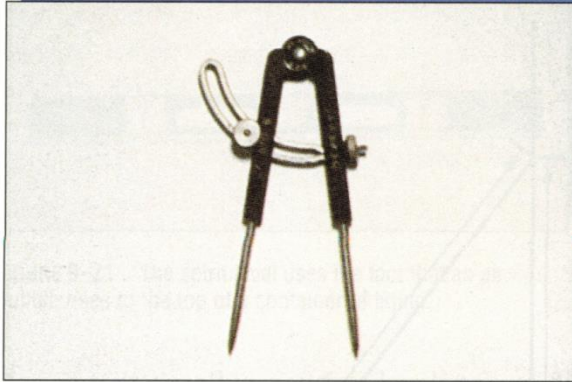
Sliding T-bevel



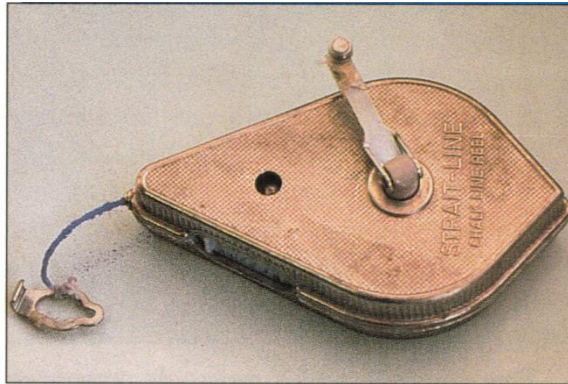
Speed Square



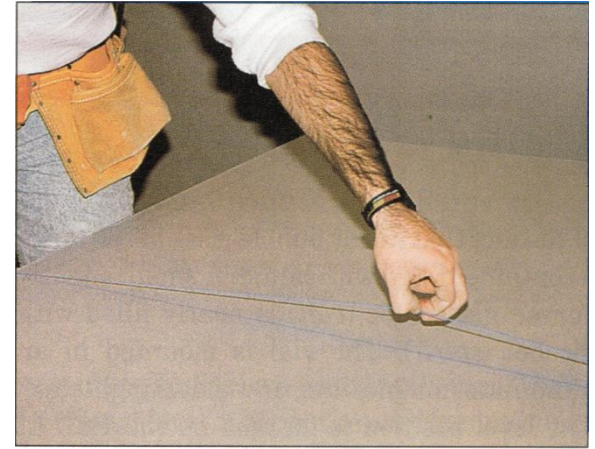
Measurement & Layout



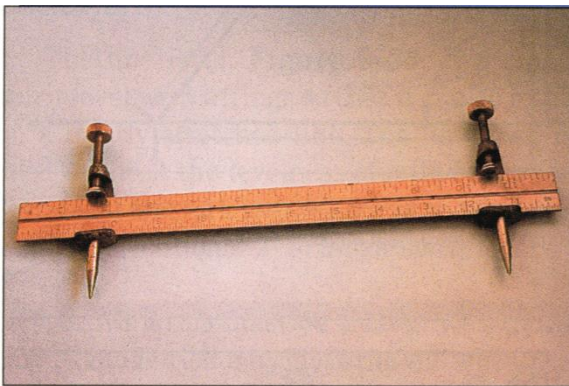
Wing dividers are used to scribe circles and arcs with small radii.



The chalkline reel applies powdered chalk to the line as it is pulled from the case.



Snapping a chalk line



Trammel points can be attached to a beam of any length to scribe large circles and arcs.



Scratch awl.

Measurement & Layout



Carpenter's level.



Plumb bob and string line.



Torpedo level.

LEVEL — a long wood, metal, or fiberglass instrument with several glass vials that measures the levelness or plumbness of a surface.

Measurement & Layout



AUTOMATIC
BUILDER'S LEVEL



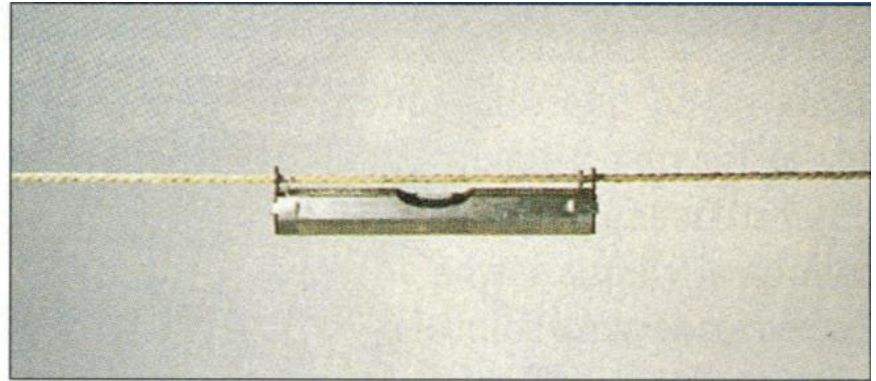
LASER
DETECTOR



ROTARY LASER
ON TRIPOD



WATER LEVEL



Line Level

Review

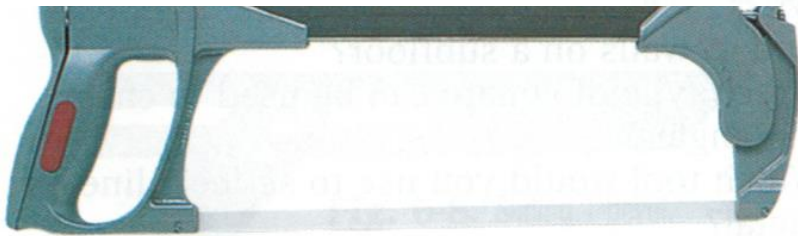
1. What is a layout tape measure used for?
2. What tool can be used to indicate the position of walls on a subfloor?
3. Which type of square can be used to check 45° angles?
4. Which tool would you use to scribe a line on metal?

Cutting & Shaping Tools

Saws



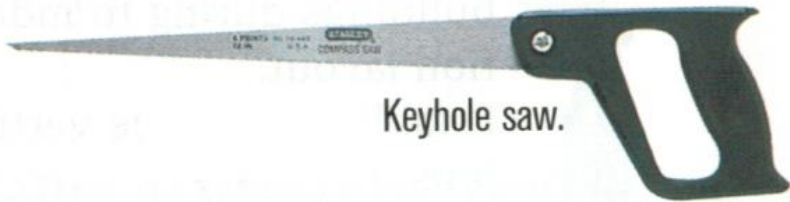
Utility drywall saw.



Hacksaw.



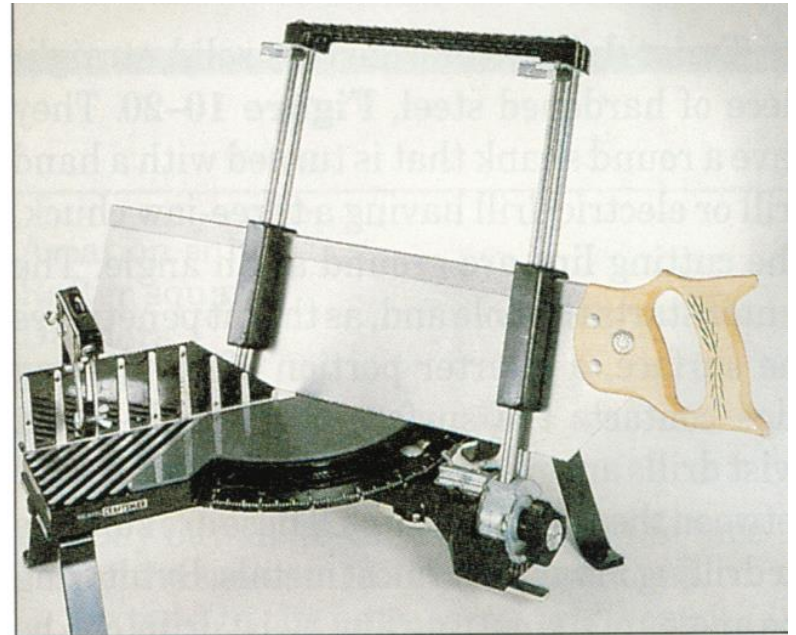
Backsaw.



Keyhole saw.



Pull Saw



Miter box

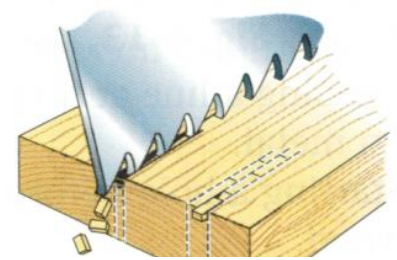
Saws



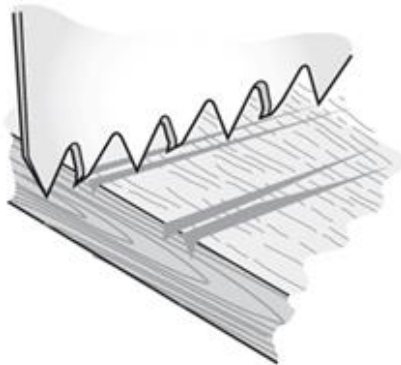
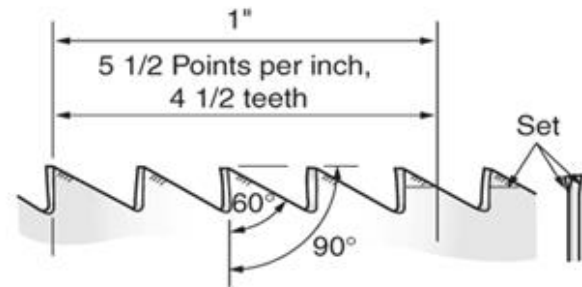
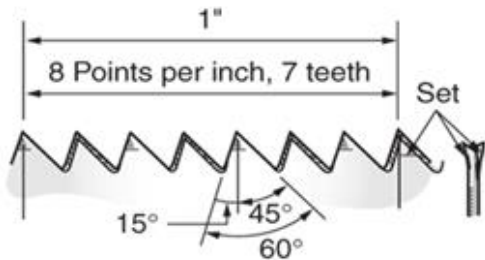
Handsaw



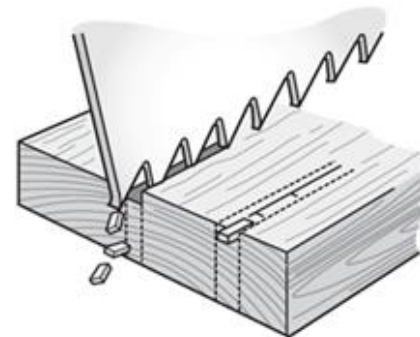
Crosscut



Rip cut



Crosscut Saw

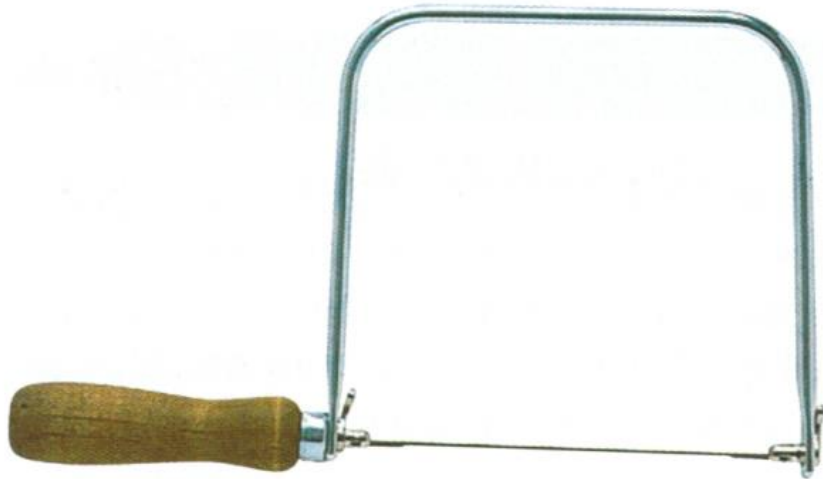


Ripsaw

Saws



Toolbox saw.

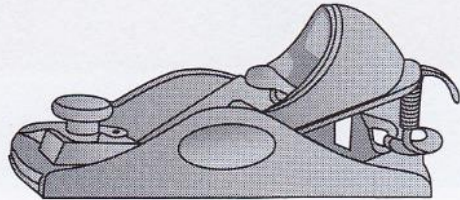


Coping saw.

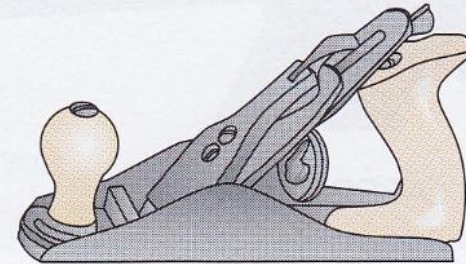


Dovetail saw.

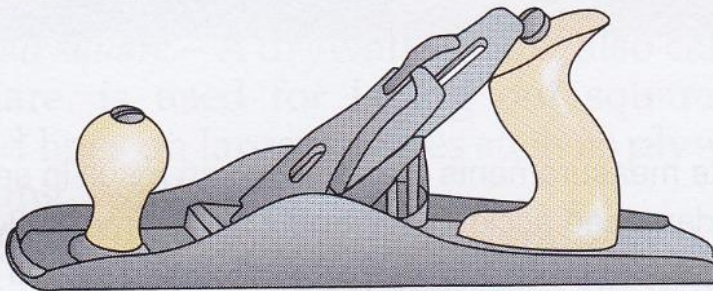
Planes



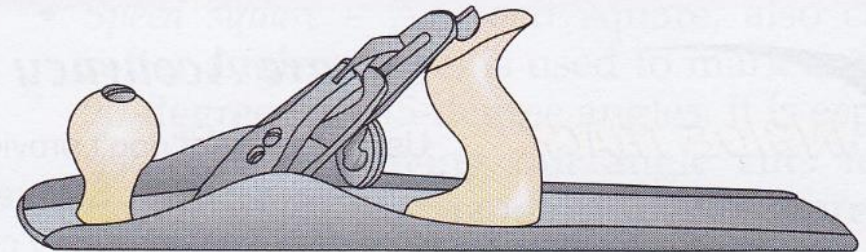
BLOCK PLANE



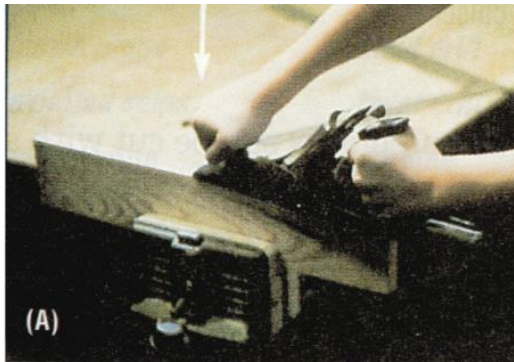
SMOOTHING PLANE



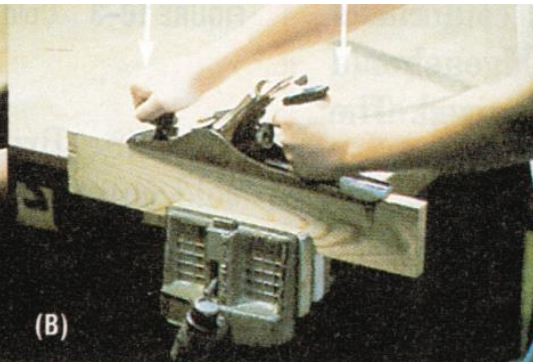
JACK PLANE



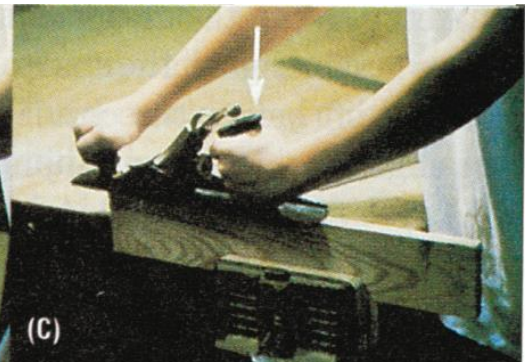
JOINTER PLANE



(A)



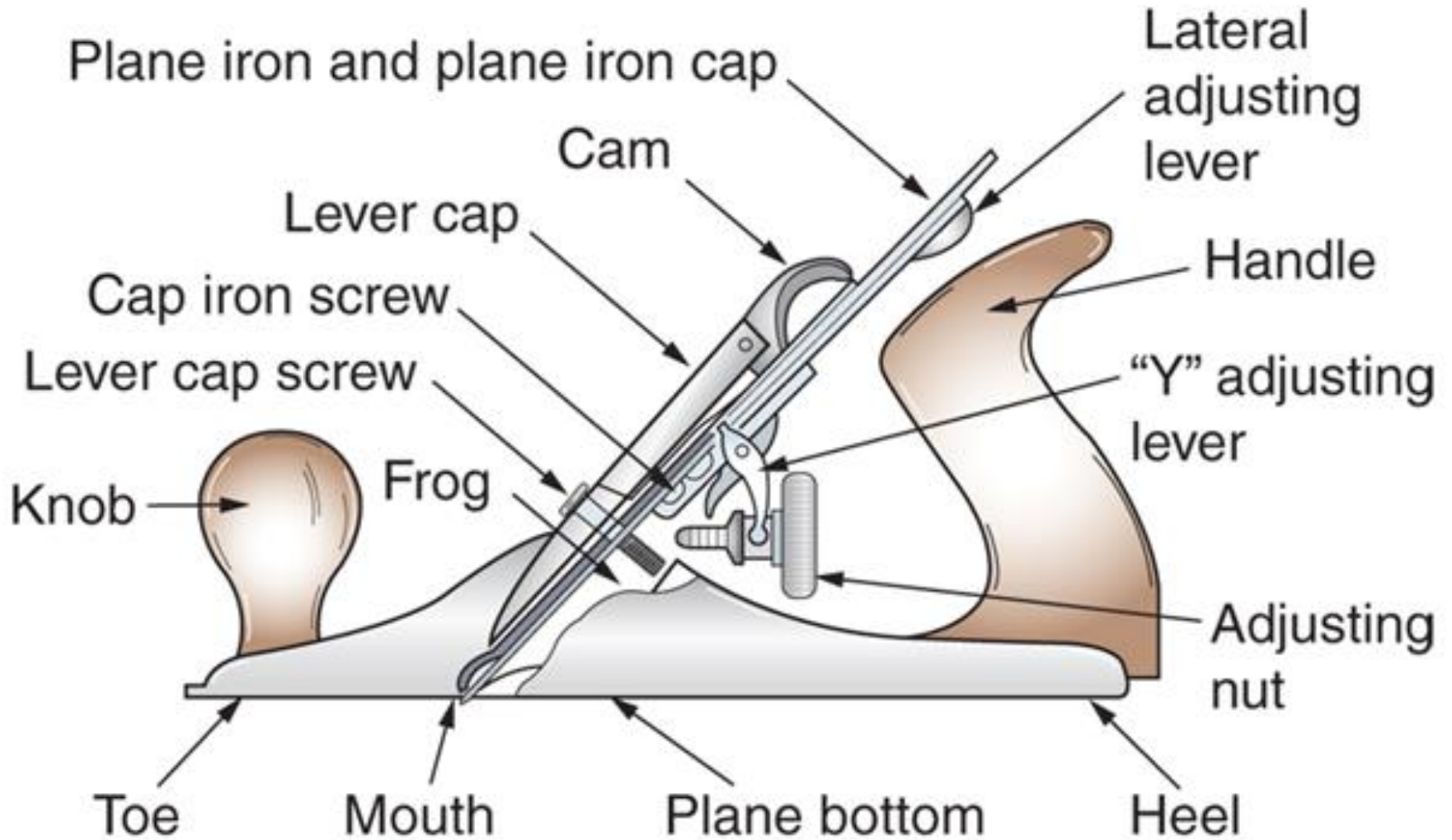
(B)



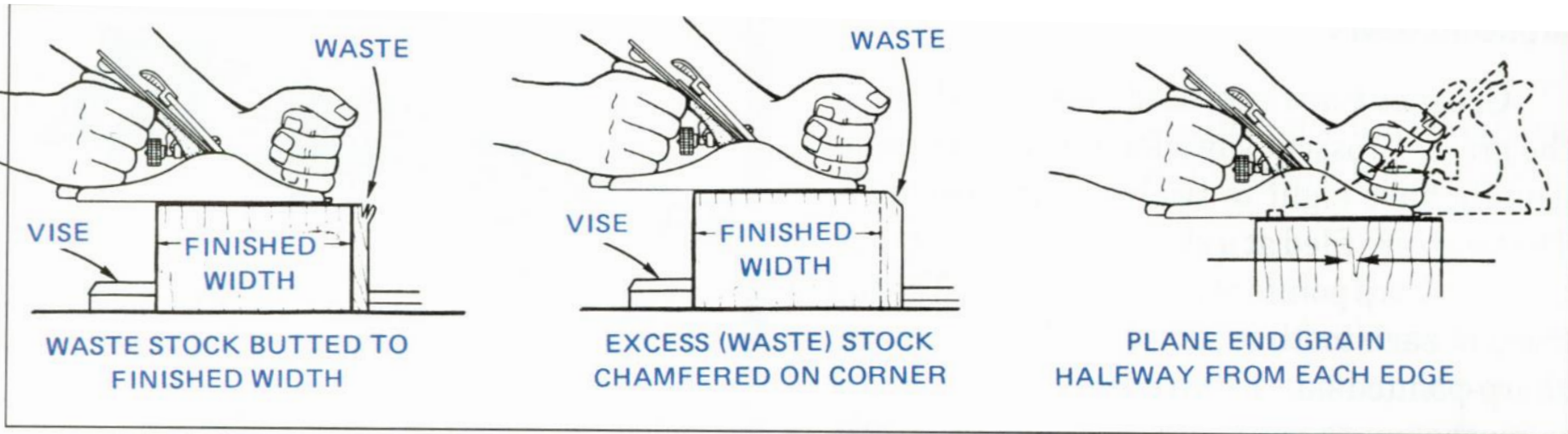
(C)

(A) At the beginning of the stroke, pressure is applied to the knob. (B) At midstroke, pressure is applied to both the handle and the knob. (C) At the end of the stroke, pressure is applied to the handle.

Parts of a Plane



Plane Methods



Three methods of planing end grain

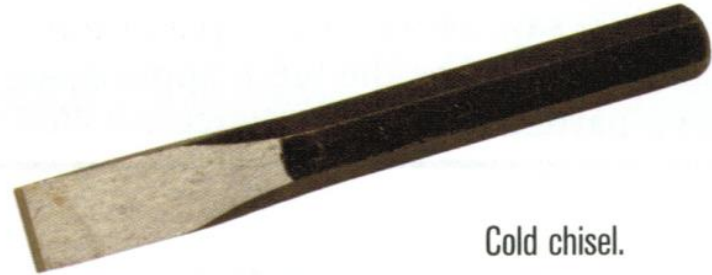
Cutting & Shaping Tools



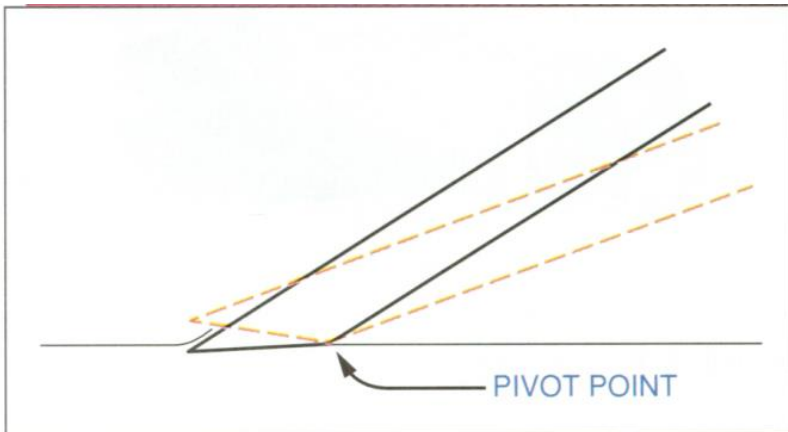
Utility knife.



Wood chisel.



Cold chisel.



The depth of cut with a chisel can be controlled by placing the beveled side down and raising or lowering the handle.



Metal file.



Wood rasp.

Sharper Is Safer

- Be sure to keep the edge on cutting tools sharp. This makes the tool safer as well as more satisfying to use. Protect sharp edges with a plastic sheath where possible.

Review

1. What is the difference in cutting action between a block plane and a jointer plane?
2. How does a wood rasp differ from a file?
3. What is a utility knife used to cut?
4. What material is cut using a hooked blade on a utility knife?

Tools for Assembly & Disassembly

Tools for Assembly & Disassembly



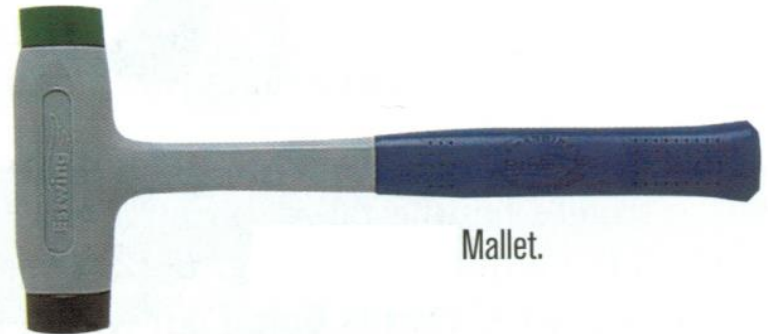
Claw hammer.



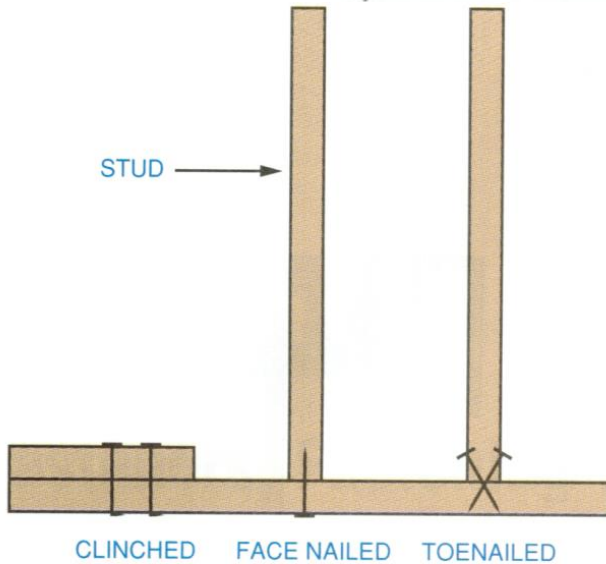
Warrington hammer.



Rip hammer.



Mallet.

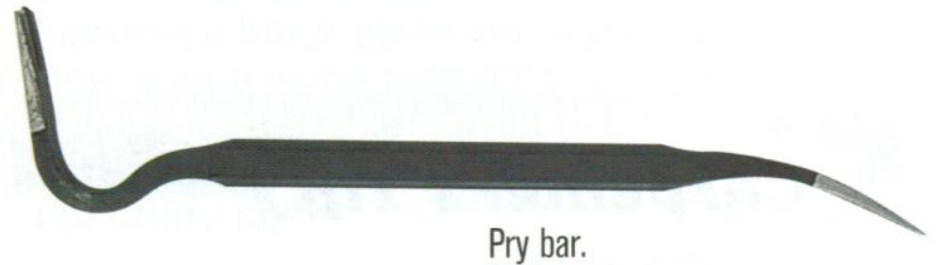


Nailing techniques

Parts of a Claw Hammer



Tools for Assembly & Disassembly



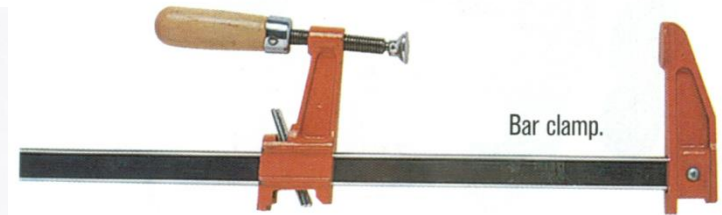
Tools for Assembly & Disassembly



WEB CLAMP



QUICK CLAMP



Bar clamp.



One-handed bar

clamp.



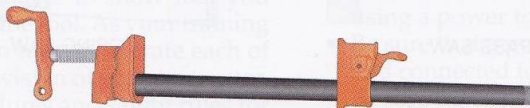
SPRING CLAMP



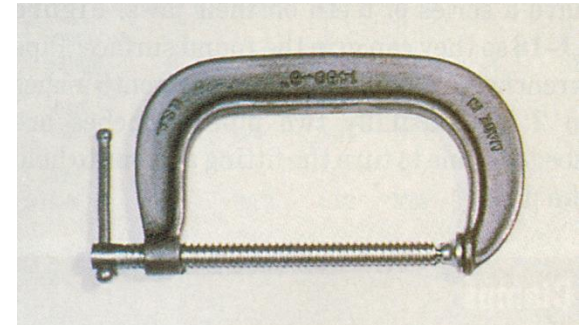
HAND-SCREW CLAMP



LOCKING C-CLAMP



PIPE CLAMP



C clamp

Tools for Assembly & Disassembly



Nail set.



Hammer tackler.



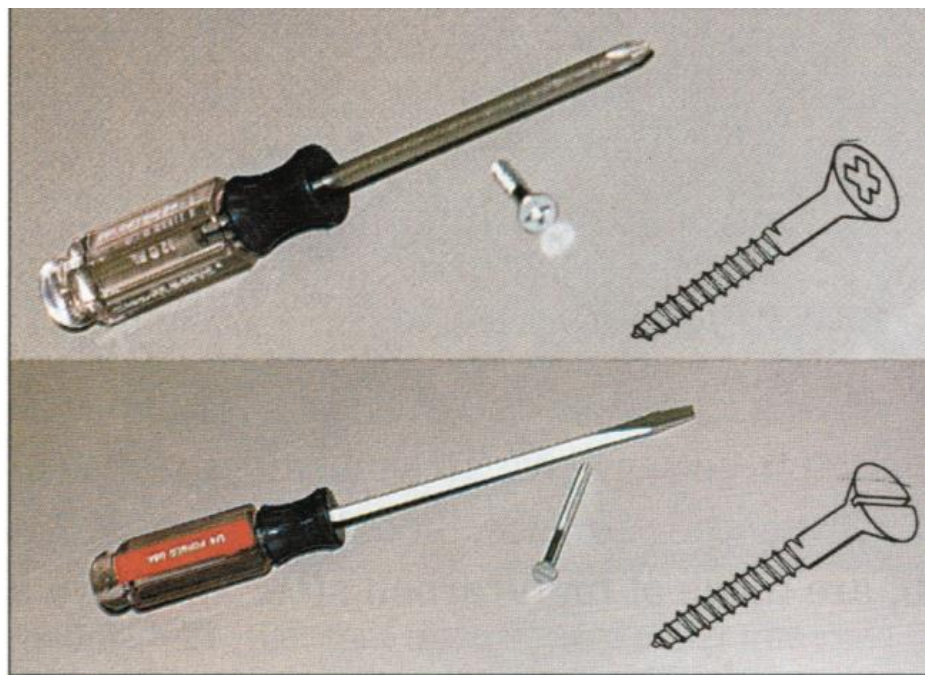
Center punch



Stapler.



Screwdrivers.



Phillips and straight-slot screwdrivers

Wrenches, Pliers, & Snips

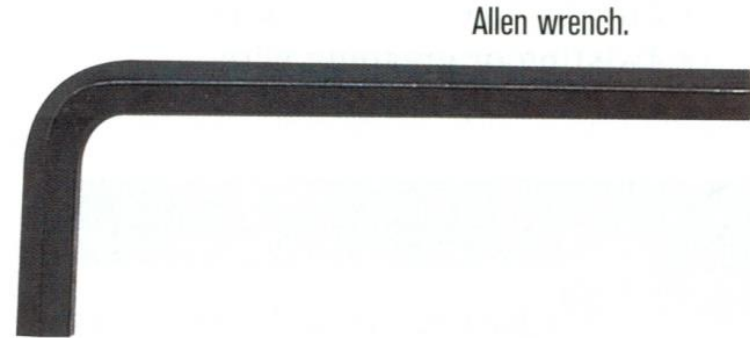


A wrench is a hand tool designed for turning a fastener, such as a bolt or a nut.

Wrenches, Pliers, & Snips

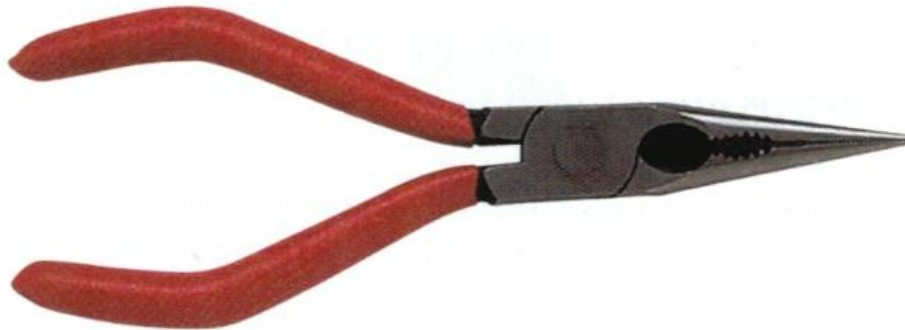


Locking pliers.



Allen wrench.

PLIERS — a hand tool with opposing jaws that are designed to hold things.



Needle-nose pliers.



Slip-joint pliers.

Wrenches, Pliers, & Snips



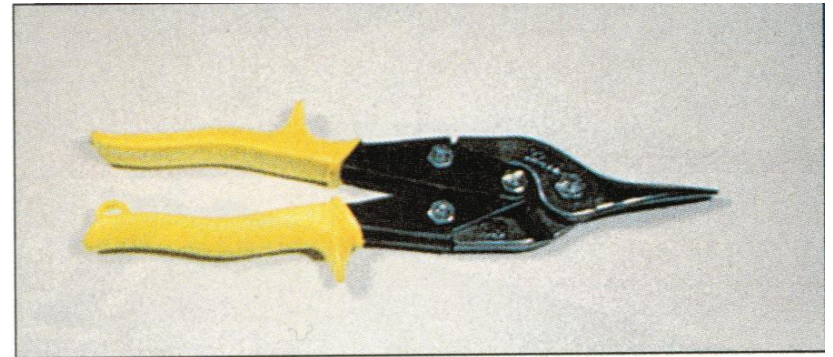
Box-joint utility pliers.



Metal snips.



Lineman's pliers.



Aviation snips

Wrenches, Pliers, & Snips



Adjustable wrench.



Pipe wrench.

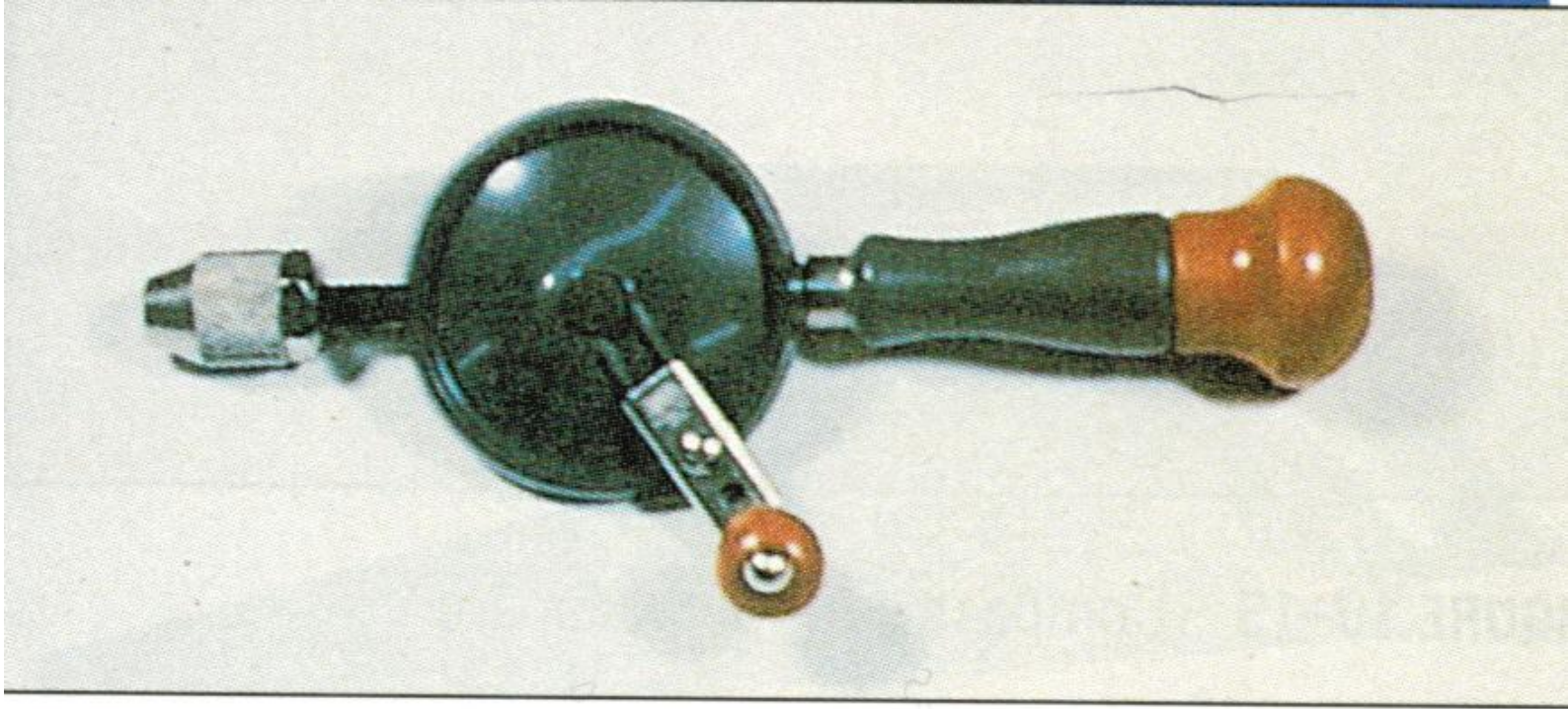


When using an adjustable wrench, the pressure should be applied toward the adjustable jaw.



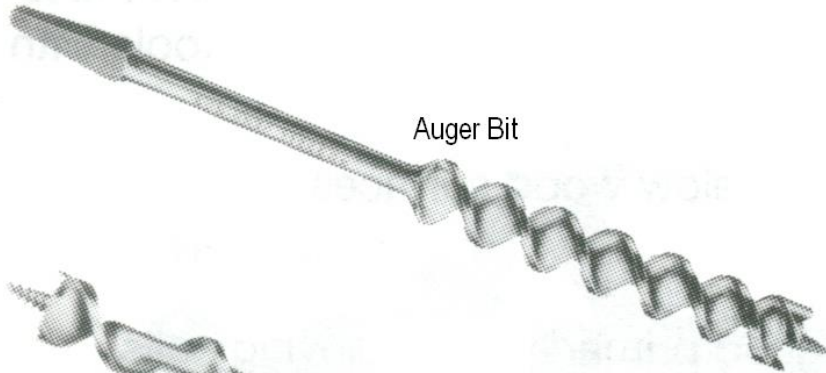
Pipe wrenches are used by plumbers to turn pipes and fittings.

Drilling & Boring Tools



Hand drill

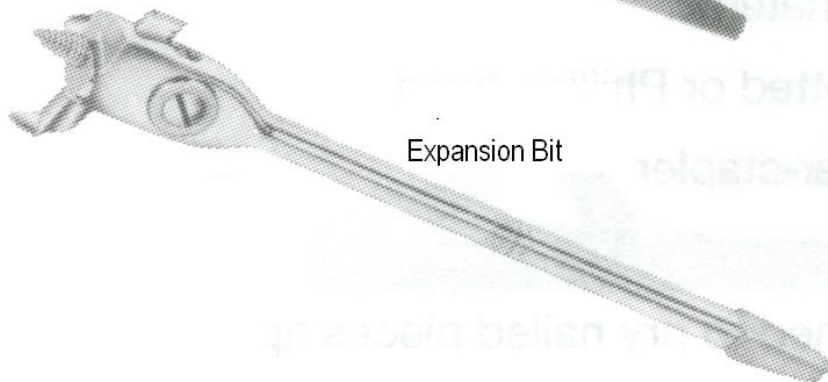
Drilling & Boring Tools



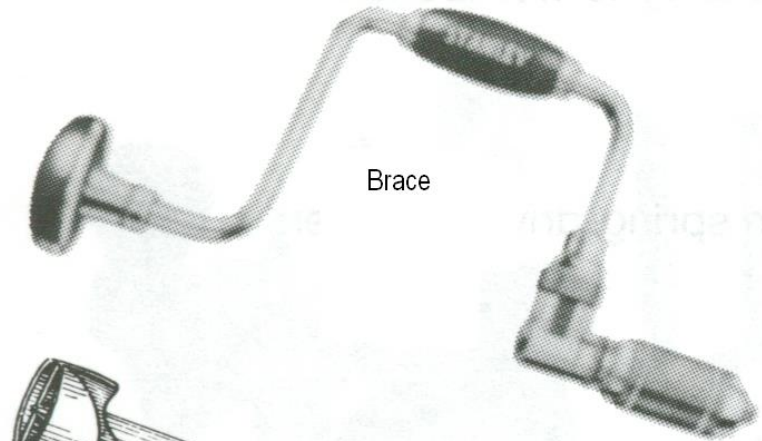
Auger Bit



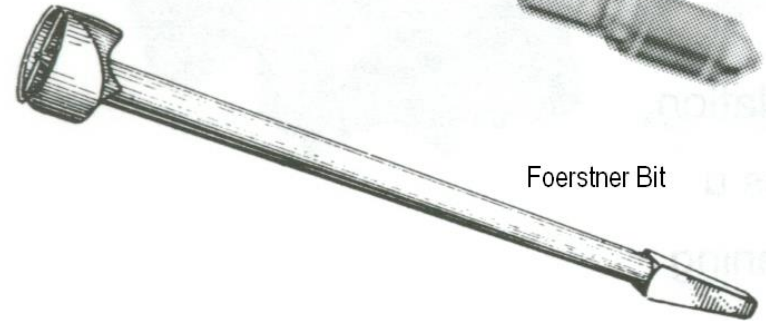
Dowel Bit



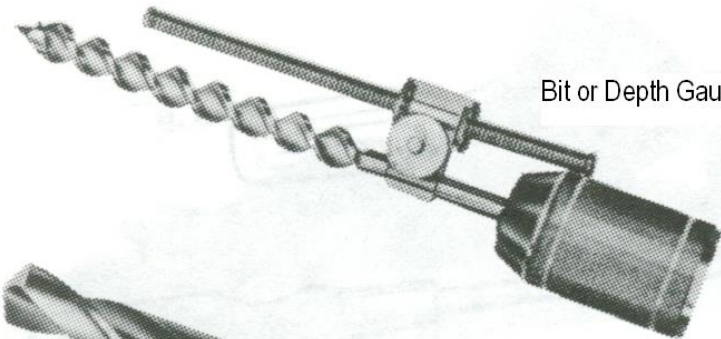
Expansion Bit



Brace



Foerstner Bit



Bit or Depth Gauge



Twist Drill

Review

1. Which is the heaviest hammer described in this section?
- 2. Which tools are used for pulling nails?
- 3. Which general type of tool should be used to turn nuts or bolts?
- 4. What other terms are used for metal snips?