1.26 Punch

A punch is used to mark the points and lines on metal or job surfaces. Punches are of the following types:

1. Dot Punch : A dot punch is used to mark the point on job surface. Its tip angle is 60°.

2. Centre Punch : A centre punch is used to mark the centre of a point. Its tip angle is 90°.

3. Prick Punch : The prick punch is similar to centre punch but used for marking out. The angle of its tip is 30°.

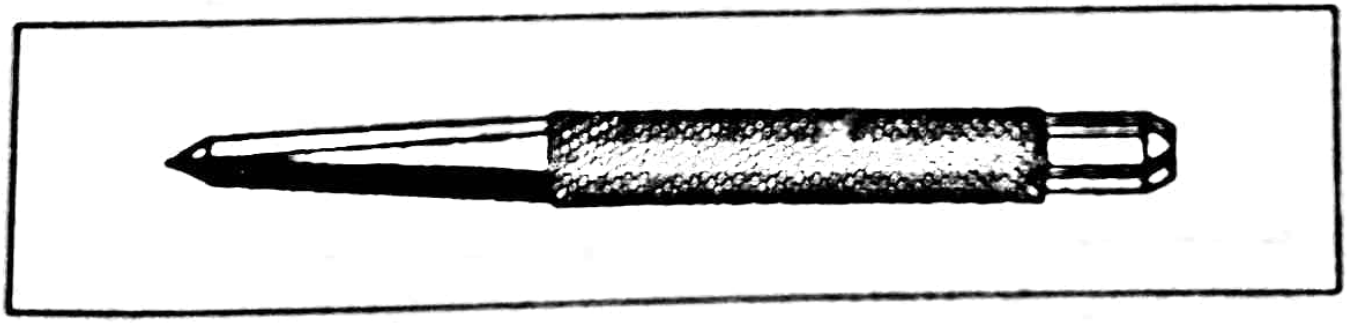

Fig. 22 : Dot Punch

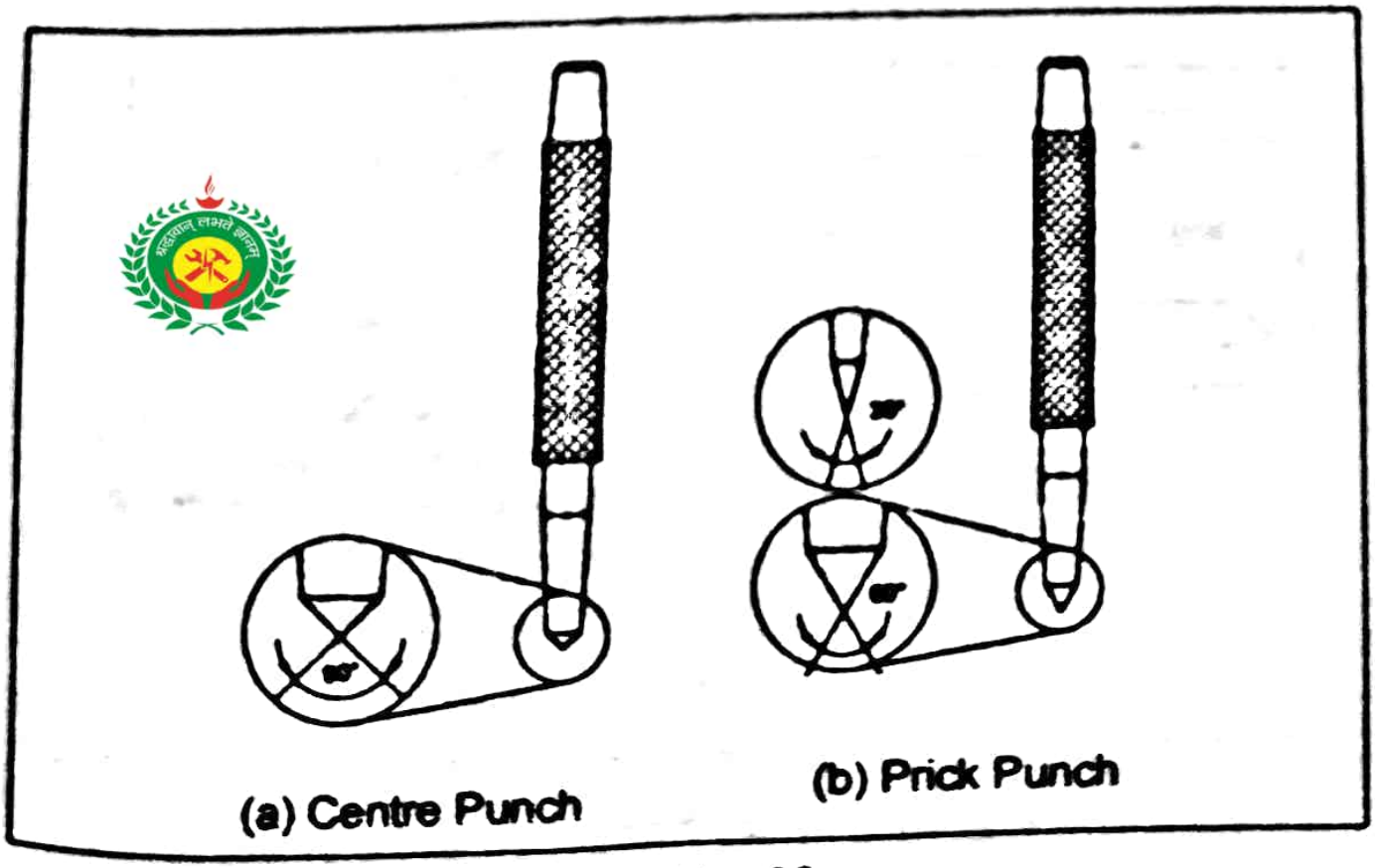

Fig. 23

1.30 Chisel

The chisel is a hand cutting tool. The operation, done by using a chisel, is known as chipping. It is used for cutting and peeling the metal.

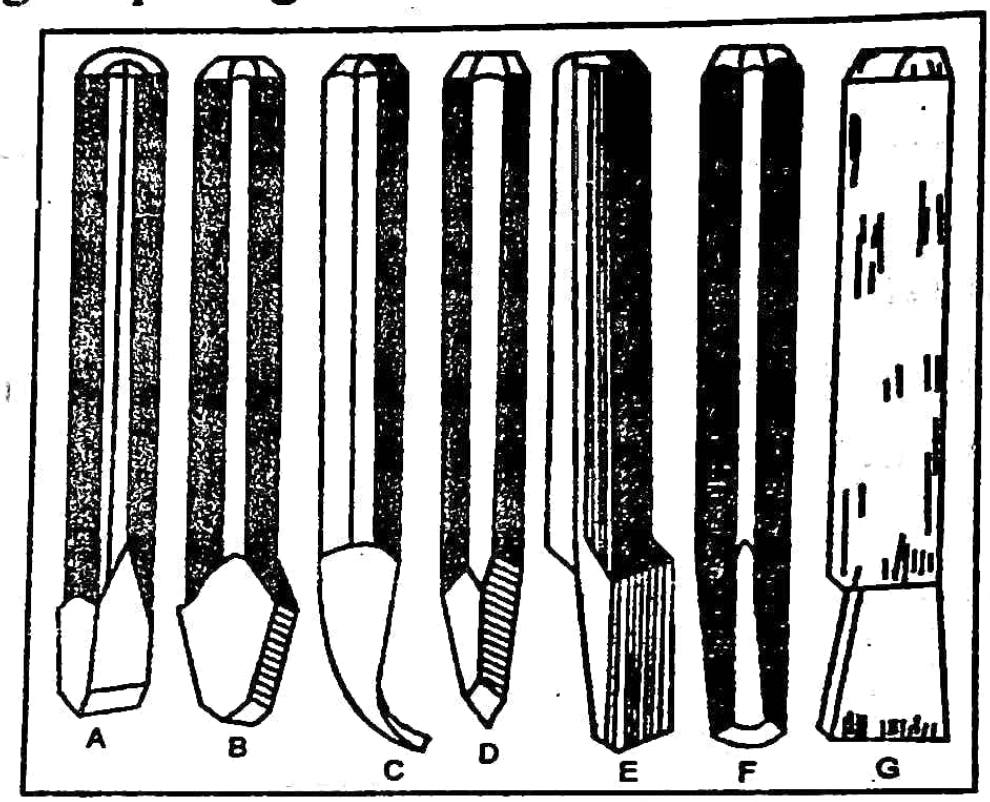

Fig. 27 : Chisel

1.31 File

File is a hand cutting tool which is used to file the metal surface in the form of small particles. It is made of high carbon steel.

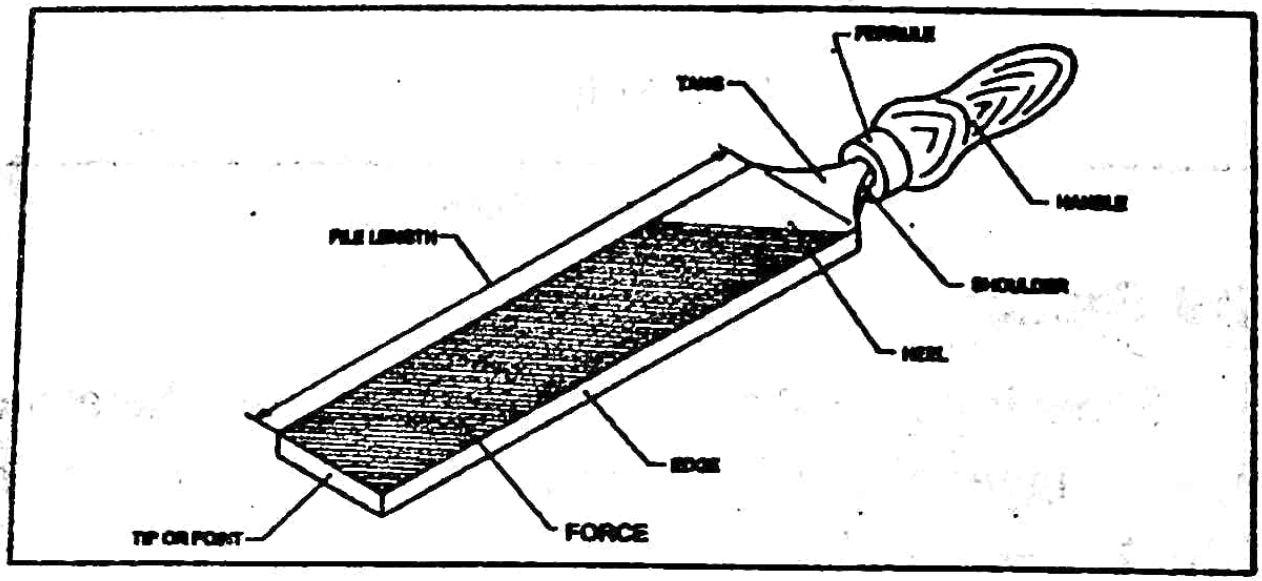

Fig. 28 : File

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1.40 HAMMER

The hammer is a striking tool. It is used to do operations like making sheet metals, forging, bending, chipping, etc by striking.

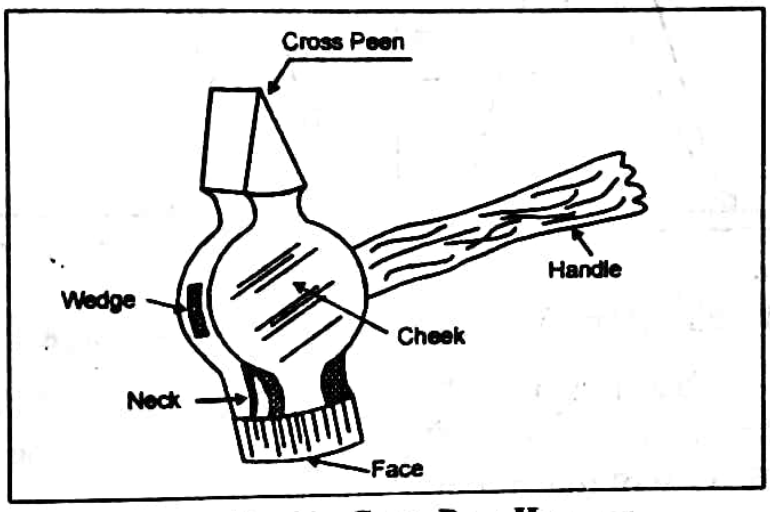

Fig. 44 : Cross Peen Hammer

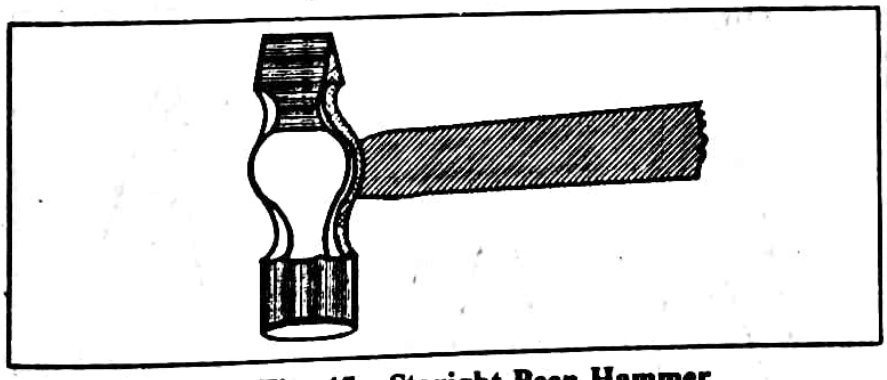

Fig. 45 : Staright Peen Hammer

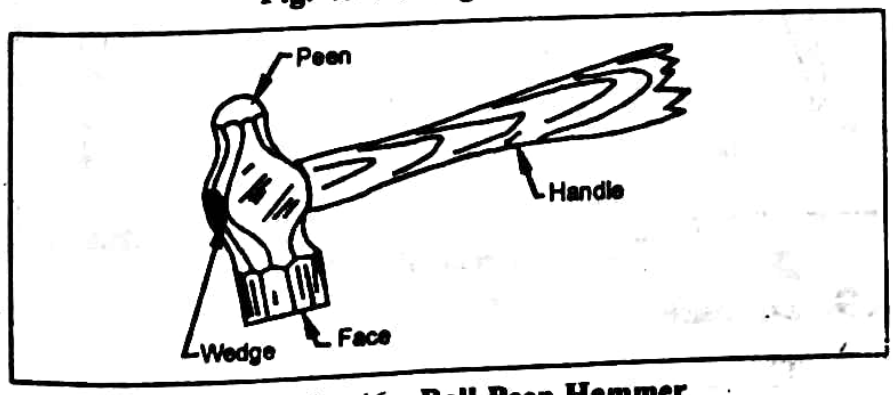

Fig. 46 : Ball Peen Hammer

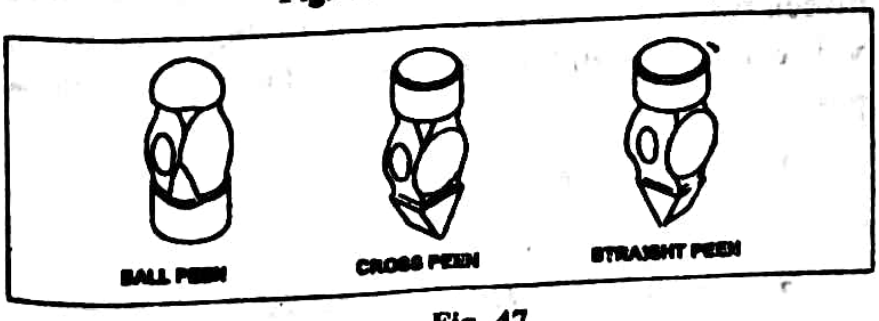

Fig. 47

2.1 Steel Rule

This rule is mostly used in a workshop. This is made of stainless steel and is used to determine the length, thickness, width, and height of a job.

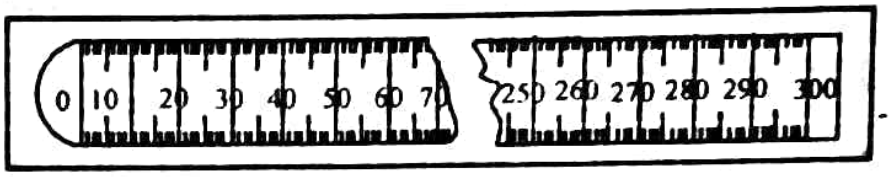

Fig. 48 : Steel Rule

2.2 Steel Tape Rule

This is folding steel tape rule. Its length can be upto 6 feet. This is mostly used in the workshop. It has graduations marked in centimetres and inches on its either sides.

Fig. 49 : Steel Tape Rule

2.3 Try Square

This tool is used to mensure the flatness of jobs. It is also used to check whether the faces of the job are at 90° angles to each other or not.

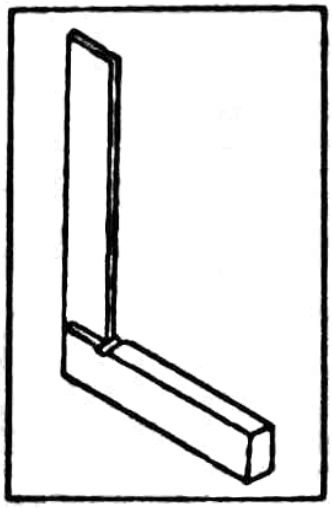

Fig. 50 : Try Square

2.4 Scriber

The scriber is a marking tool. It is used to draw the lines while marking. It is usually available in a length of 150-200 mm.

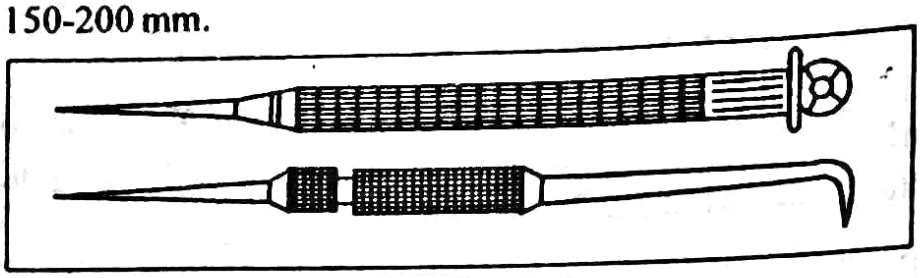

Fig. 51 : Scriber

2.5 Hacksaw

The hacksaw is a type of cutting tool which is generally used to cut metal. It is used to cut pipes, sheets, plates, rods, etc.

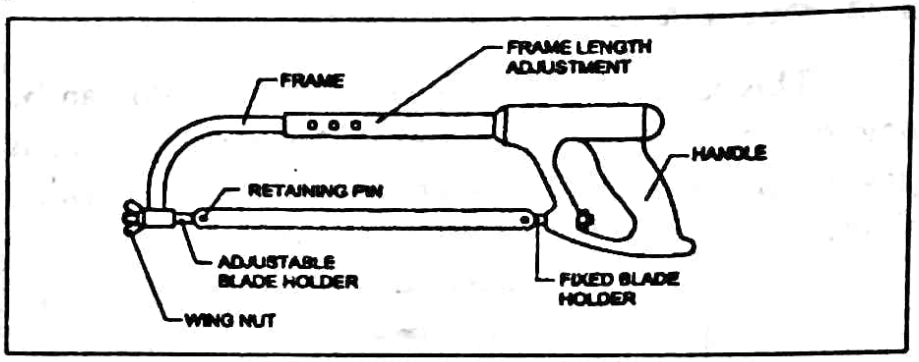

Fig. 52 : Adjustable Hacksaw

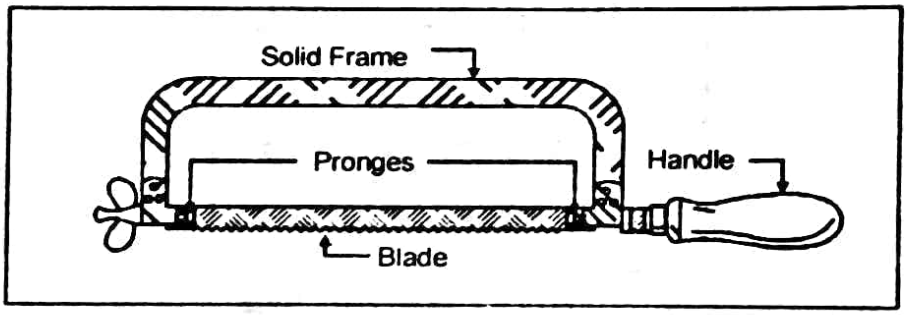

Fig. 53 : Solid Hacksaw

2.6 Outside Caliper

This is a tool used to determine the external dimensions such as diameter, length, width and height of a job. Outside calipers are of two types :

1. Firm joint type
2. Spring joint type

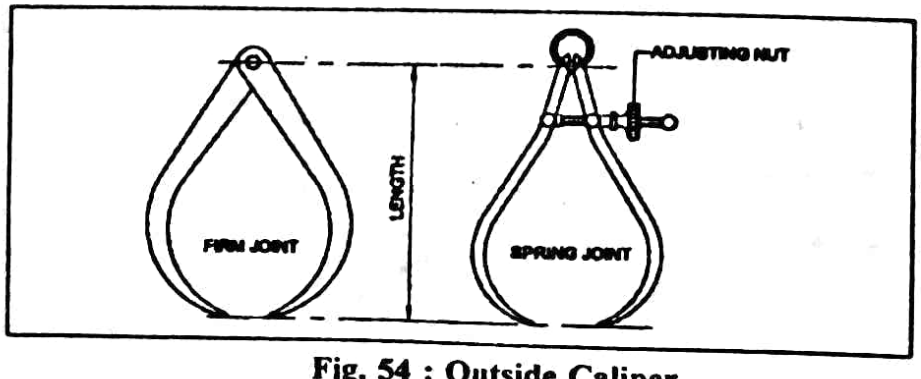

Fig. 54 : Outside Caliper

2.7 Inside Caliper

This tool is used to determine the internal dimensions of a workpiece. It is used to measure the diameter of the circular holes or slots. Inside caliper is of two types:

1. Firm joint type
2. Spring joint stype

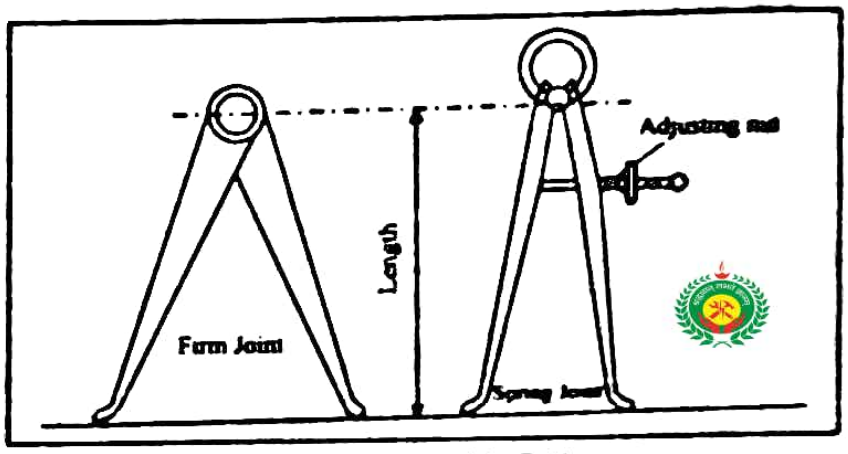

Fig. 55 : Inside Caliper

2.8 Hermaphrodite or Odd Leg Caliper

It is a marking tool. It is used to draw parallel lines on the surface of the job. It is also used to determine the centre point of round rods.

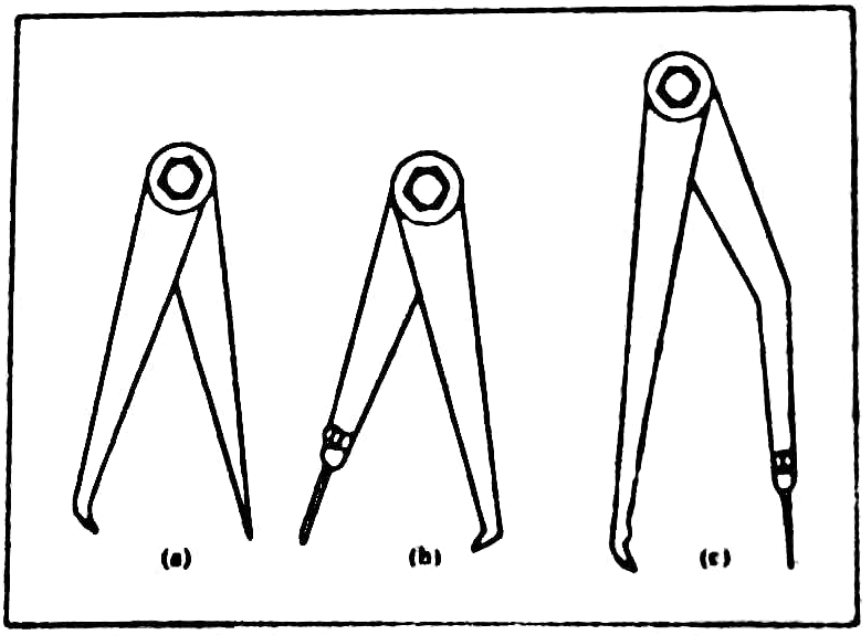

Fig. 56 : Hermaphrodite Caliper

2.9 Divider

This instrument is used to measure the distance between two points, to draw circles, to draw arcs and to divide certain length into equal parts. Divider is of three types :

1. Firm joint divider
2. Firm joint wing divider
3. Needle point firm joint divider

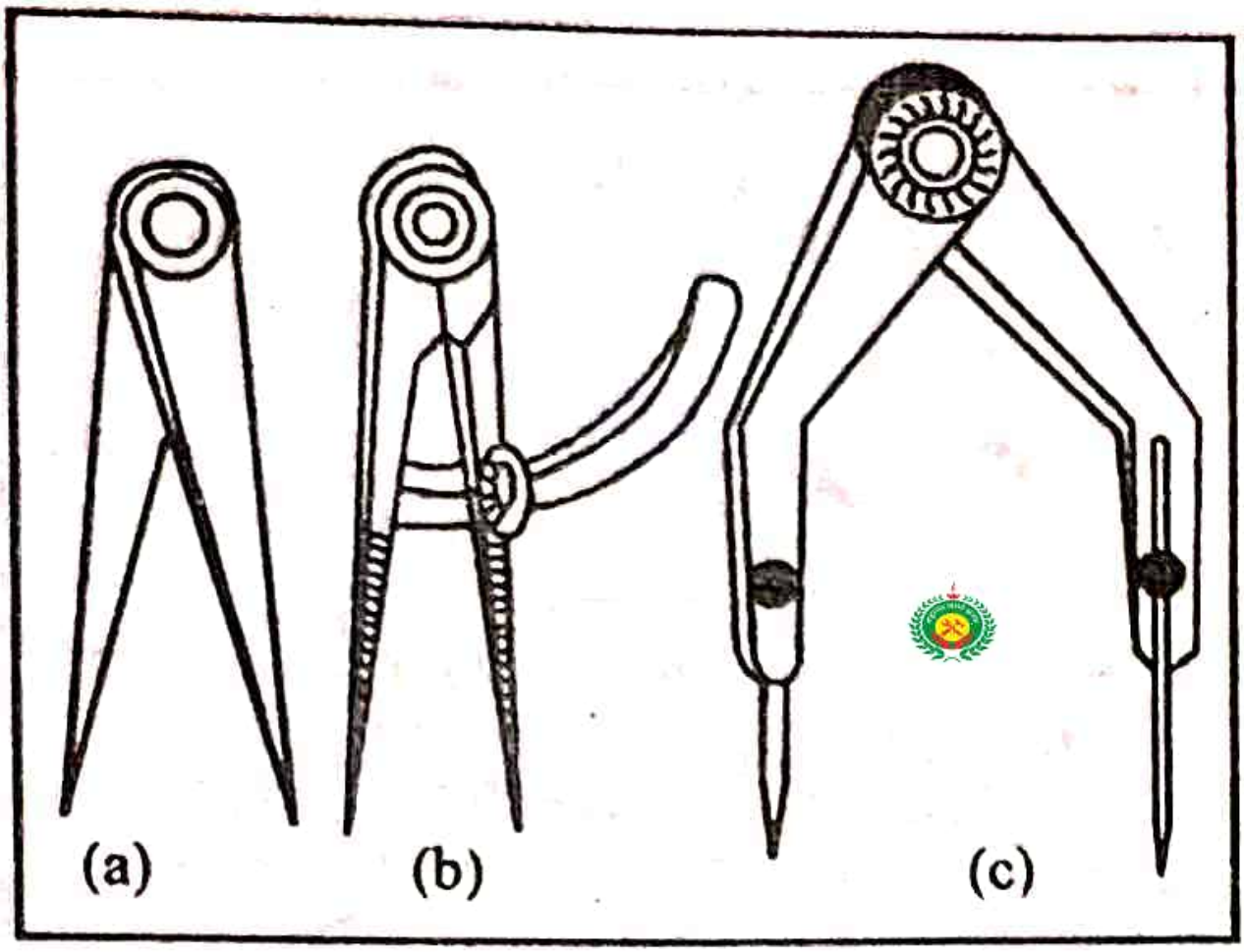

Fig. 57 : Divider

2.17 Vice

The vice is a very important tool in the fitter trade. The job is clamped in the vice to do the operations like filing, threading, reaming, tapping, bending, hacksawing etc.

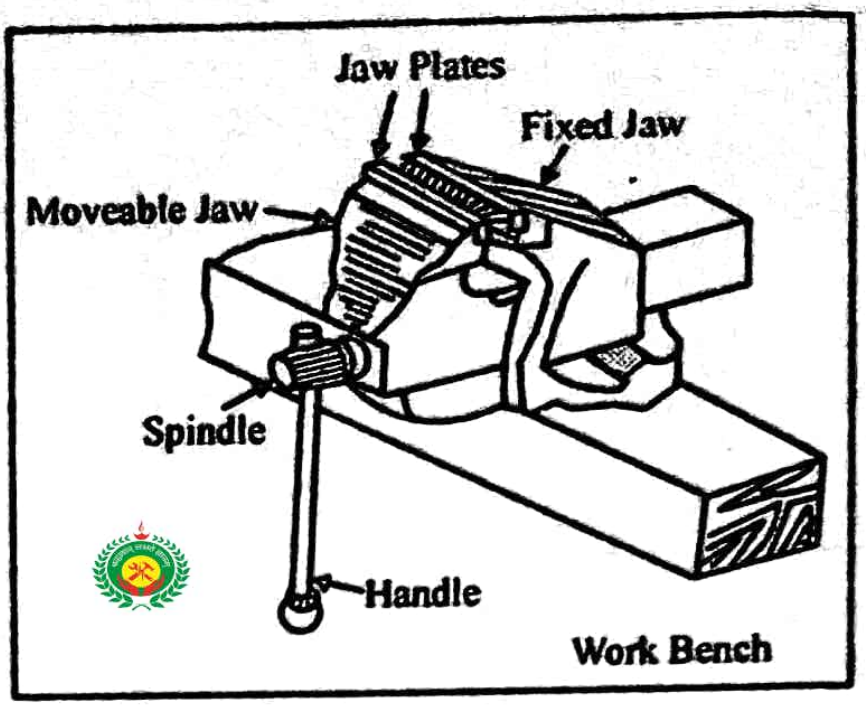

Fig. 65 : Vice

2.18 'C'-Clamp

The 'C'- clamp is shaped similar to the alphabet C. It is used to hold the job.

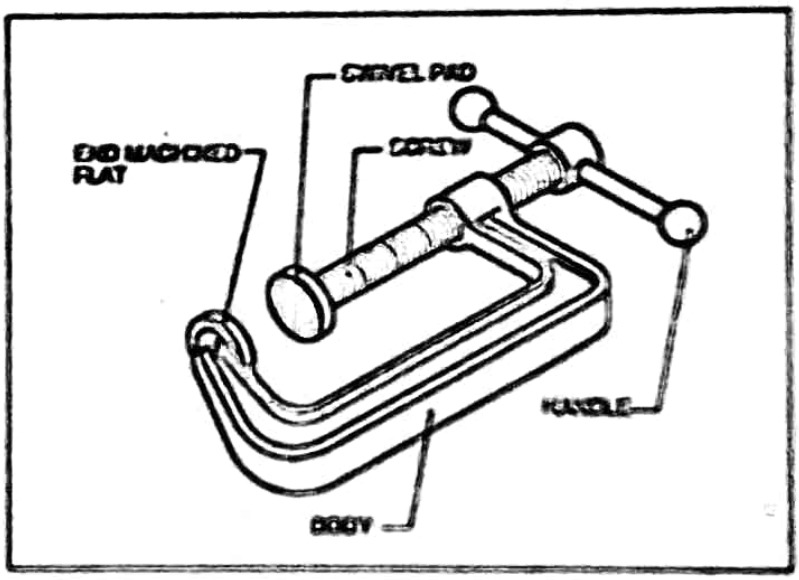

Fig. 66 : 'C' Clamp

2.19 Screw Driver

- The screw driver is used for ordinary work like tighening the screws. It is available in length of 50-500 mm.

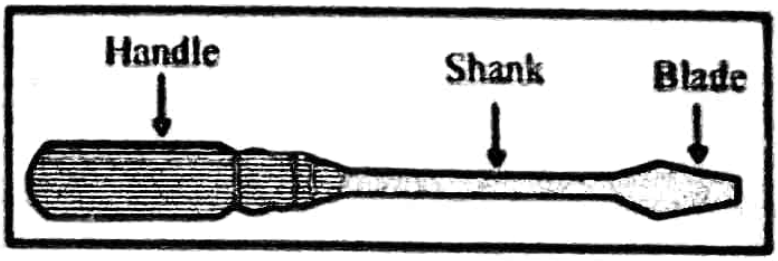

Fig. 67 : Screw Driver

2.23 Tongs

Tongs are used to hold hot metals in the forging shop or, welding shop.

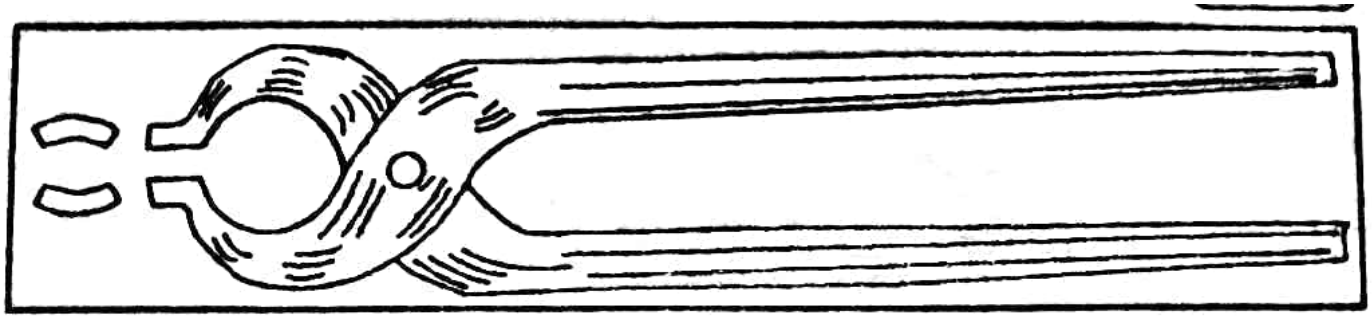

Fig. 71 : Tongs

2.24 Anvil

It is an important tool used in the forging shop. It is made of cast steel. The hot part after being heated during the forging operation is kept on an anvil and hammered.

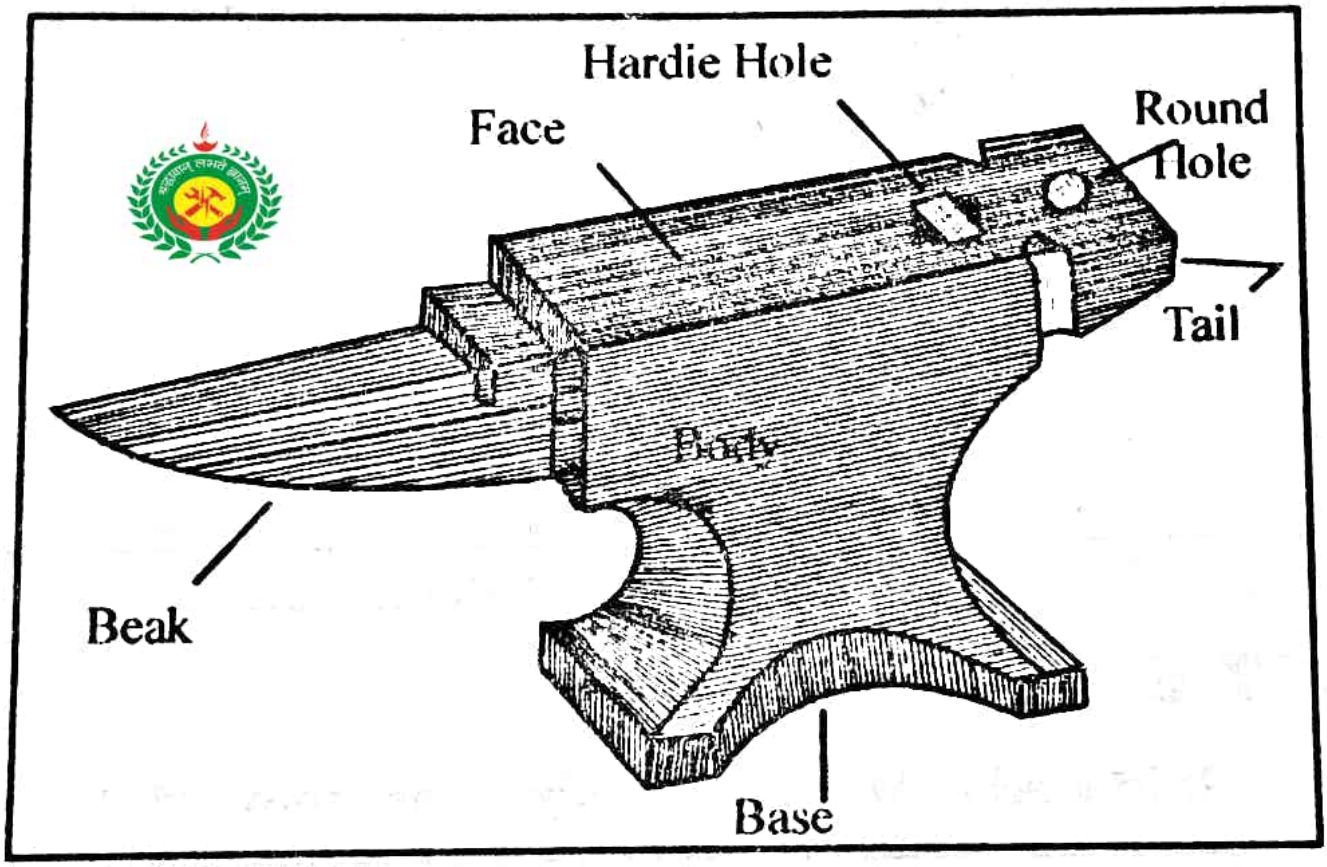

Fig. 72 : Anvil