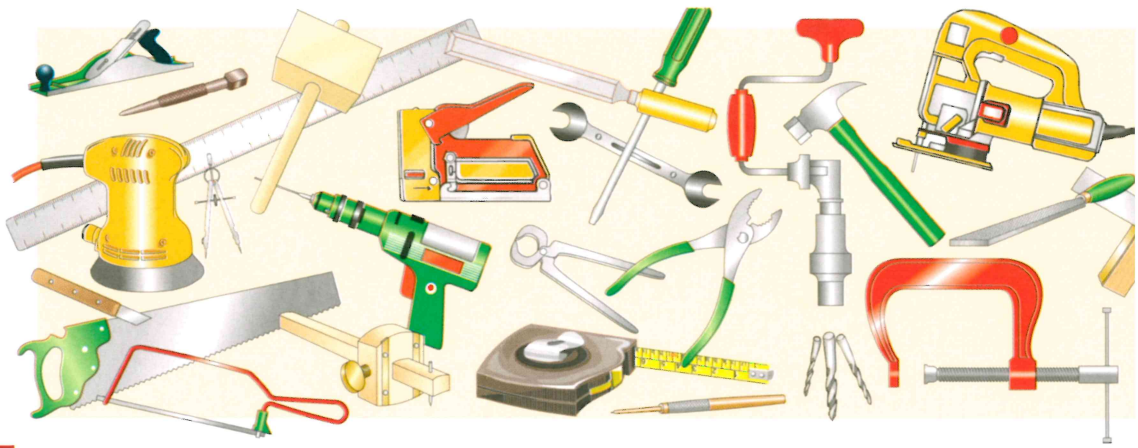
19 Hand Tools

KEYWORDS

bradawl
callipers
kerf
pincers
ratchet
rebate
spokeshave

There is a great variety of hand tools available. In this chapter, we will look at many of the t you will use in the workshop. Always use the tool as instructed – it will keep you safe. The t in the chapter are grouped as follows:

- Marking-out tools
- Cutting tools
- Chisels
- Impact tools (hammers and mallets)
- Boring tools
- Planes and spokeshaves
- Shaping tools
- Screwdrivers



There are many different types of hand tool

Marking out tools

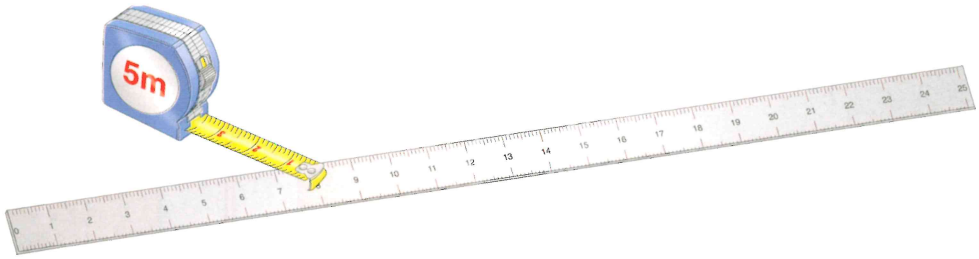
The rule

The rule is made from stainless steel or boxwood. Measurements are in millimetres (mm). The most widely used rule is 300 mm long, but 1 metre (1,000 mm) steel rules and tape measures are also used.

- **Use:** Measuring distances accurately

> Measure twice – cut once.

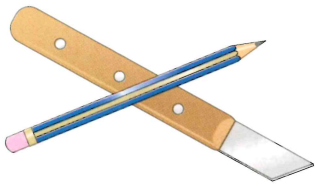
Pencil and marking knife



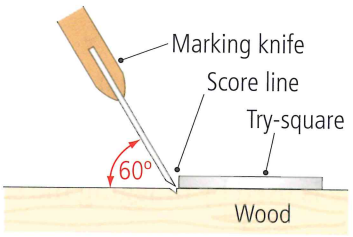
Tape and steel rule

Usually, you will use a sharp 2H pencil to mark lines on the material you are working with. To keep the materials clean, avoid making any unnecessary marks on the surfaces.

- **Use:** Marking lines



Pencil and marking knife



Using a marking knife

The marking knife, or craft knife, cuts materials such as wood, veneer, card and leather. The knife cuts the wood fibres with a score line, which leaves a clean finish when the wood is cut with a saw.

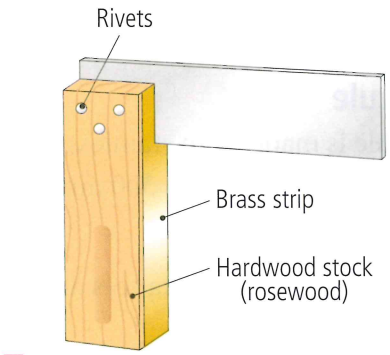
- **Use:** Making a permanent cut in material

Try-square

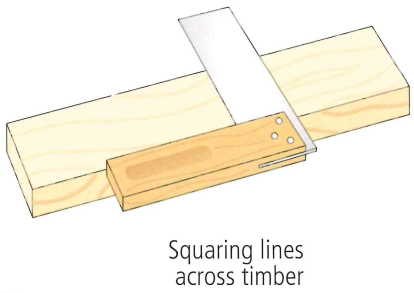
The blade of the try-square is at 90° to the stock. The brass strip on the edge of the stock prevents wear.

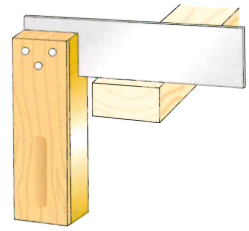
The try-square comes in different sizes; the length of the blade can vary from 100 mm to 300 mm. Protect the square against damage and test it for squareness regularly.

- **Uses:** Drawing lines (squaring) at right angles to the face side and face edge of a piece of wood
- Ensuring surfaces are square to each other (perpendicular)

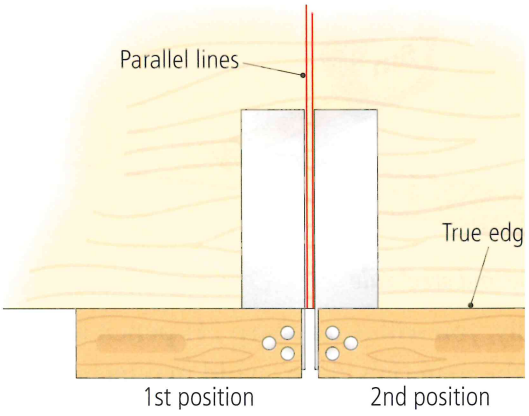


Parts of the try-square





Uses of the try-square



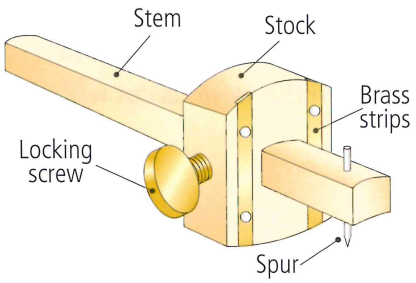
Testing the try-square for accuracy

Marking gauge

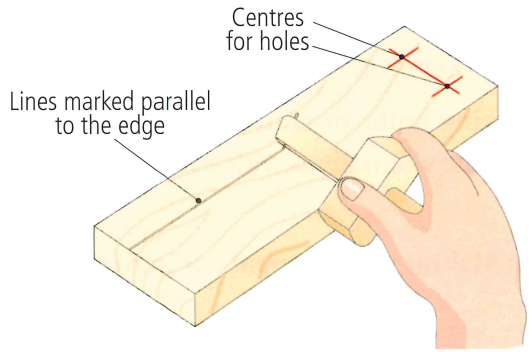
The marking gauge is usually made of beech with a plastic locking screw. To reduce wear brass strips are set into the stock.

- **Uses:** Marking lines parallel to the edge or surface
- Marking out centre points for holes that need to be drilled

The gauge is used by dragging the spur, not by pushing it, with the stock held tightly ag the side of the wood.



Parts of the marking gauge

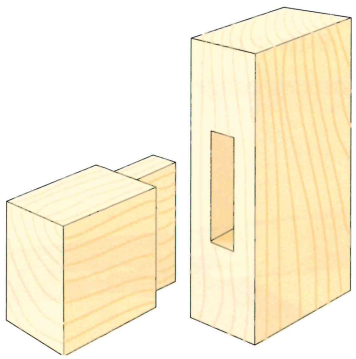


Using the gauge

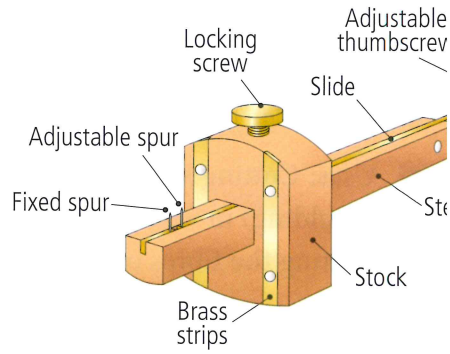
Mortise gauge

The mortise gauge is made from a hardwood, usually mahogany or rosewood.

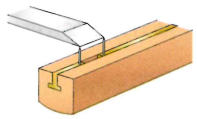
- **Uses:** Marking two parallel gauge lines on a piece
- Marking mortise and tenon joints



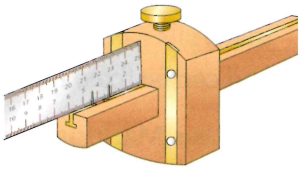
Mortise and tenon joint



Parts of the mortise gauge



Using a mortise chisel to set the distance between the spurs



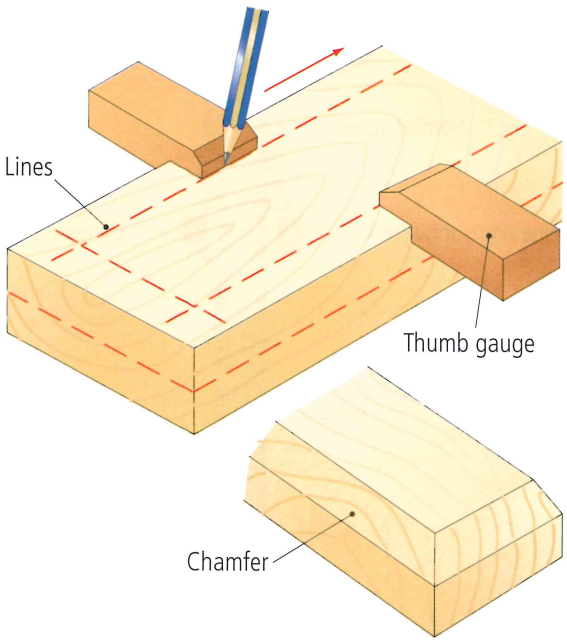
Using the rule to set the distance between the stock and the first spur

Setting the mortise gauge

Thumb gauge

The thumb gauge is made from wood, usually hardwood. This gauge can be easily and quickly made to the size of the chamfer.

- **Use:** Marking out chamfers



A thumb gauge is used to mark out chamfers

Compass/dividers

The compass and dividers are used with metals, plastics and wood.

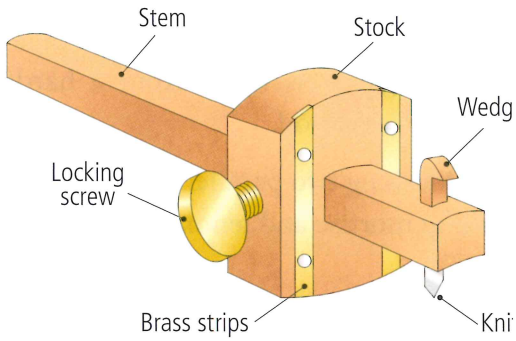
- **Uses:** Marking curves on material
- Checking measurements

Compass and woodworking compass/dividers

Cutting gauge

The cutting gauge is similar to a marking gauge. It has a small blade that is held in place using a wedge or a screw.

- **Uses:** Cutting small **rebates** (a groove or moulding) in wood
- Cutting the fibres of the wood across the grain

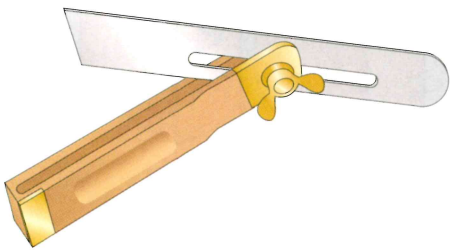


Parts of a cutting gauge

Sliding bevel

The sliding bevel is made from the same materials as the try-square. The blade swivels and can be fixed into place at the desired angle.

- **Use:** Marking lines of different angles



Sliding bevel

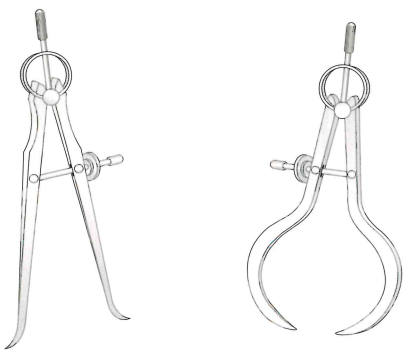
Callipers

Vernier callipers

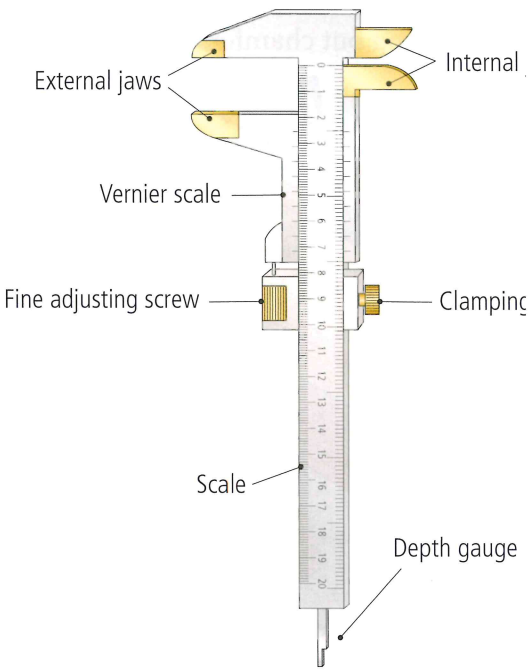
Vernier **callipers** are tools used for taking and transferring measurements. They are designed to make very accurate measurements.

Both inside and outside callipers are made from steel and can be easily adjusted. They are used in metalwork and woodturning.

- **Uses:** Measuring thicknesses
- Measuring internal and external diameters
- Measuring depths of holes



Inside callipers and outside callipers



Vernier callipers