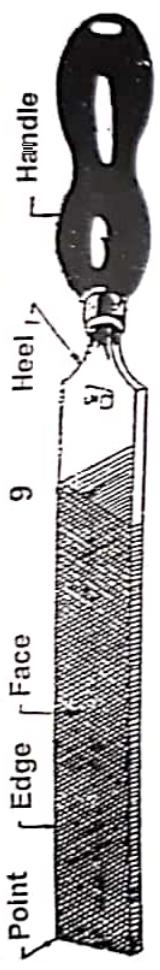
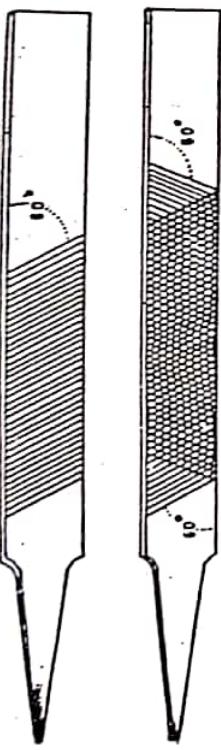


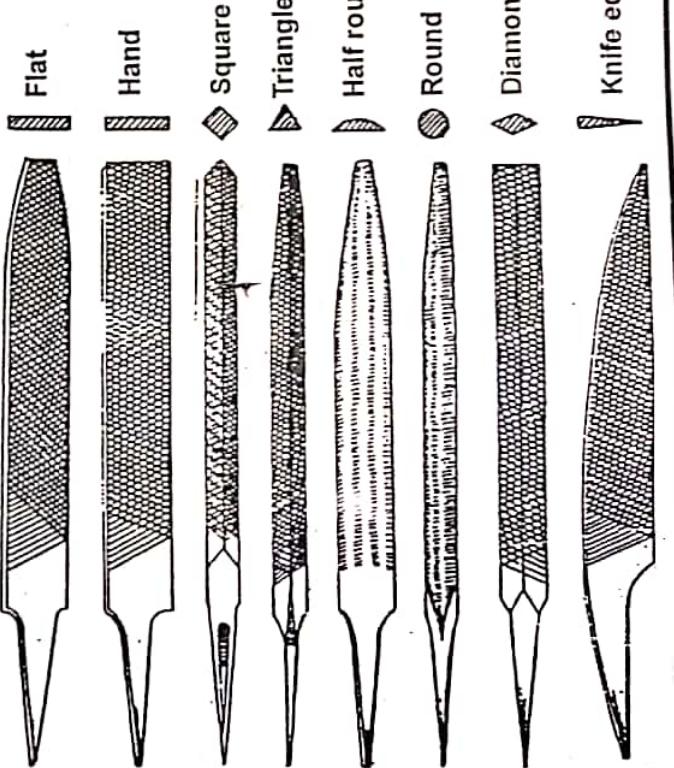
 ***Fitting Jobs*** 



**Fig. 1.**

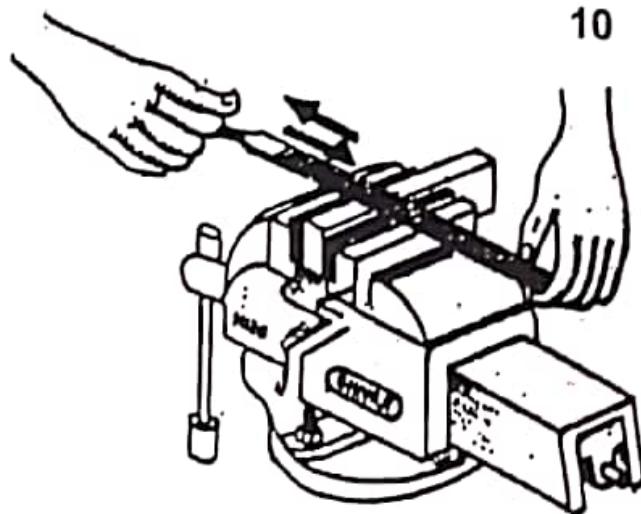
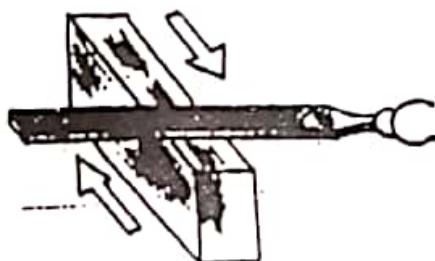
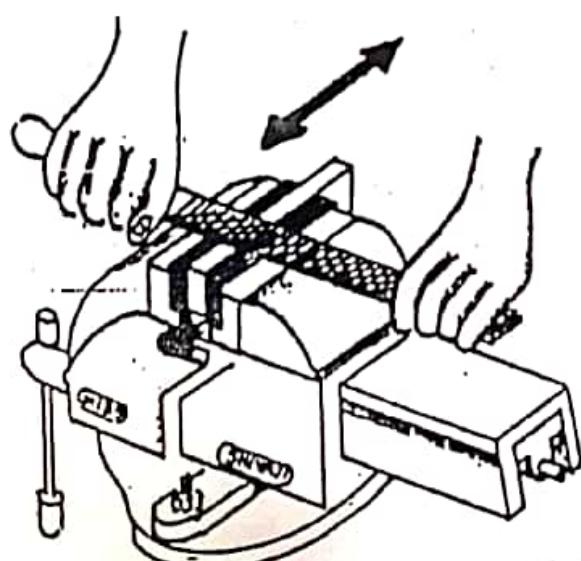
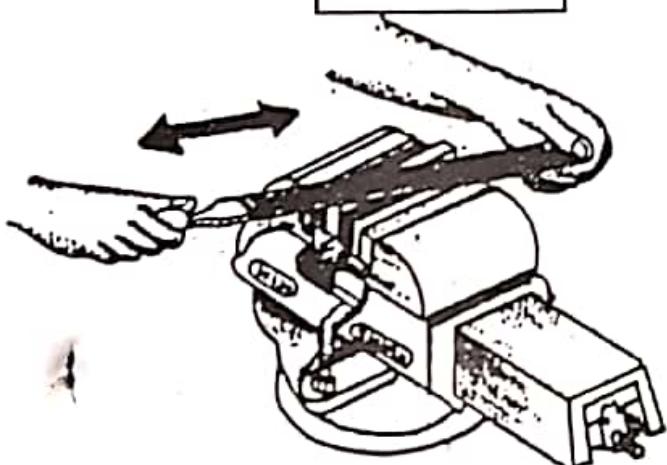
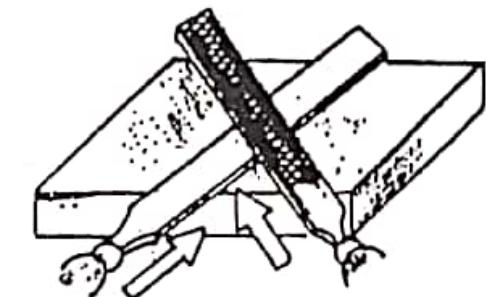


**Fig. 2.**

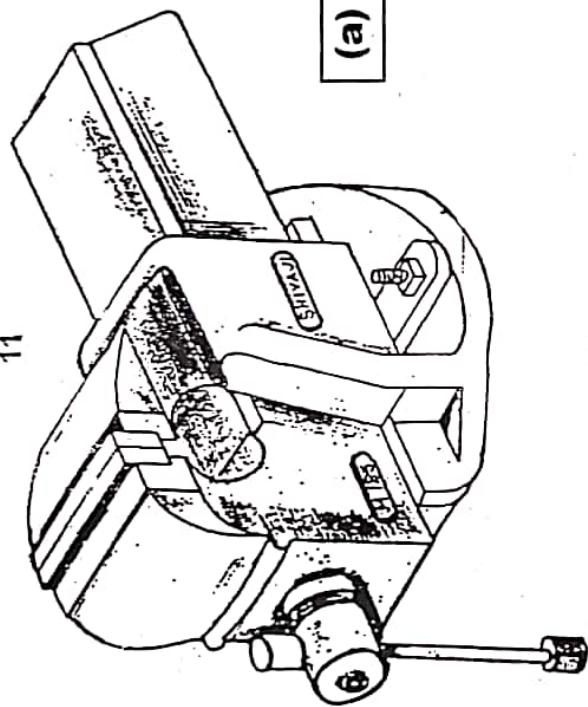


**Fig. 3.**

- Fig. 1** Parts of a File  
**Fig. 2** Single cut and double cut file  
**Fig. 3** Shapes of file

**Fig. 4.(a)****Fig. 4.(b)****Fig. 4.(c)****Fig. 4. Method of filing.****(a) Straight filling****(b) Cross filling****(c) Draw filling**

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(a)

(b)

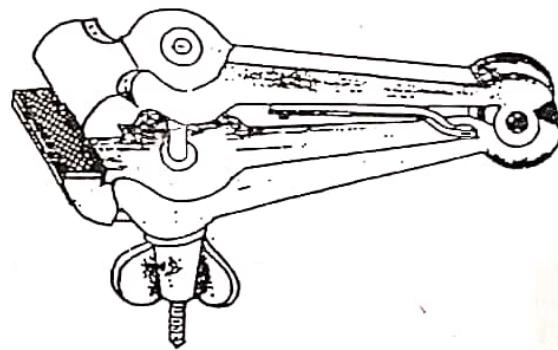
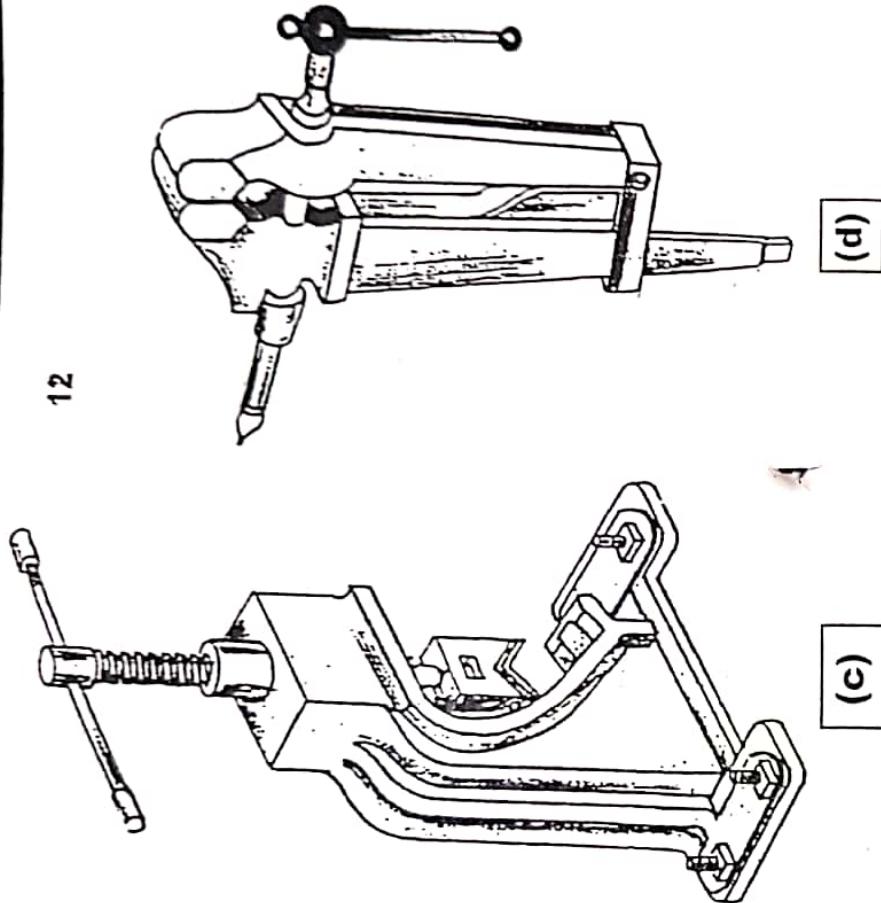


Fig. 5. Vices

(a) Bench Vice

(b) Hand Vice

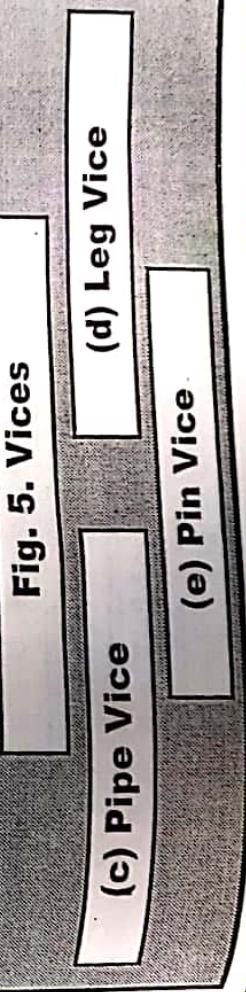


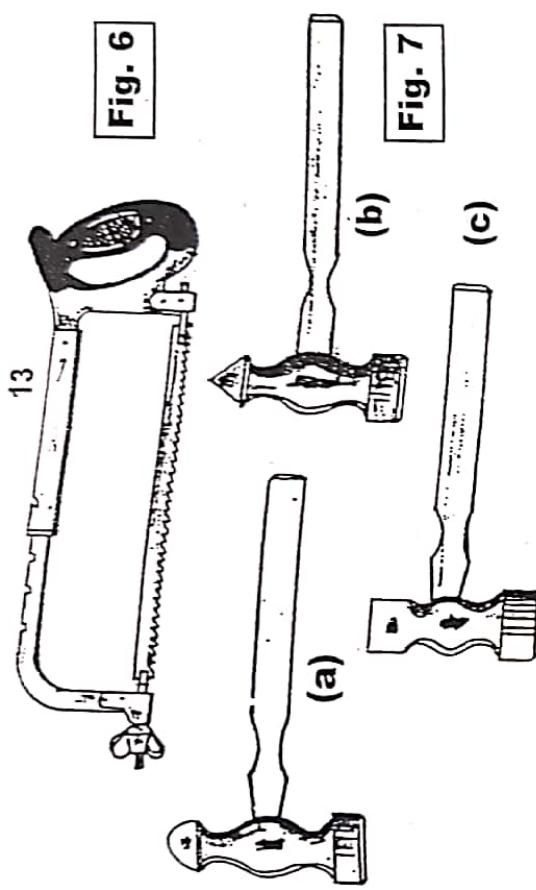
(d)

(c)



(e)

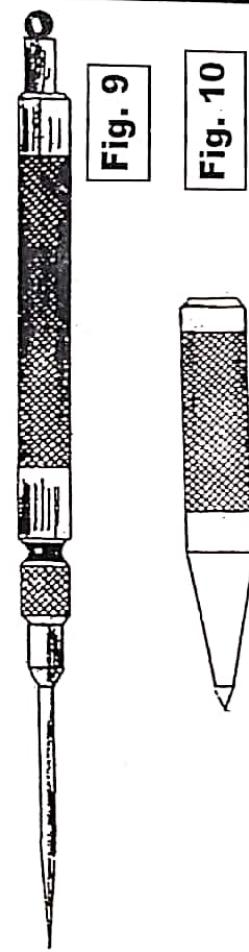




**Fig. 6**

**Fig. 7**

**Fig. 8**

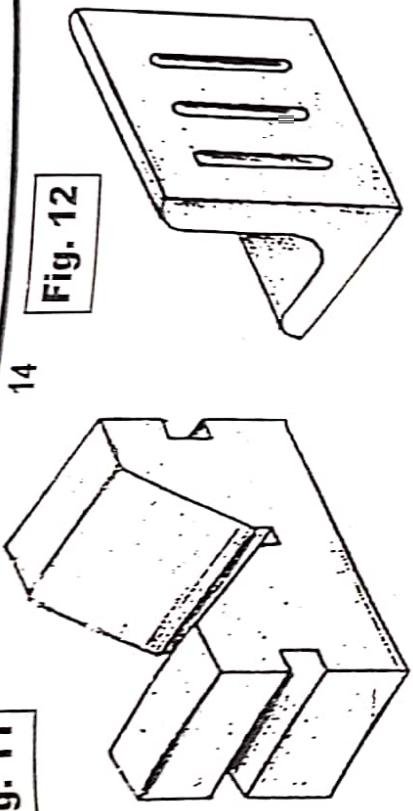


**Fig. 9**

**Fig. 10**

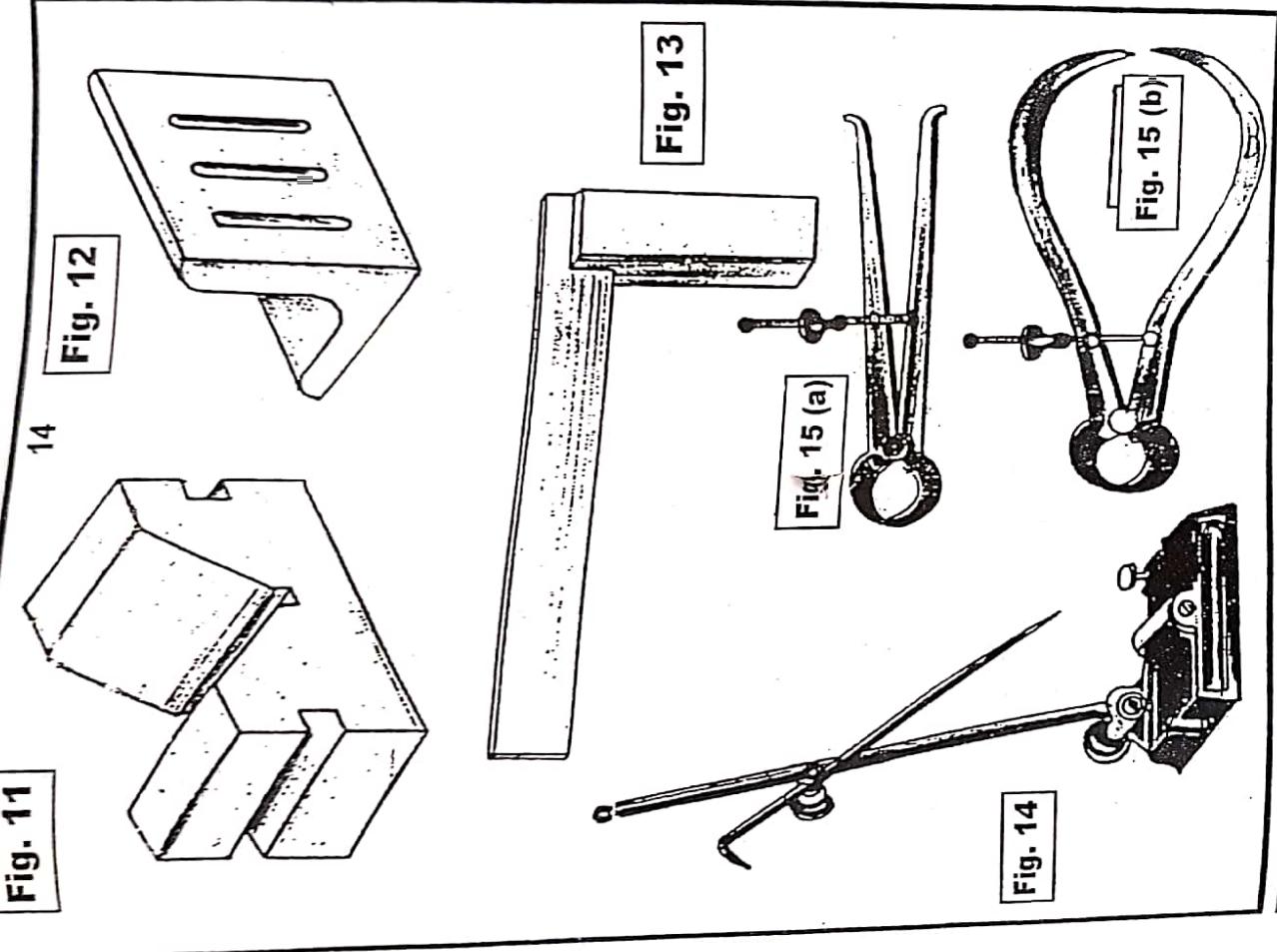
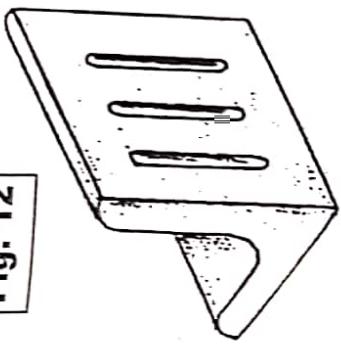
<b>Fig. 6. Hack Saw</b>	<b>Fig. 7(a) Ball peen hammer</b>	<b>Fig. 7(b) Cross peen hammer</b>
	<b>Fig. 7(c) Straight peen hammer</b>	
	<b>Fig. 9 Scriber</b>	<b>Fig. 10 Centre Punch</b>
<b>Fig. 8 Surface Plate</b>		

**Fig. 11**



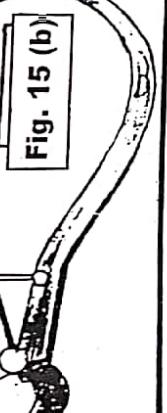
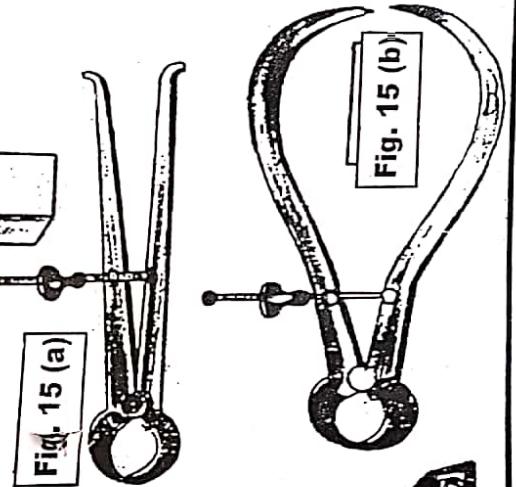
14

**Fig. 12**

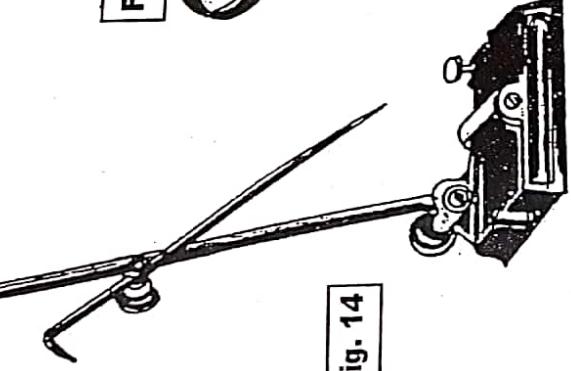


**Fig. 13**

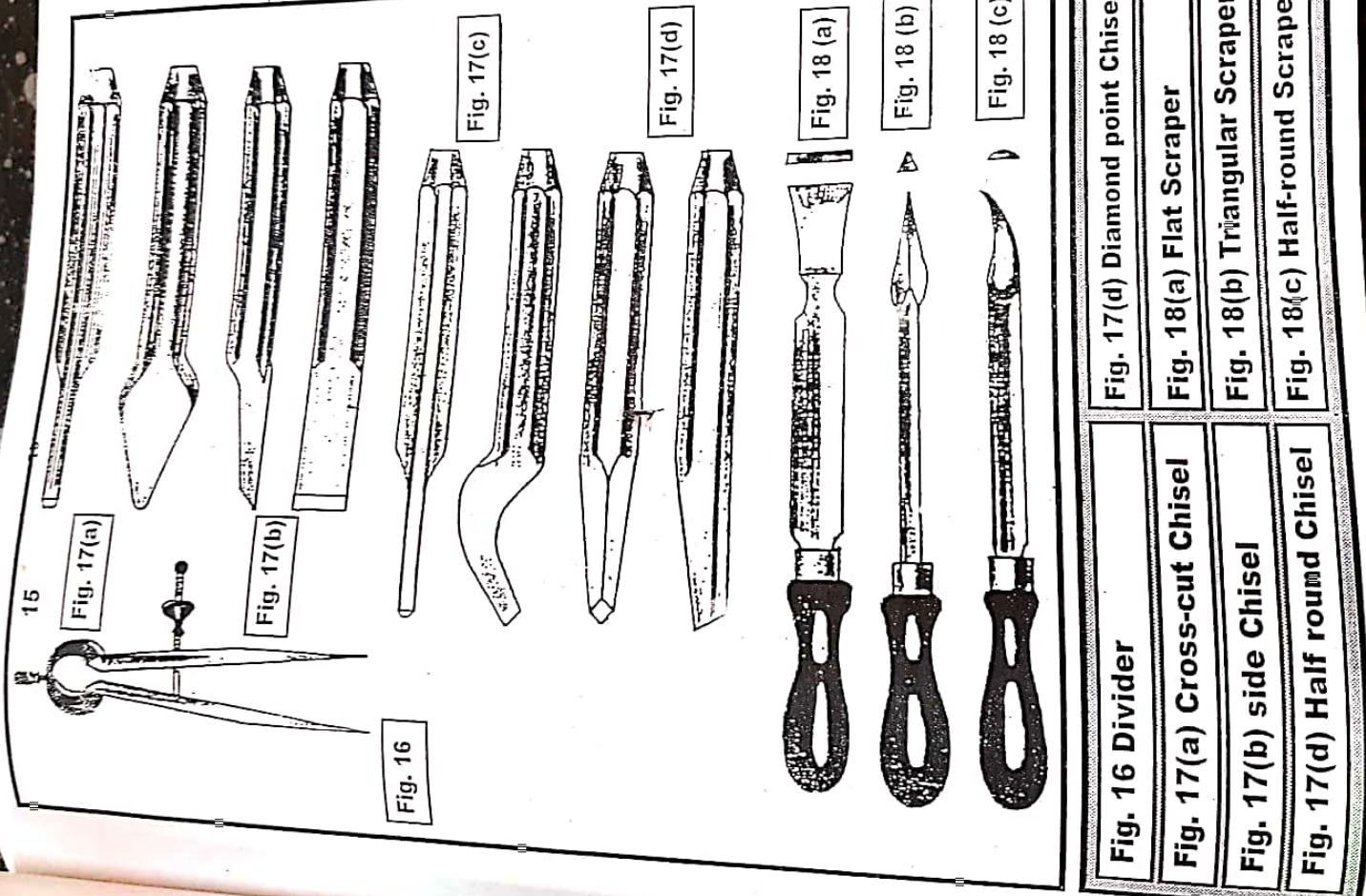
**Fig. 15 (a)**



**Fig. 14**



<b>Fig. 11 V Block</b>	<b>Fig. 14 Marking Block</b>
<b>Fig. 12 Angle Plate</b>	<b>Fig. 15(a) Inside Caliper</b>
<b>Fig. 13 Try Square</b>	<b>Fig. 15(b) Outside Caliper</b>



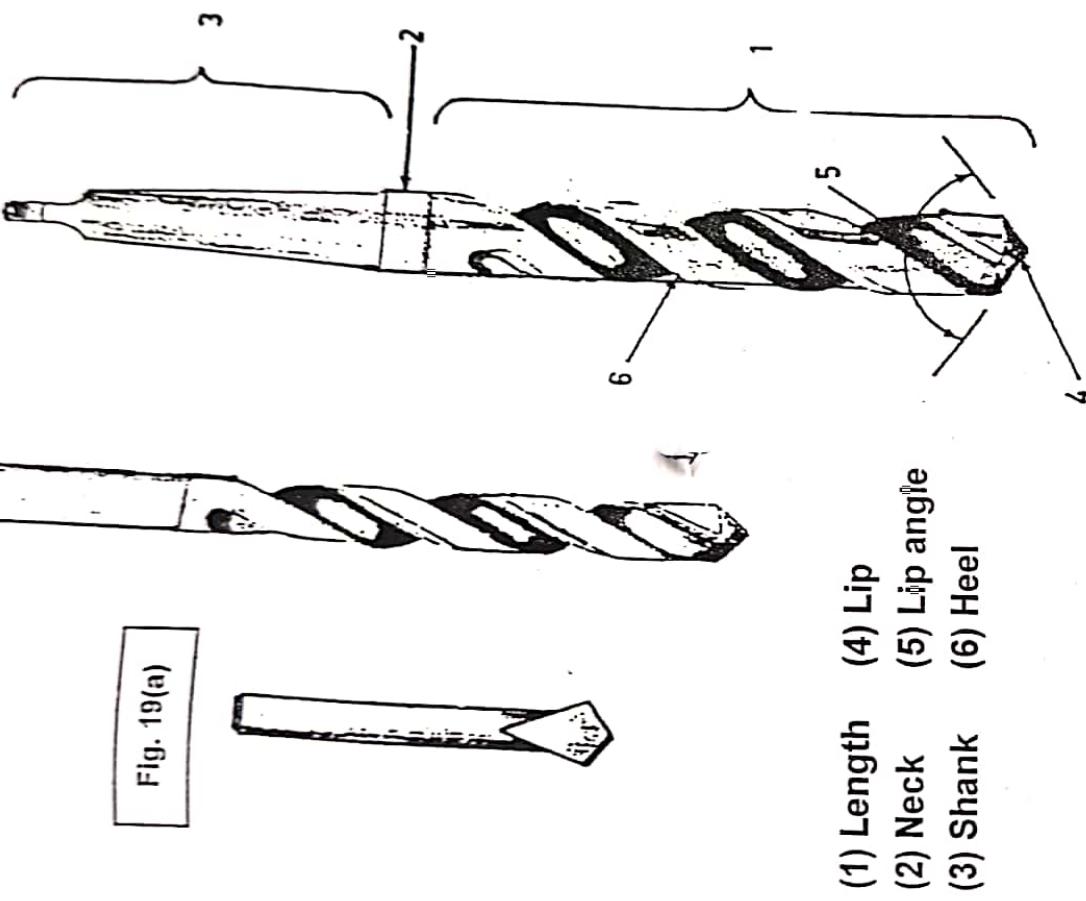
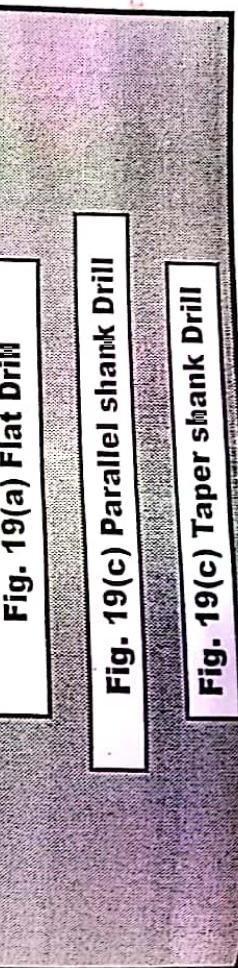


Fig. 19(a)



17

- 1 Base
- 2 Pillar
- 3 Table
- 4 Bracket
- 5 Drill Head
- 6 Drill Spindle
- 7 Gear Case
- 8 Motor

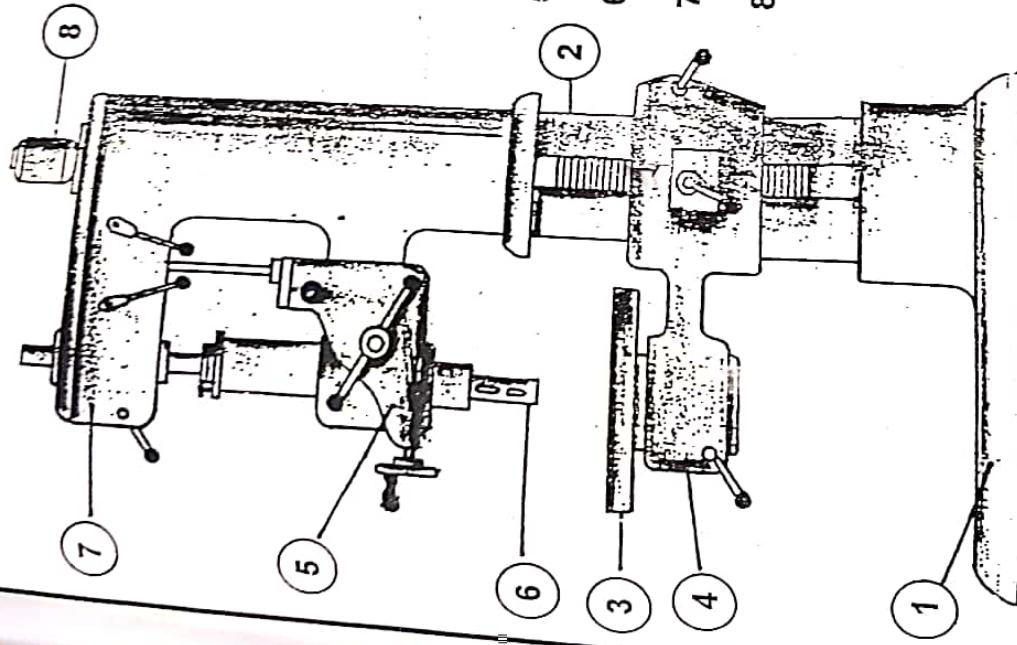


Fig. 20

**Pillar Drilling Machine**

18

Fig. 21

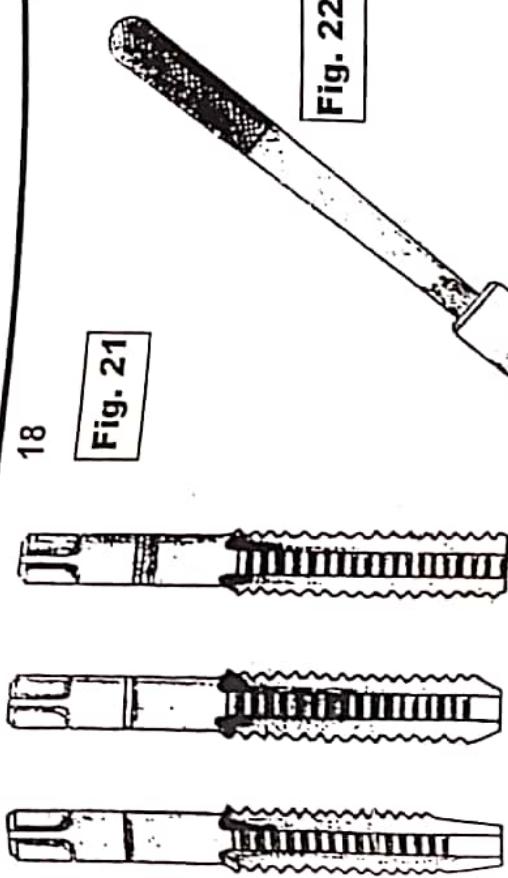


Fig. 22

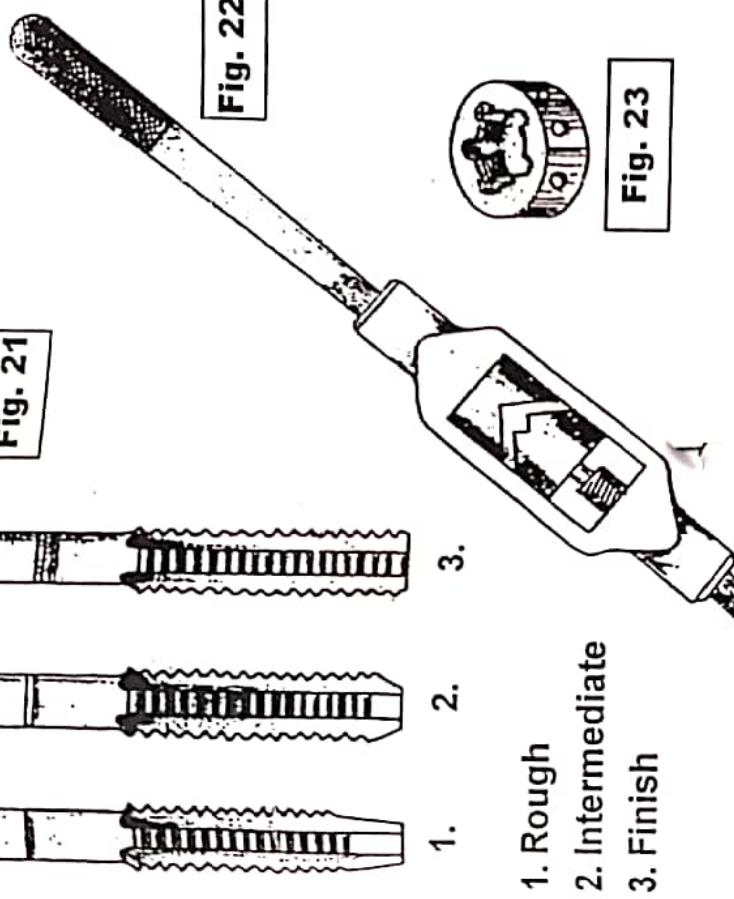


Fig. 23



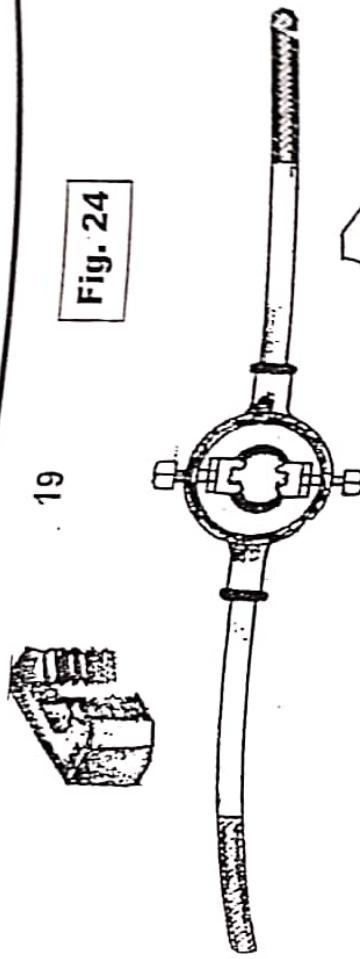
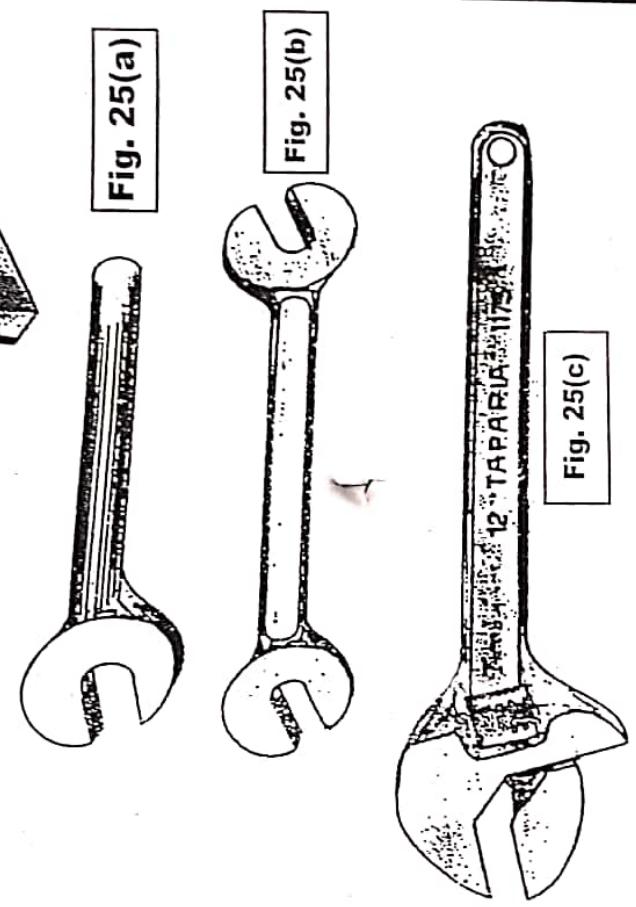
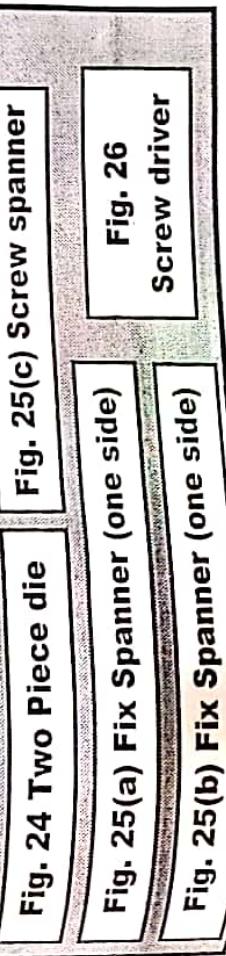
Fig. 23(b)

Fig. 21 Tap Set

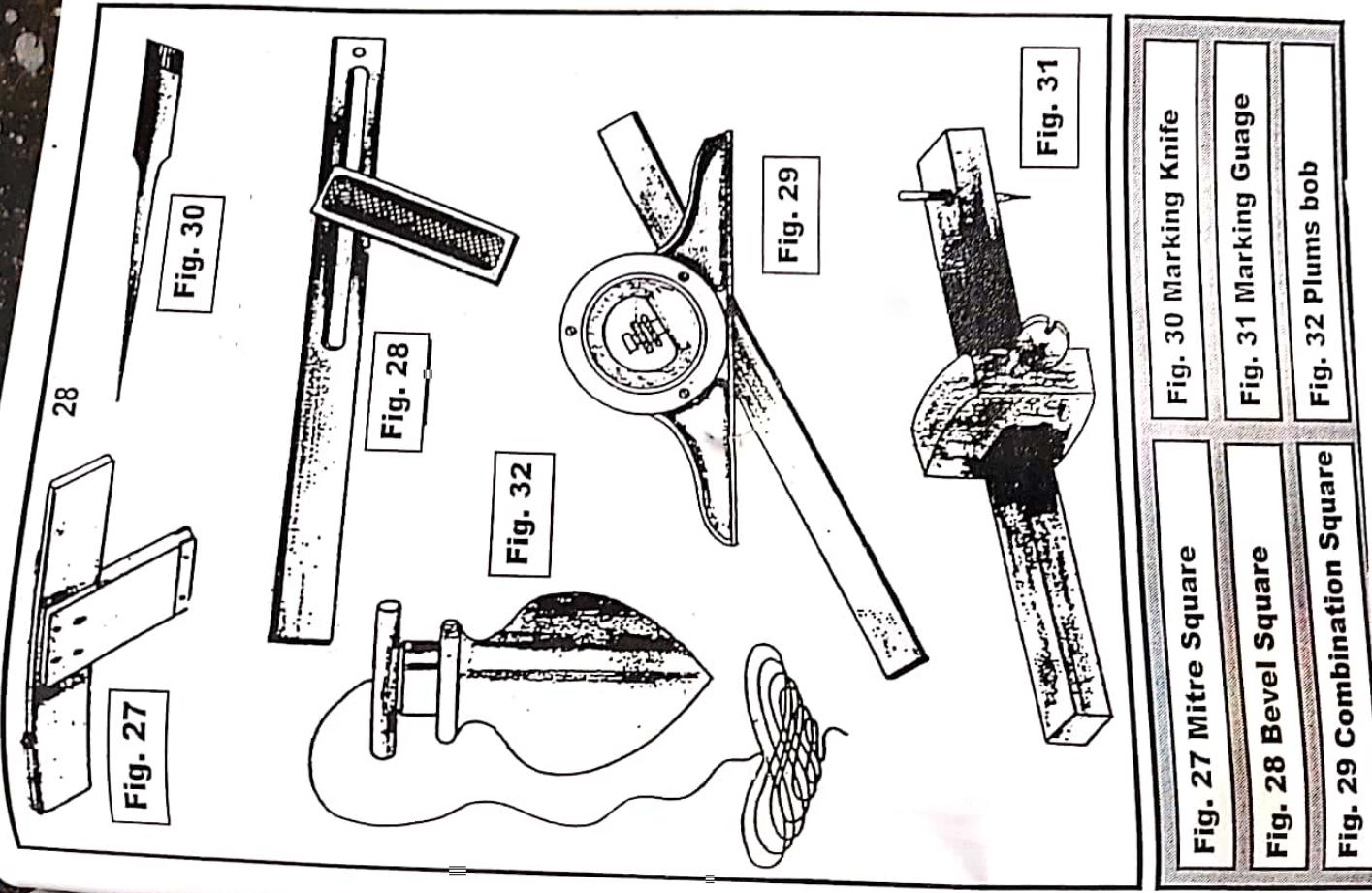
Fig. 23(a) Solid die

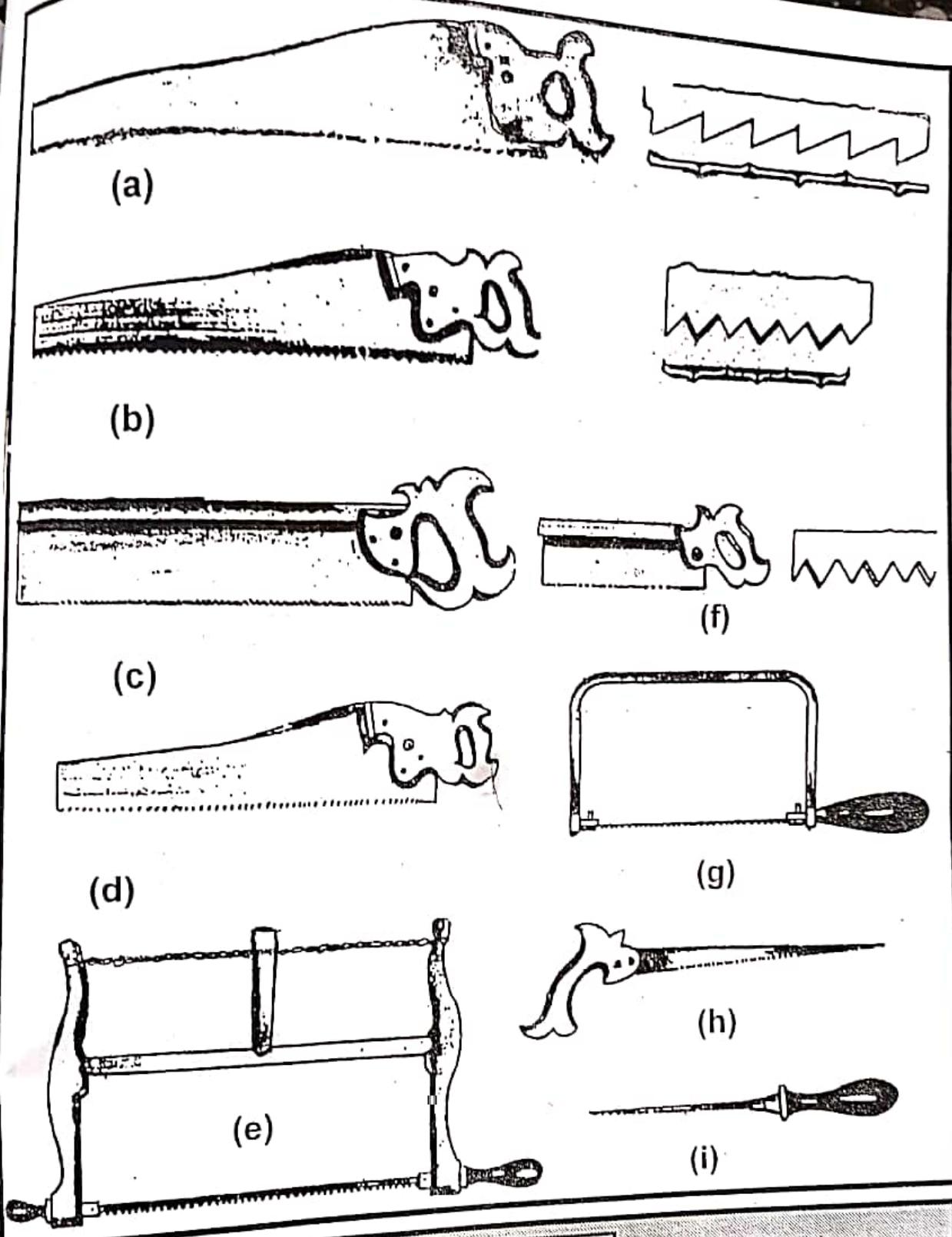
Fig. 22 Wrench

Fig. 23(b) Adjustable Split die

**Fig. 24****Fig. 25(a)****Fig. 25(b)****Fig. 25(c)****Fig. 26**







**Fig. 33 Saws**

(a) Rip Saw

(b) Cross cut hand Saw

(c) Tenon or Back saw

(d) Panel Saw

(e) Bow Saw

(f) Dovetail Saw

(g) Coping Saw

(h) Compass Saw

(i) Pad or key hole Saw

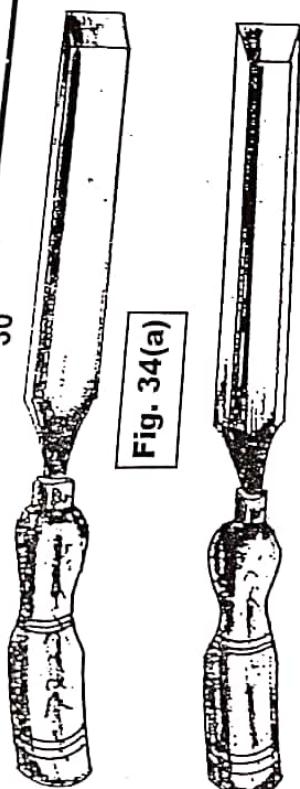


Fig. 34(a)

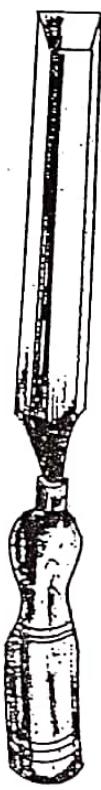


Fig. 34(b)

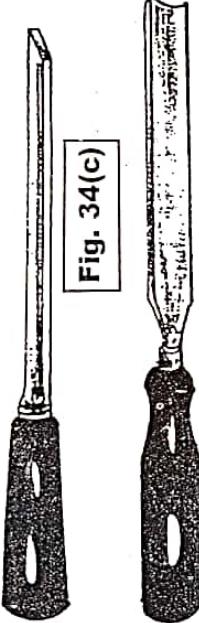


Fig. 34(c)



Fig. 35(a)



Fig. 35(b)

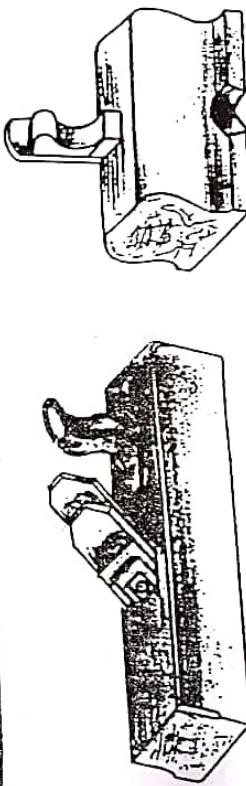


Fig. 36(a)

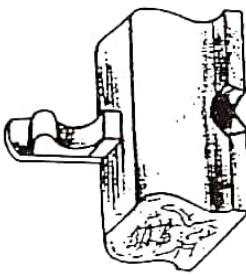


Fig. 36(b)

Fig. 34(a) Fitter Chisel	Fig. 35(b) Inside Gouge
Fig. 34(b) Bevelled edge fitter Chisel	Fig. 36(a) Jack Plane
Fig. 34(c) Mortise Chisel	Fig. 36(b) Router
Fig. 35(a) Outside Gouge	Fig. 35(b) Router



Fig. 36(d)

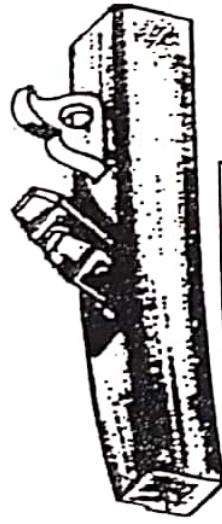


Fig. 36(c)



Fig. 36(e)

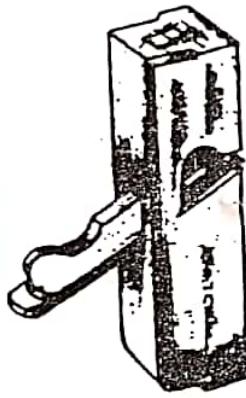


Fig. 36(f)



Fig. 37(b)

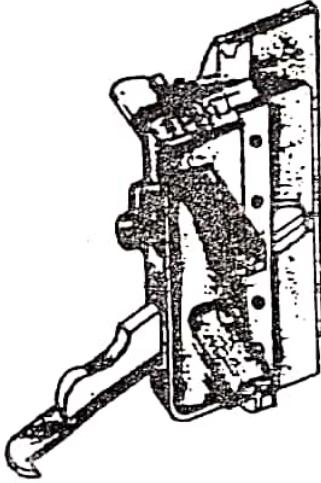


Fig. 36(g)



Fig. 37(a)

Fig. 36(c) Trying Plane	Fig. 36(g) Plough Plane
Fig. 36(d) Smoothing Plane	Fig. 37(a) Gimlet
Fig. 36(e) Spoke shave	Fig. 37(b) Bradawl
Fig. 36(f) Rebate Plane	

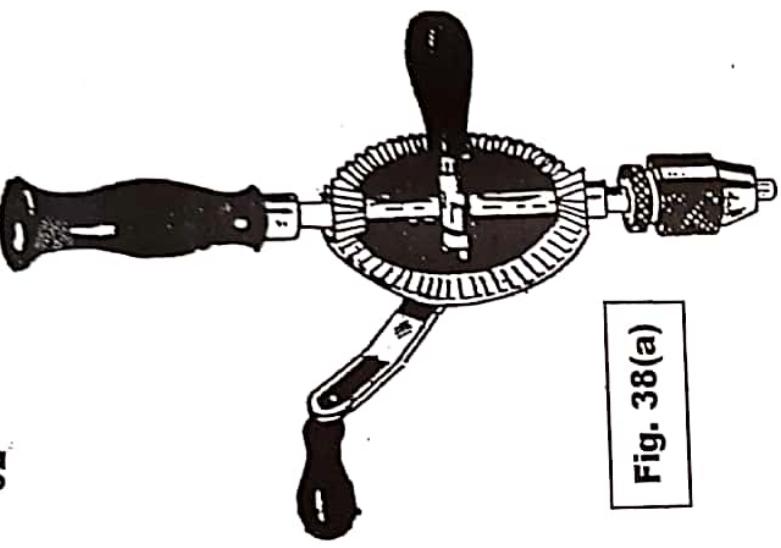


Fig. 37(c)

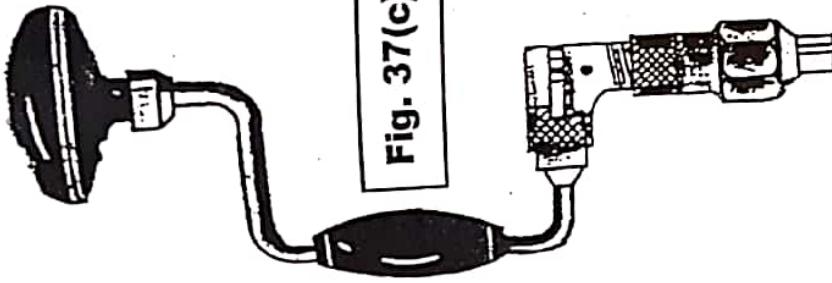


Fig. 38(a)

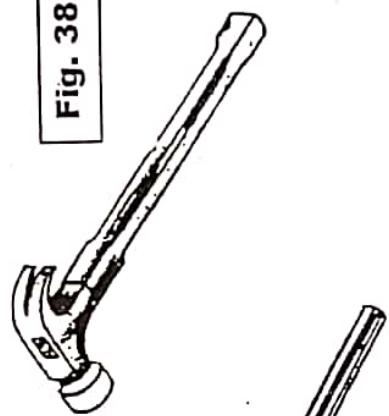


Fig. 38(b)

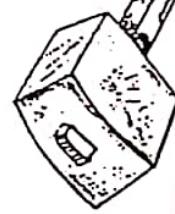


Fig. 38(a) Claw Hammer

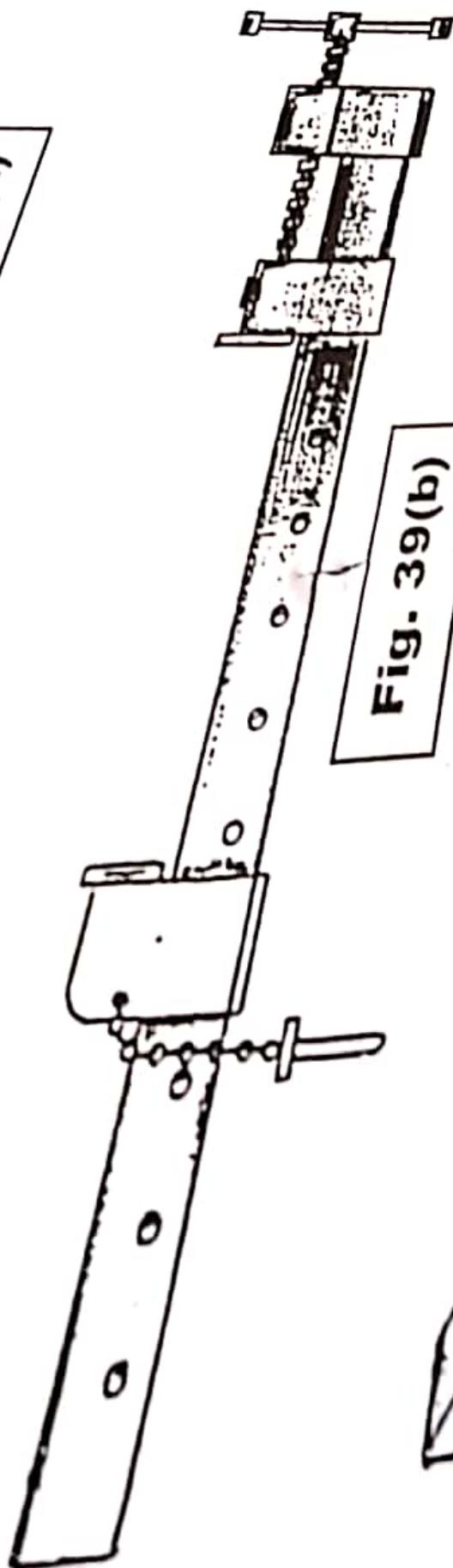
Fig. 37(c) Ratchet Brace

Fig. 37(d) Wheel Brace

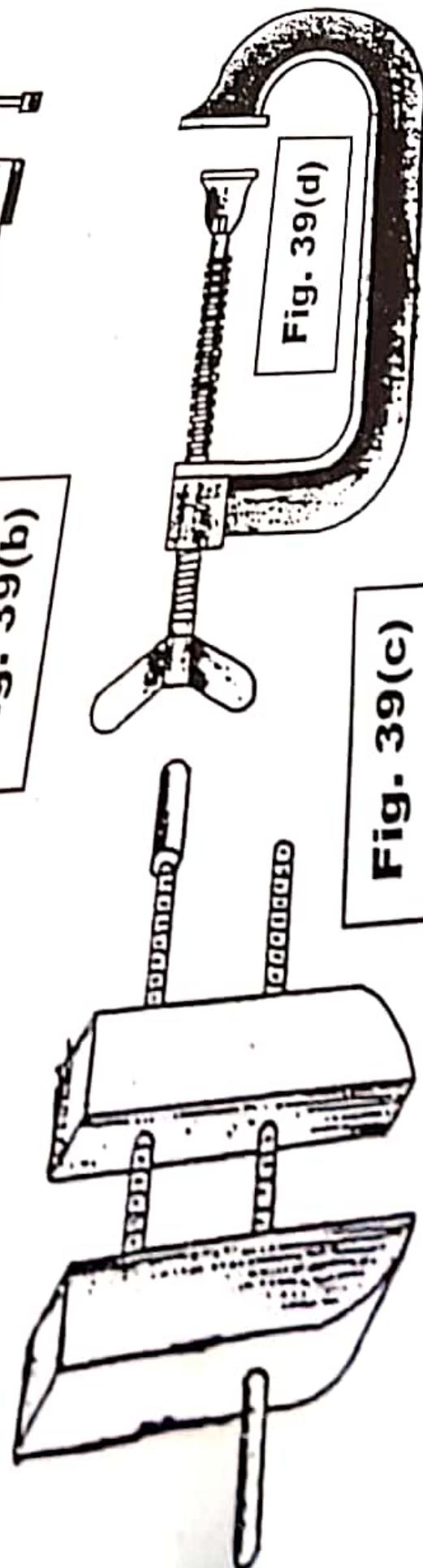
Fig. 38(b) Mallet



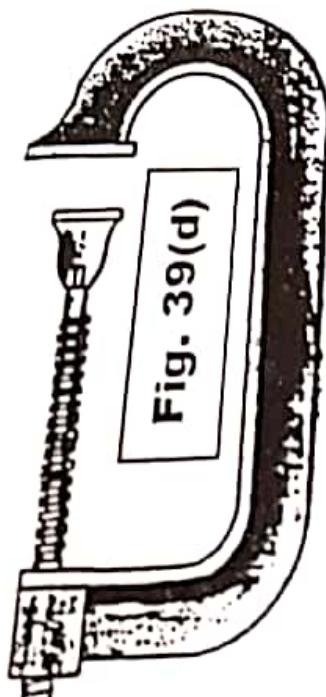
**Fig. 39(a)**



**Fig. 39(b)**



**Fig. 39(c)**



**Fig. 39(d)**



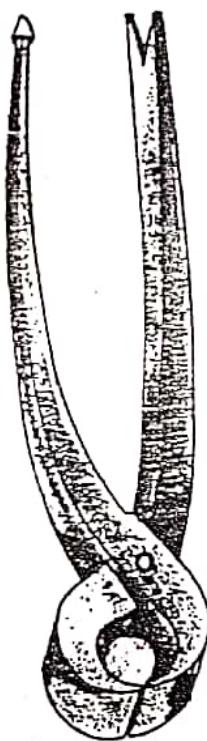
**Fig. 40(a)**



**Fig. 40(b)**



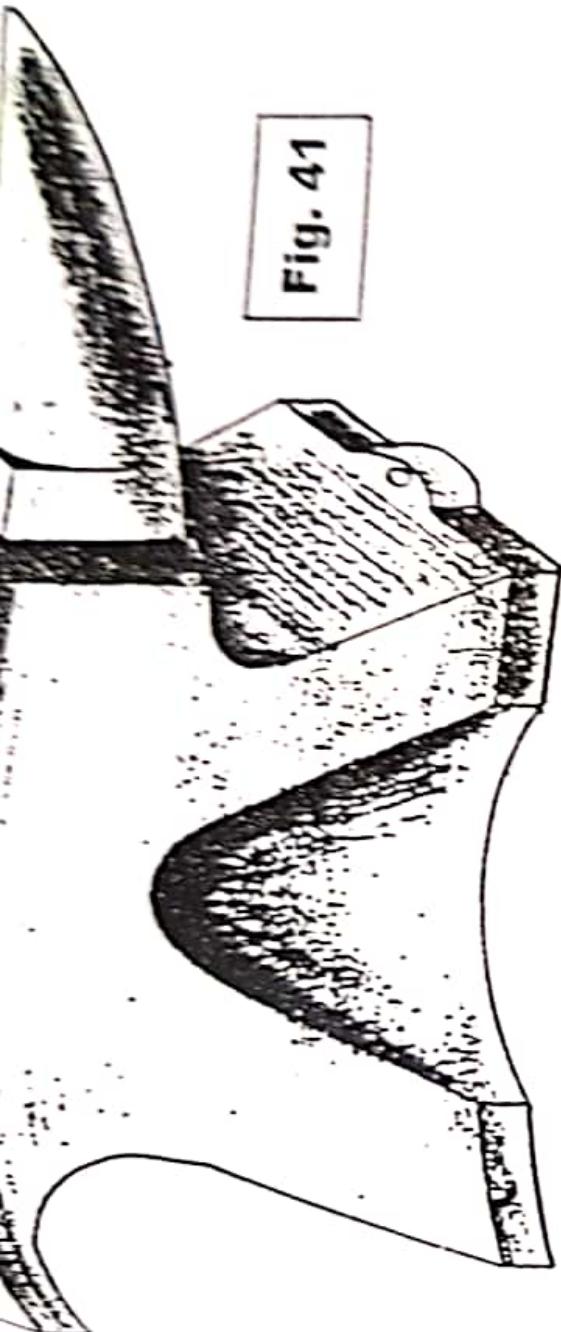
**Fig. 40(c)**



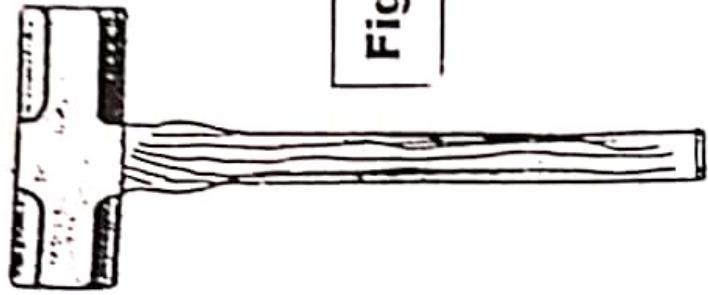
**Fig. 40(d)**

<b>Fig. 40(a) File</b>	<b>Fig. 40(c) Scraper</b>
<b>Fig. 40(b) Rasp</b>	<b>Fig. 40(d) Pincer</b>
<b>Fig. 40(e) Box</b>	

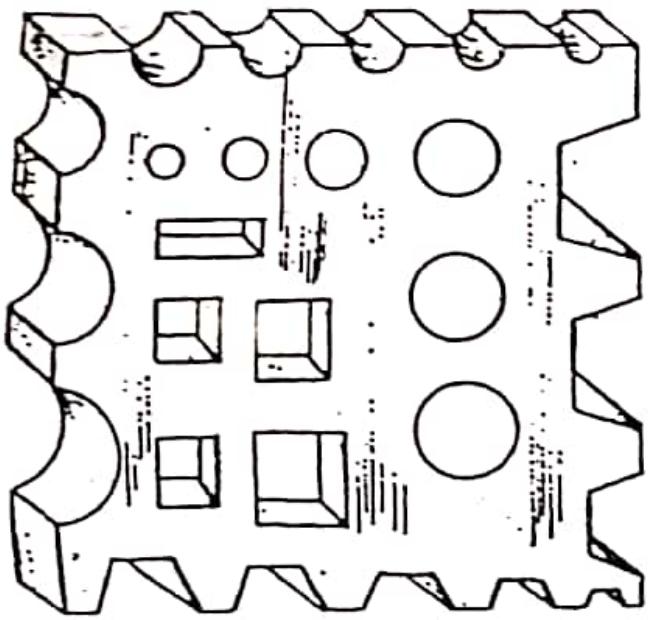
Smithy Jobs



**Fig. 41**

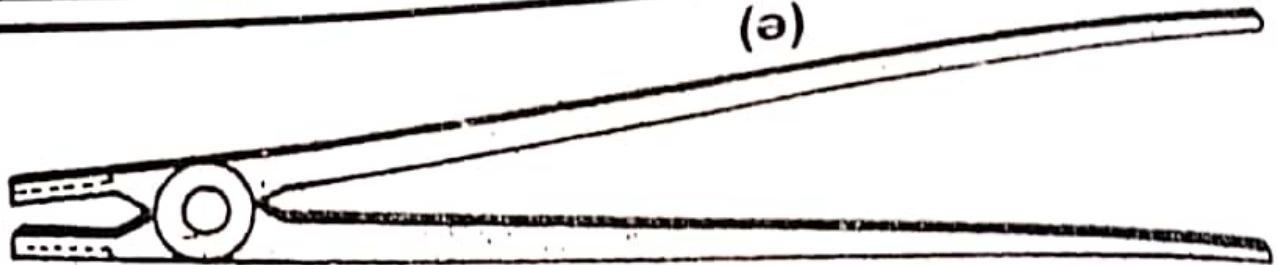


**Fig. 43**



**Fig. 42**

Fig. 44 Tongs

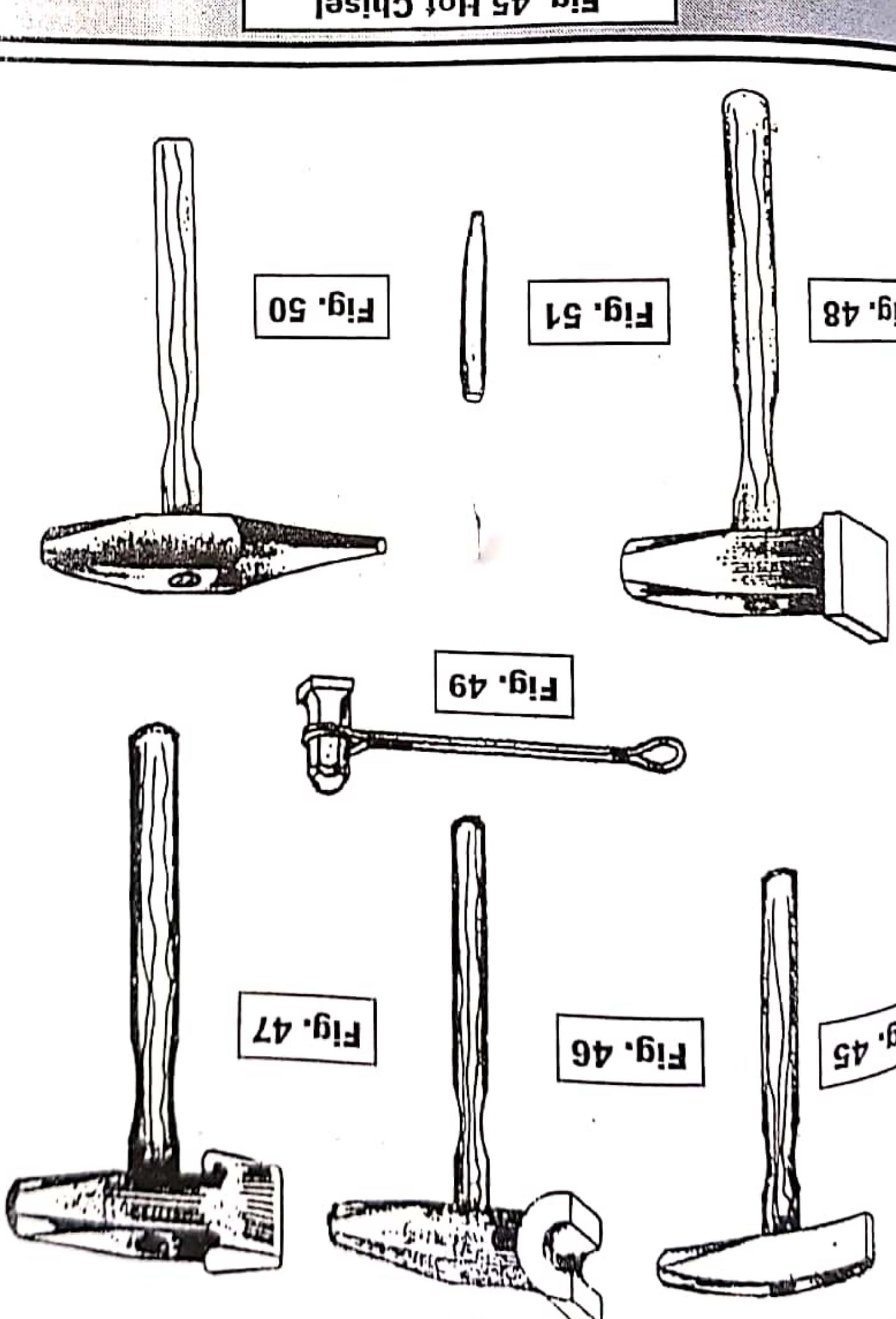


(a)

(p)

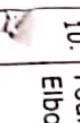
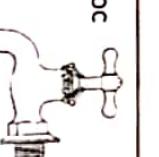
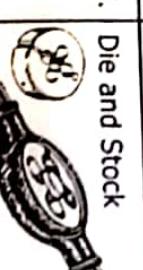
(P)

**Fig. 46 Swage**



# **Assembly Jobs**

Description / Part name	Use
Plug	It has external threads and is used with a cross
Reducer Elbow type	It is used to connect two pipes of different diameter.
Nipple of Coupler	It is a small length pipe having outside threads at the end. It is used to get extra length of the pipe.
Full way Coupler	The valve is used to ON/OFF flow of fluids.
T-Joint	It is used to connect a branch pipe at right angles to the main pipe line. The tee may be of equal size or reducing size
Union	It is used to connect two pipes and can be disconnected easily when required.
Elbow	It is used to connect pipes at right angles. The elbow may be of equal size or of reducing size
Half turn Valve	The opening of stops or valves on instruments like the trumpet.
Four way Joint	It join the pipe in four direction.

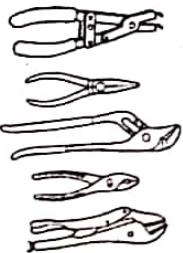
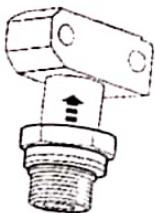
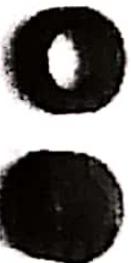
Sr. No.	Description / Part name	Use
10.	Four Way Elbow	 It join the pipe in four direction but one of the line right angle to the remaining line
11.	Three Way Elbow	 It join the pipe in three directions but one of them is right angle to the remaining line.
12.	Hexagonal Plug	 It is used to close line. The head of the plug is hexagonal.
13.	Flow Cloc	 To get delivery of fluid.
14.	Coupler (Coupling)	 Two pipe lines of equal diameter and in axial alignment can be joined by a coupler (Coupling). It is a short sleeve with internal thread.
15.	Pipe Vice	 The pipe vice is most common tool for holding work. The pipe vice is used for holding round section metal, tubes, pipes etc.
16.	Pipe Spanner	 Pipe spanner is used to tighten or loosen nut, bolt, screws, or pipe plugs, etc.
17.	Die and Stock	 Dies are used to cut threads on a round bar of metal. Solid and adjustable dies are commonly used. A circular adjustable split die is also used for threading.

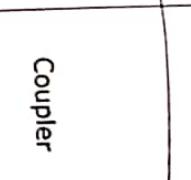
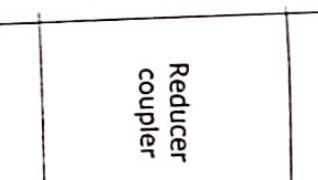
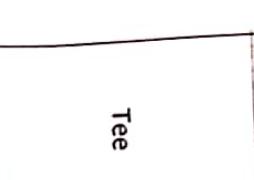
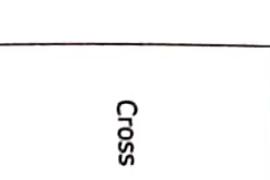
Sr. No.	Part Name
1.	Aluminium plate 8mm
2.	Aluminium block big
3.	Aluminium block small
4.	Stud
5.	Aluminium pulley (square groove)
6.	Grub bolt
7.	Spur gear 2 nos
8.	Round head cap bolt (screws)

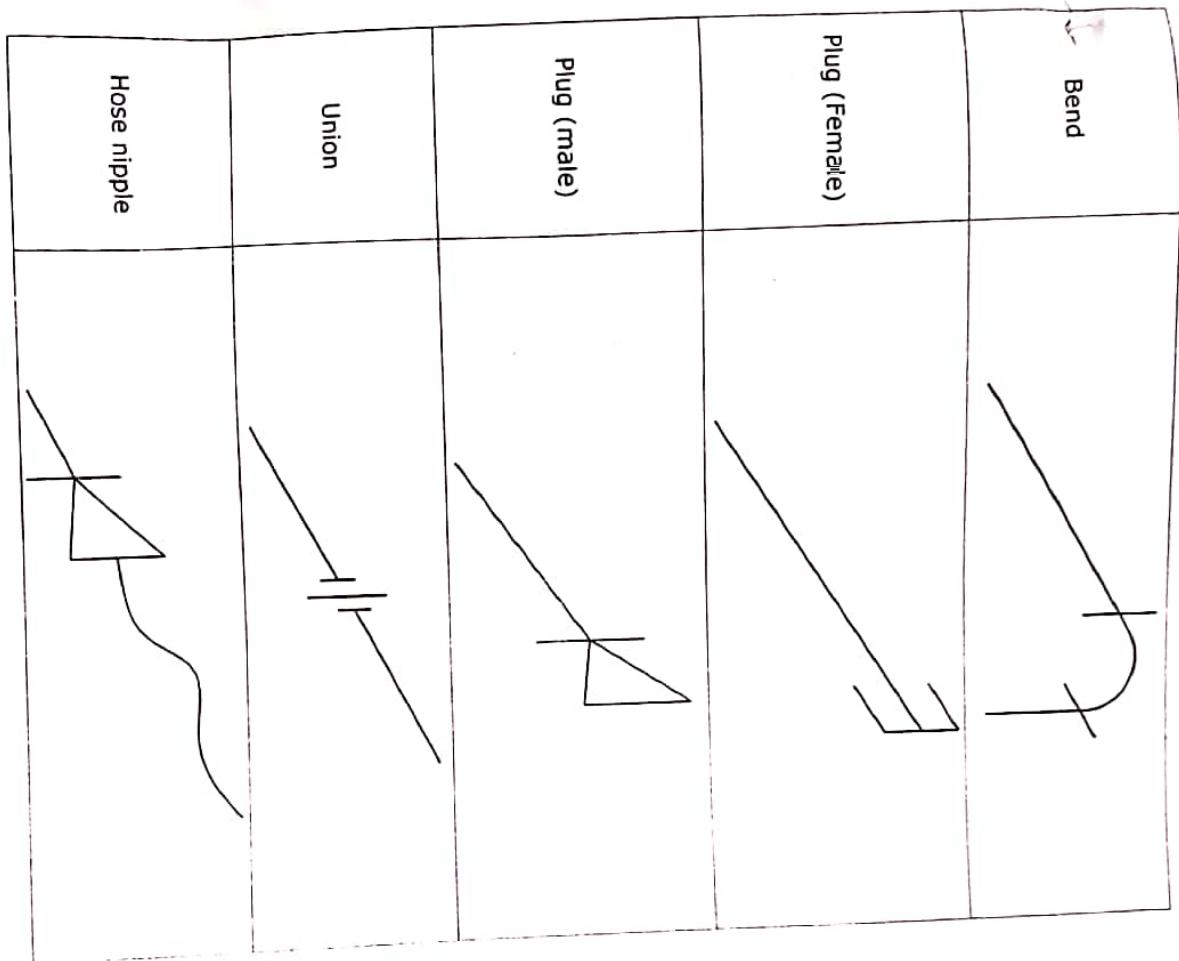
Sr. No.	Part Name
9.	Binding (pan head)
10.	 Counter sunk screw
11.	 Hexagon nut
12.	 Wing nut
13.	 Long stud (aluminium)
14.	 Lock washer
15.	 Phillips head screw

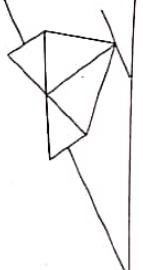
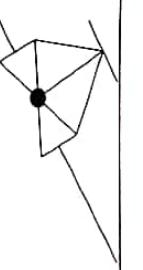
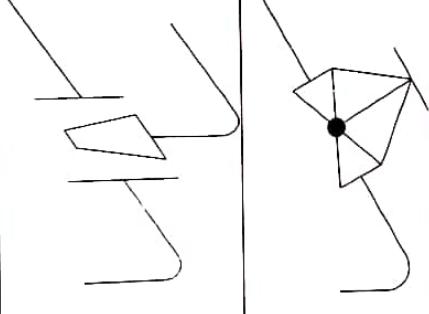
Sr. No.	Part Name
16.	Hexagon with washer bolt
17.	Hex joint washer pulley
18.	Counter sunk Allen bolt (cap bolt)
19.	Aluminium flat long & short (screws)
20.	"T" bolt
21.	Round bolt cap bolt (Allen bolt)
22.	Aluminium adaptor

Sr. No.	Part Name
23.	Aluminium washer
24.	Bush straight
25.	"T" bolt adaptor
26.	Tool Kit (1) Double Ended Spanner Set
	(2) Screw Driver Set
	(3) Allen key Set
	(4) Grip Plier



Description	Isometric symbol (right face)
Coupler	
Reducer coupler	
90° Elbow	
Tee	
Cross	



Description	Isometric symbol (right face)
Globe valve	
Globe valve	
Water tap	
Water cock	