

Clamps and vices

This worksheet is about the clamps and vices you use to hold timber. It tells you about the different types and how to use them.



What you will learn

When you have finished this worksheet, you should be able to:

- Use a clamp correctly.
- Use a vice correctly.

Things you need before you start

Materials

You will need some scrap timber.

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Tools or equipment

C Clamp

Vice

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What are clamps and vices used for?

Clamps and **vices** are used to hold your pieces of timber securely in place while you work on them.

Both tools are like having another pair of hands.

What is a clamp?

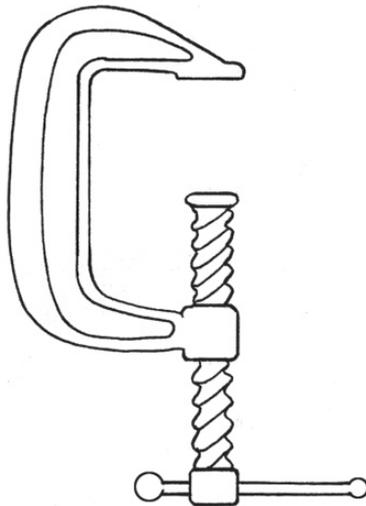
A clamp is used to hold pieces of timber.

The timber is gripped between the fixed body of the clamp and an adjustable screw

There are different kinds of clamps for different jobs.

One of the most common is called a **C Clamp**. It is named because it is shaped like the letter **C**. You may also find a **G clamp** that looks like a letter **G**.

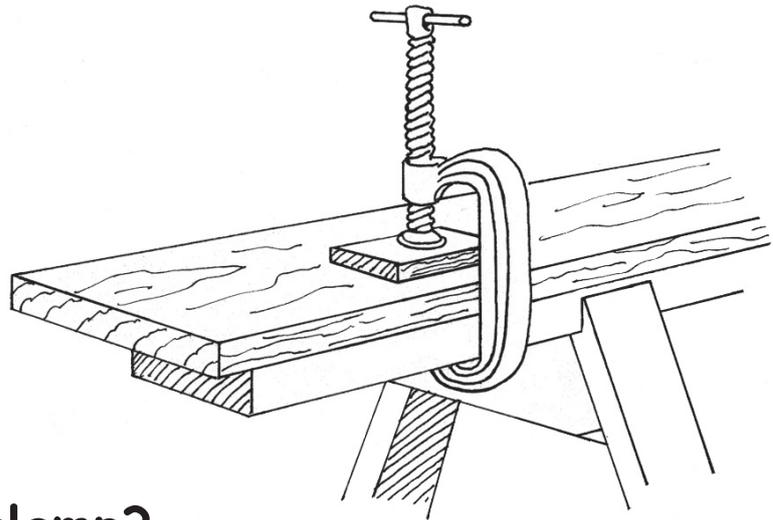
This is an example of a C Clamp



What is a clamp used for?

A clamp is used to:

- hold pieces of wood while they are being worked on.
- hold 2 pieces of wood together while they are screwed or while glue is drying.

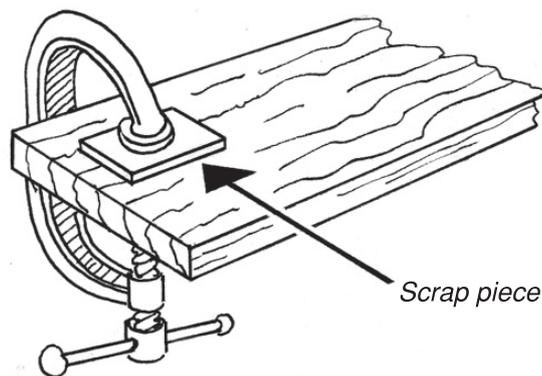


How do I use a clamp?

Step 1

Fit a scrap piece of wood between the jaws of the clamp and the timber surface.

This protects the wood surface from being dented or scratched.



Step 2

Turn the screw part of the clamp until it is tight and the timber is held tightly.

Step 3

Remove the clamp when you have finished working or fixing the timber. It is only to be used for a short time.

What is a vice?

A vice is also like another pair of strong hands to hold timber.

A vice is stronger than a clamp.

It holds the timber between two jaws. One jaw is fixed in place and the other moves in and out on a screw thread.

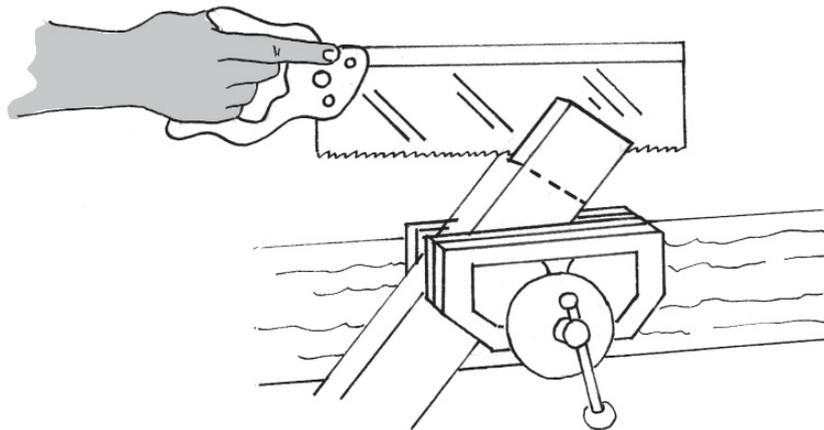
It is fixed to your workbench.

A vice that is made for working with timber has large flat jaws that are usually lined with wood to protect your work-piece.

An engineering vice has thinner, metal jaws with patterns made to grip metal parts. They will work with timber — but they do not grip as well, and they will easily damage your work piece.

What is a vice used for?

It is used for holding timber while you saw, chisel, drill, glue or form the timber in some way.



Here is an example of a timber vice attached to a bench

How do I use a vice?

Step 1

If you need to, put scrap blocks of timber between the jaws of the vice to protect your timber's surface.

Step 2

Insert the piece you are working on between the blocks and turn the handle in a clockwise direction until the timber is held tightly.

Step 3

When you have finished using the vice, turn the handle in the opposite direction, counter clockwise. Remove the piece of wood.

Ask questions about anything you do not understand.

Safety tips clamps and vices

- A clamp or vice hold things steady and allows you to use both hands to work on the timber. That is really useful, BUT this can let you push or hit things too hard !
- Be careful that things don't slip
- Keep your fingers and hands out of the way

Activity

1. Find out what types and sizes of clamps or vices you have available.
2. Try using a clamp to hold a piece of timber.
 - What will you clamp it on to ?
 - How tight does it hold the timber?
3. Hold timber pieces in your vice.
 - Does it have wooden faces on the jaws or do you need to use scrap pieces to protect your timber?
 - Is the vice firmly attached to a bench?

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