

# CUTTING TOOLS

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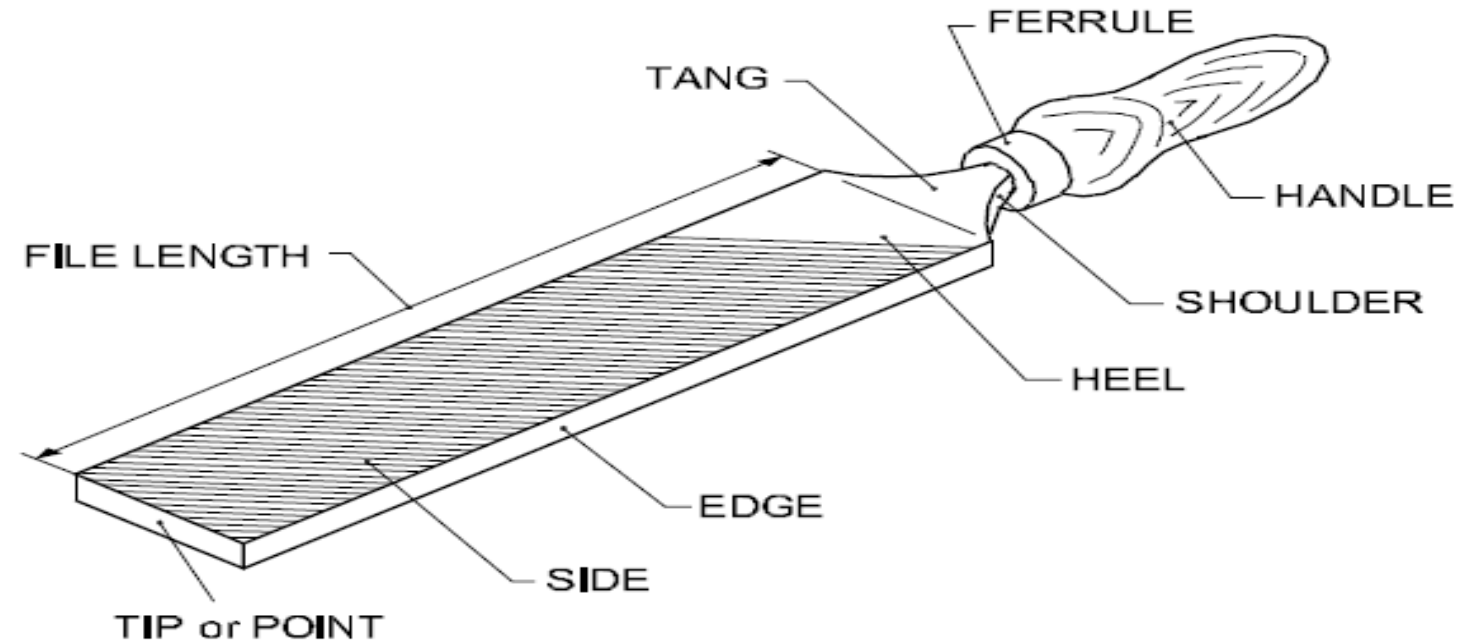
1. FILE
2. CHISEL
3. HACKSAW FRAME WITH BLADE

# FILE

ધાતુ સાથે કામ કરનાર માટે સૌથી અગત્યનું ઓપરેશન ફાઇલીંગ છે. ફાઇલ અબ્રેસન પદ્ધતિ વડે જોબ પરથી મટીરિયલ દુર કરે છે.

**MATERIAL** : HIGH CARBAN STEEL OR HIGH GRAINED CAST STEEL

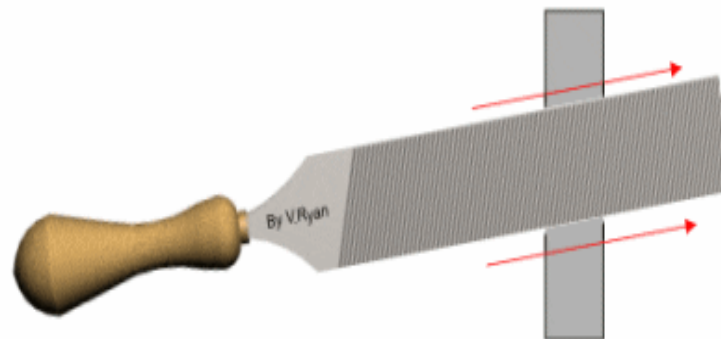
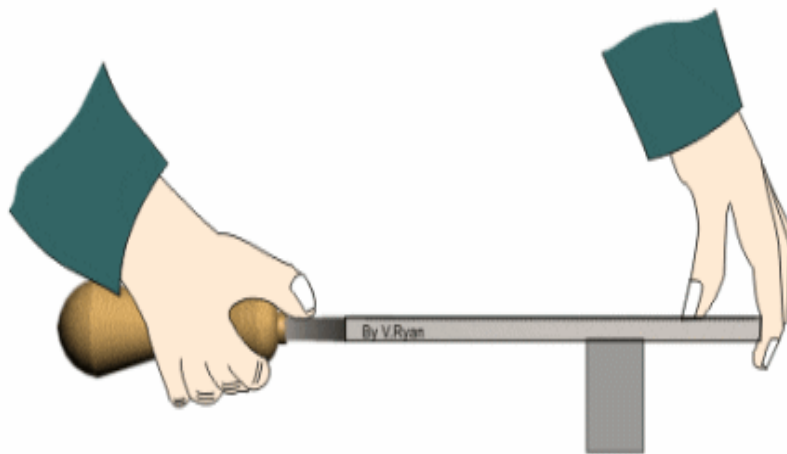
- ✓ PARTS : TIP/POINT
- : FACE/SIDE
- : EDGE
- : HEEL
- : SOLDER
- : TANG
- : HANDLE
- : FERRUL



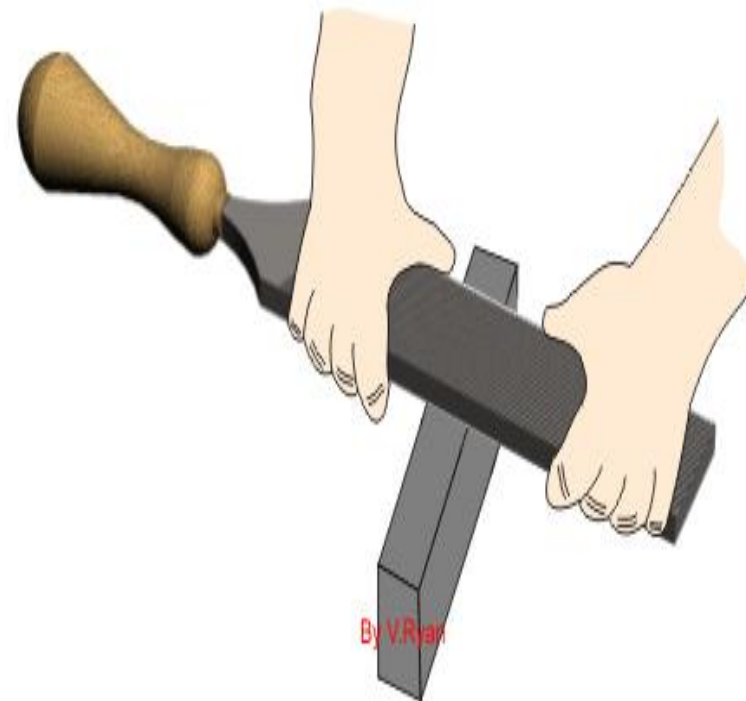
# FILING METHOD



STRAIGHT FILING



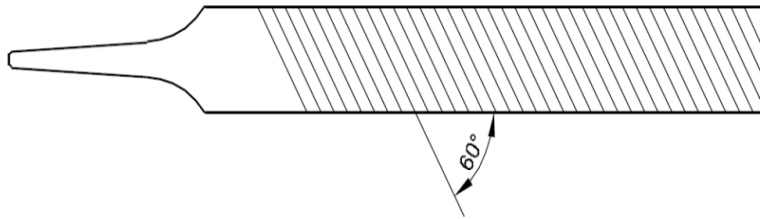
CROSS FILING



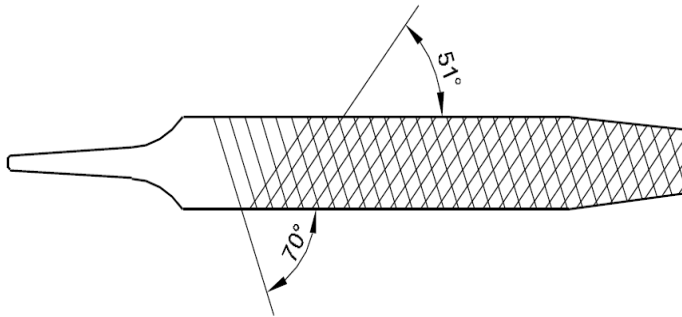
DRAW FILING

# CLASSIFICATION OF FILE (AS PER CUT)

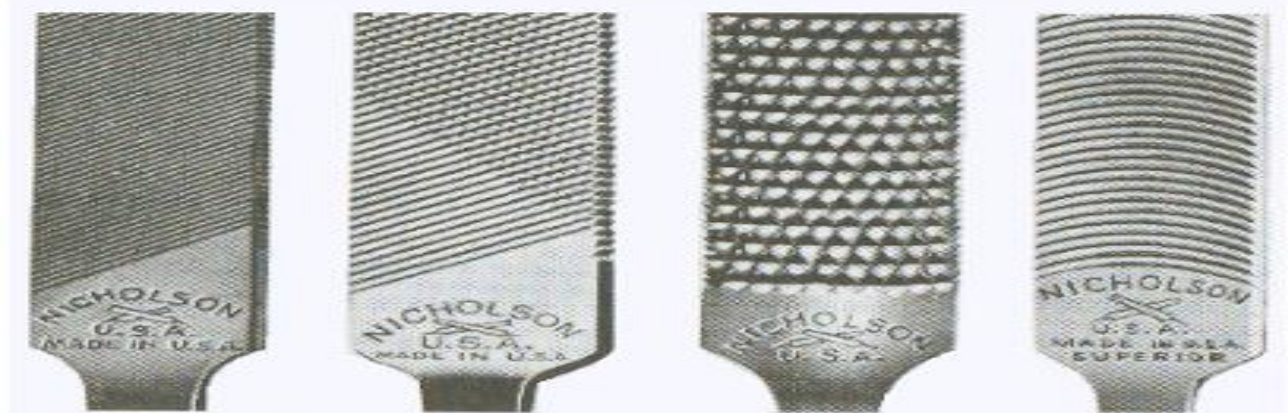
- ✓ AS PER CUT : SINGLE CUT
- : DOUBLE CUT
- : RASP CUT
- : CURVE CUT



SINGLE CUT FILE



DOUBLE CUT FILE

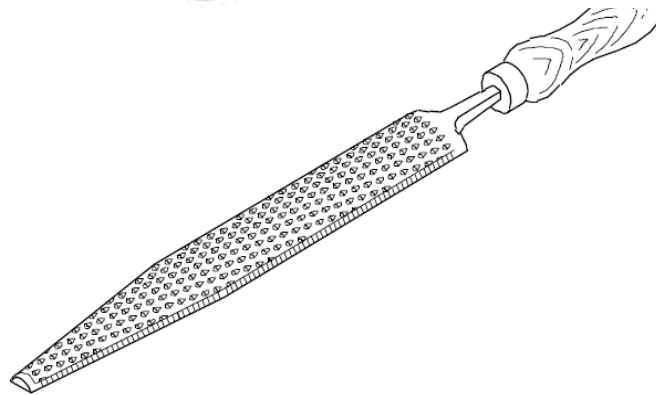


Single Cut

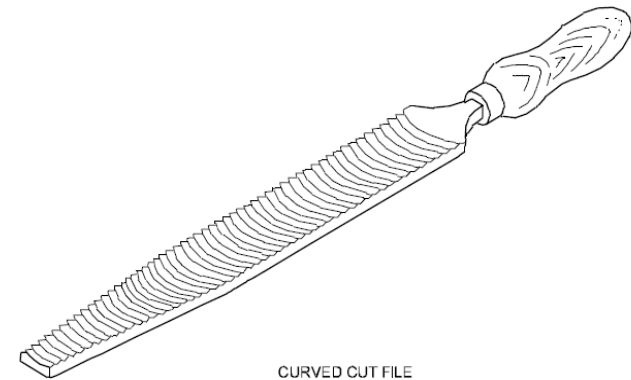
Double Cut

Rasp Cut

Curve Cut



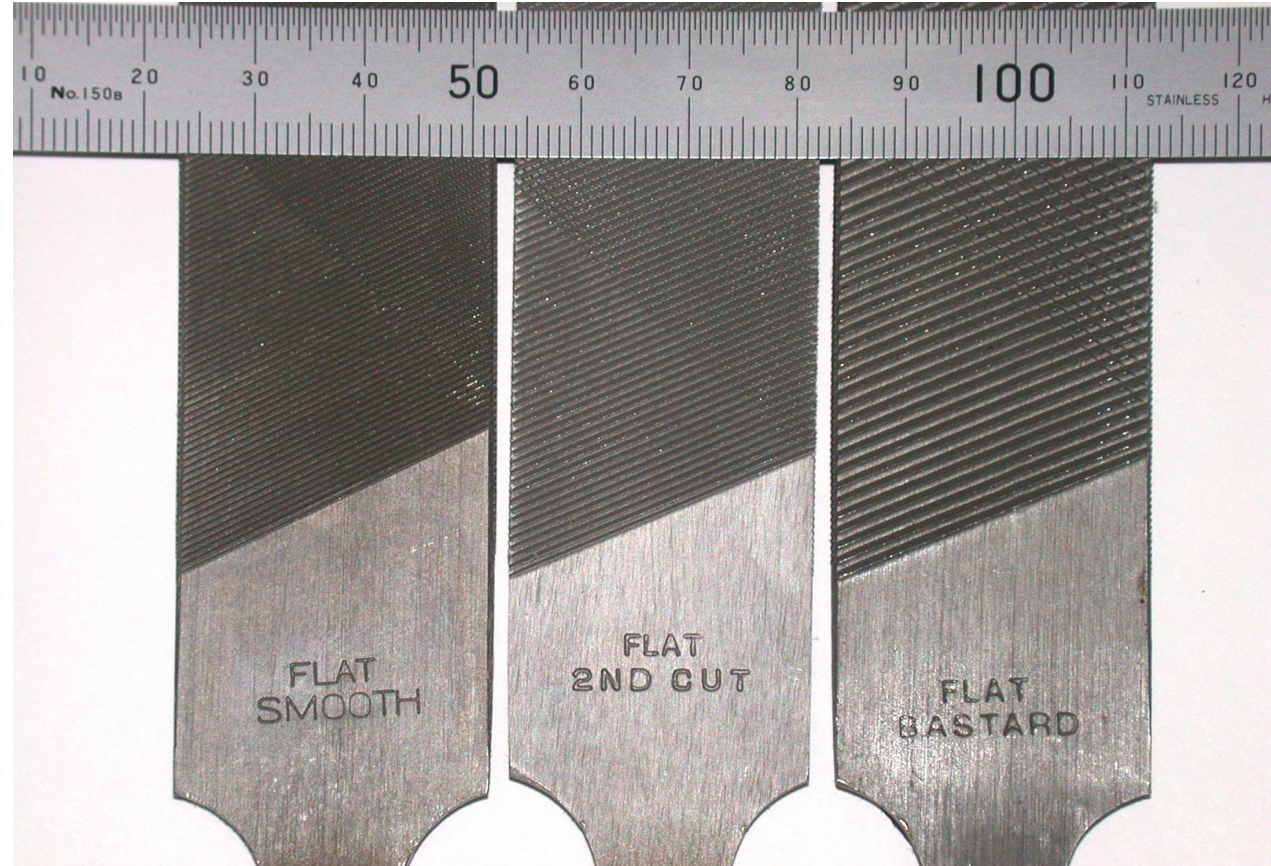
RASP CUT FILE



CURVED CUT FILE

# CLASSIFICATION OF FILE (AS PER GRADE)

- ✓ AS PER GRADE : ROUGH
- : BUSTARD
- : SECOND CUT
- : SMOOTH
- : DEAD SMOOTH



# CLASSIFICATION OF FILE (AS PER SHAPE)

- ✓ AS PER SHAPE : FLAT FILE
  - : HAND FILE
  - : SQUARE FILE
  - : ROUND FILE
  - : HALF ROUND FILE
  - : TRIANGULAR FILE
  - : KNIFE EDGE FILE

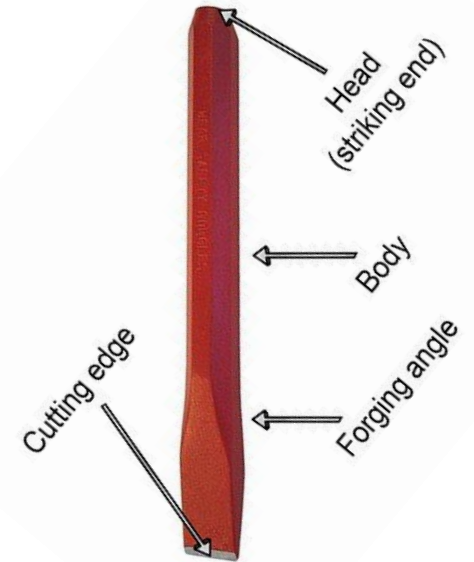
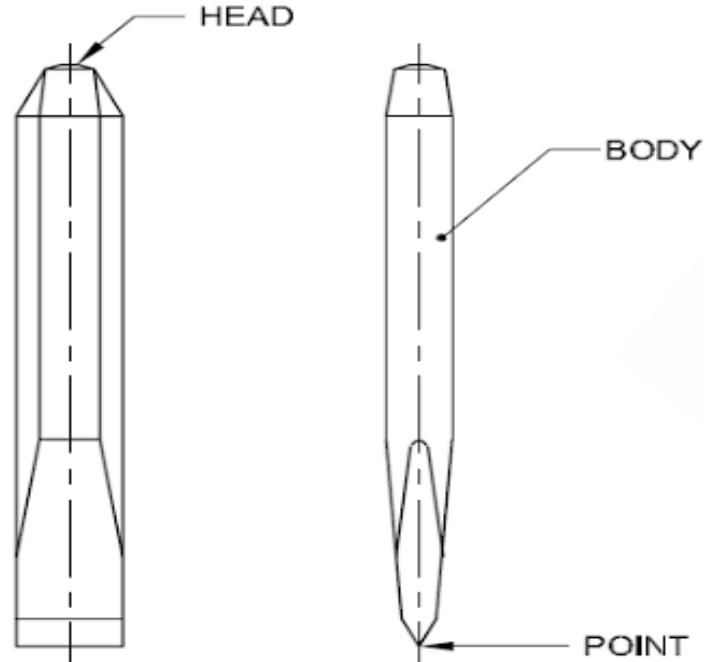


# CHISEL

જે રીતે લાકડુ છોલવા માટે આપણે પ્લેનર(રંધા)નો ઉપયોગ કરીએ છીએ તે રીતે ધાતુને છોલવા માટે ચીઝલનો ઉપયોગ થાય છે.

**MATERIAL** : HIGH CARBAN STEEL OR HIGH CHROME VANADIUM STEEL

- ✓ PARTS : HEAD
- : BODY
- : FORGING ANGLE
- : POINT/CUTTING EDGE





# TYPES OF CHISEL

## ✓ TYPES

### ✓ AS PER POSITION OF WORKPIECE

✓ COLD CHISEL

✓ HOT CHISEL

### ✓ AS PER USE

✓ FLAT CHISEL

✓ CROSS CUT CHISEL

✓ HALF ROUND NOSE CHISEL

✓ DIMOND POINT CHISEL

✓ WEB CHISEL



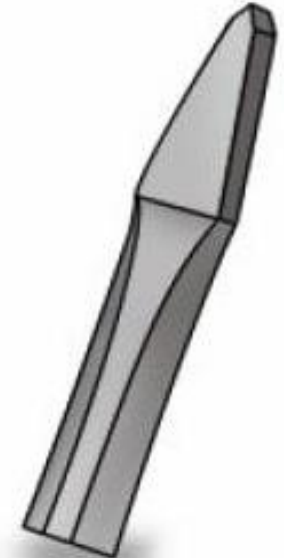
Diamond  
Point  
chisel



Flat  
chisel



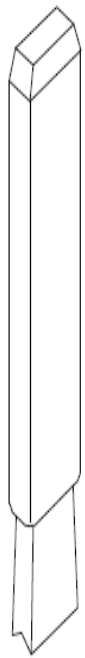
Half  
round  
chisel



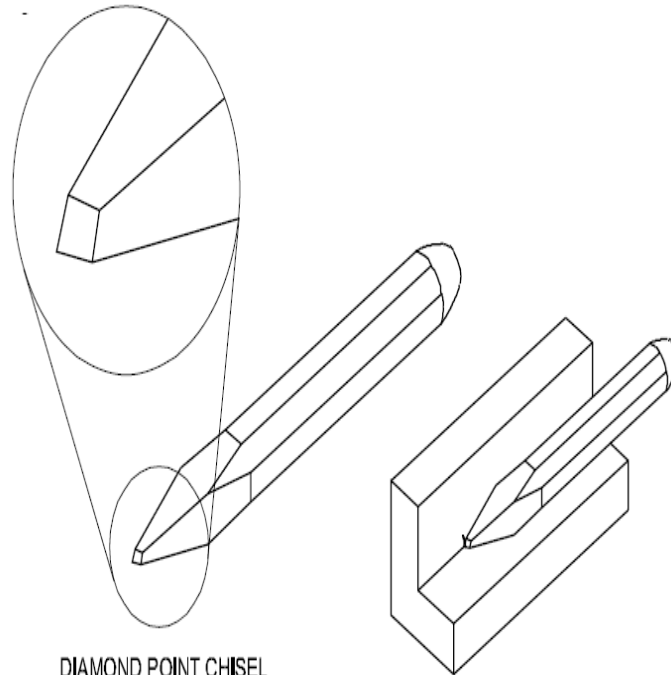
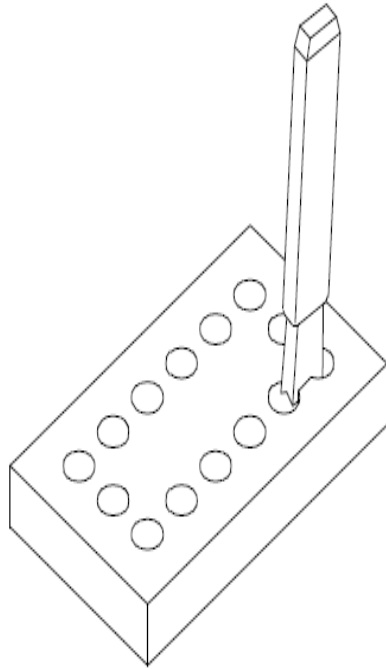
Cross cut/  
cape  
chisel

# USES OF CHISEL

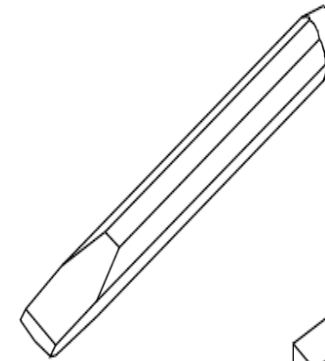
## ✓ USES



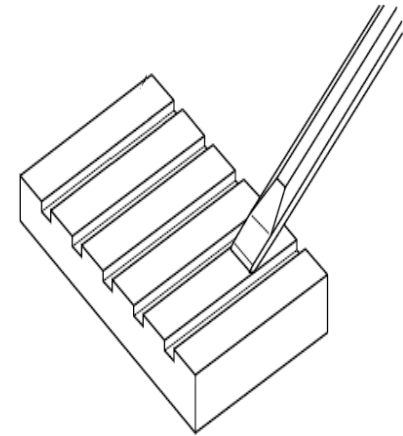
WEB CHISEL



DIAMOND POINT CHISEL

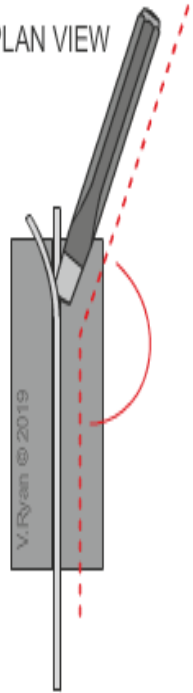


FLAT CHISEL

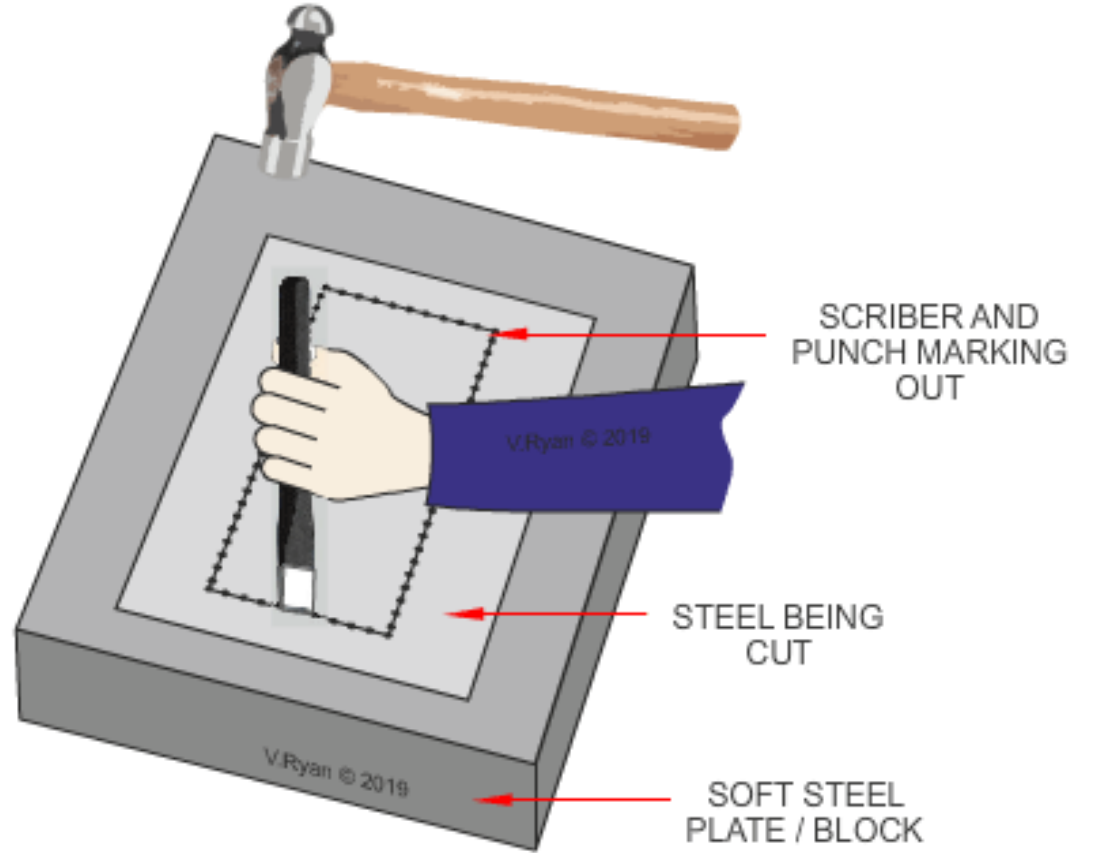
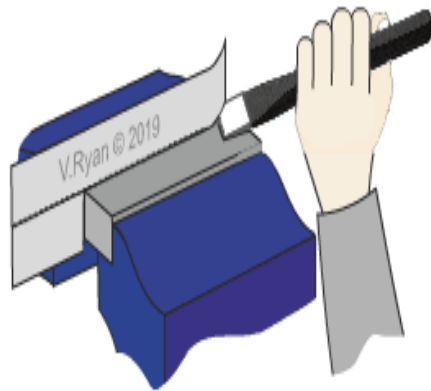


# USE OF CHISEL

PLAN VIEW



VIEW FROM THE SIDE



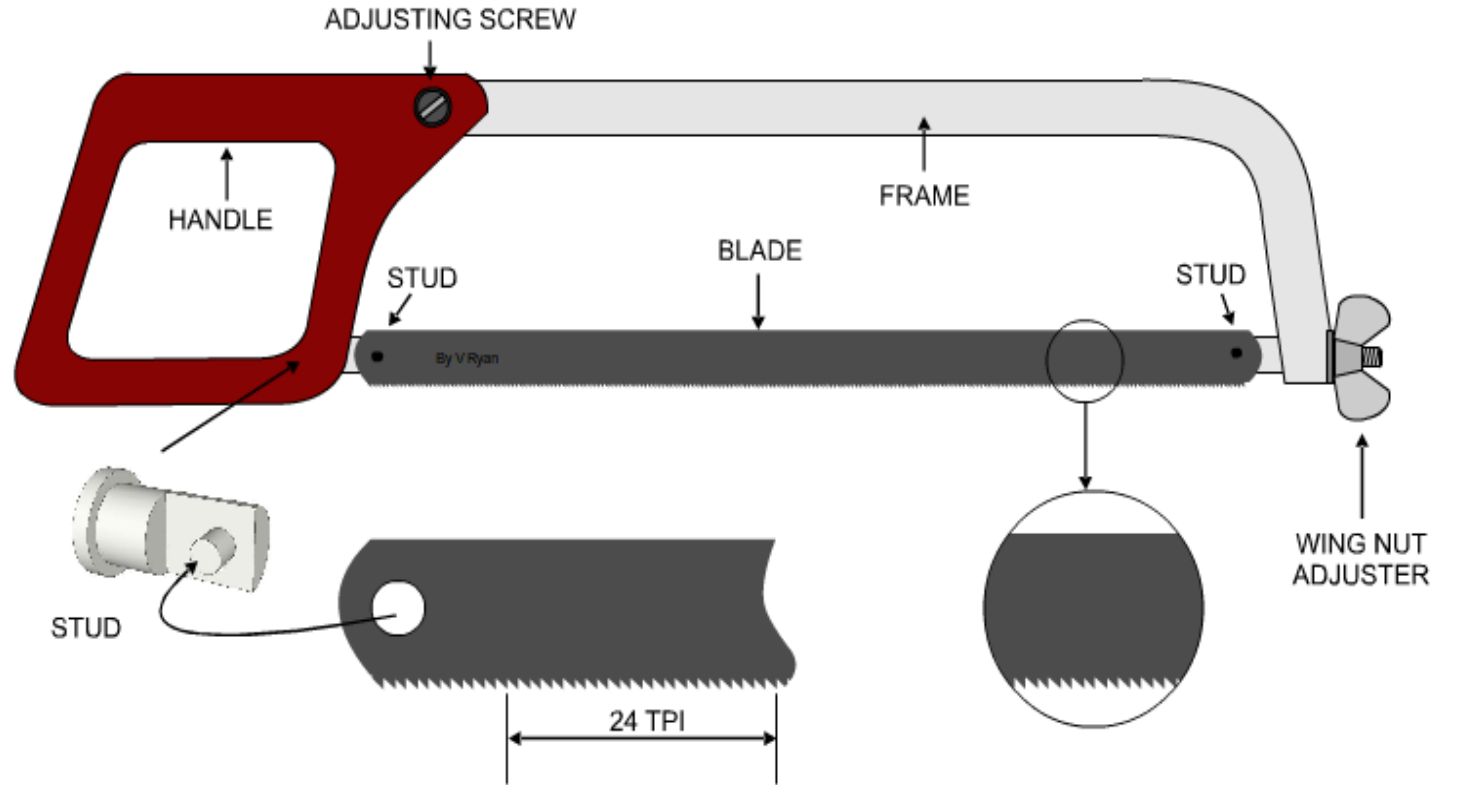
# HACKSAW FRAME WITH BLADE

હેક્સો ફ્રેમ અને બ્લેડ સાથે મળીને વિવિધ આડછેદવાળી ધાતુઓ કાપવા માટેનું એક ઉપયોગી સાધન બને છે. જે રીતે લાકડું કાપવા માટે કરવત વપરાય છે તે જ રીતે ધાતુ કાપવા માટે હેક્સો વપરાય છે.

**MATERIAL :** HACKSAW FRAME (MILD STEEL OR LOW CARBAN STEEL)

**:** HACKSAW BLADE (LOW ALLOY STEEL, HIGH SPEED STEEL OR HIGH CARBON STEEL)

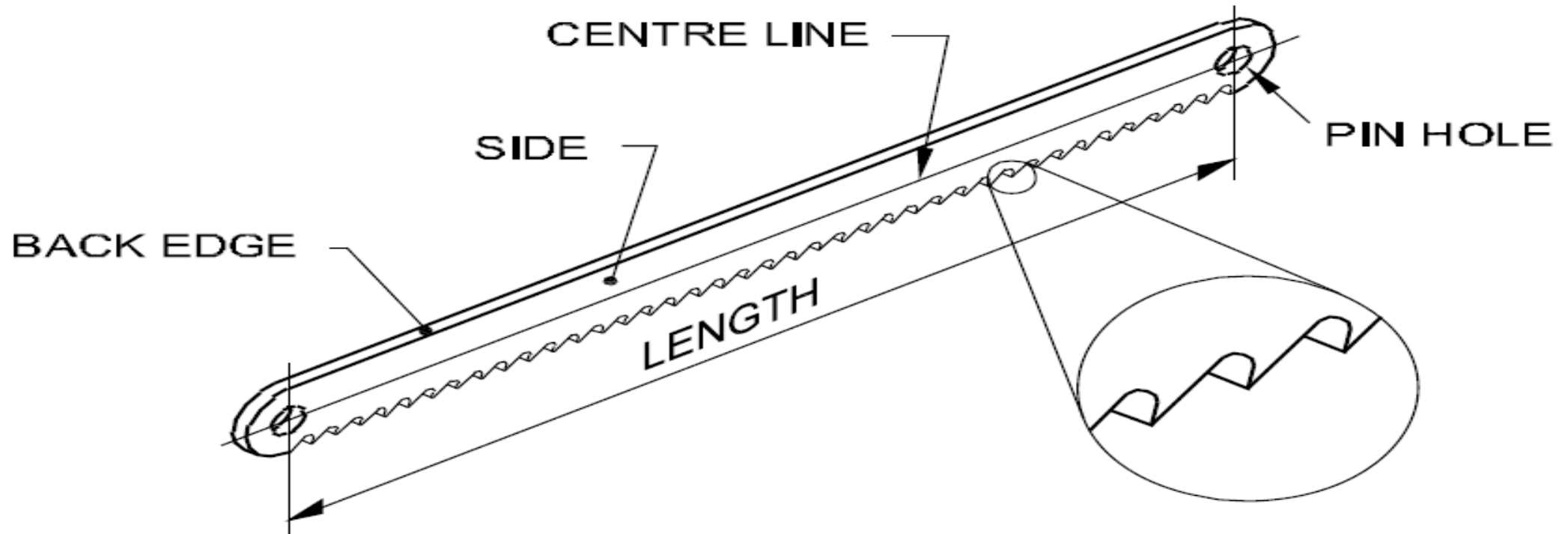
✓ **TYPES :** TYPES OF HACKSAW FRAME (SOLID HACKSAW FRAME, ADJUSTABLE (FLAT TYPE), FRAME ADJUSTABLE (TUBULAR TYPE) FRAME)



# TYPES OF HACKSAW BLADE

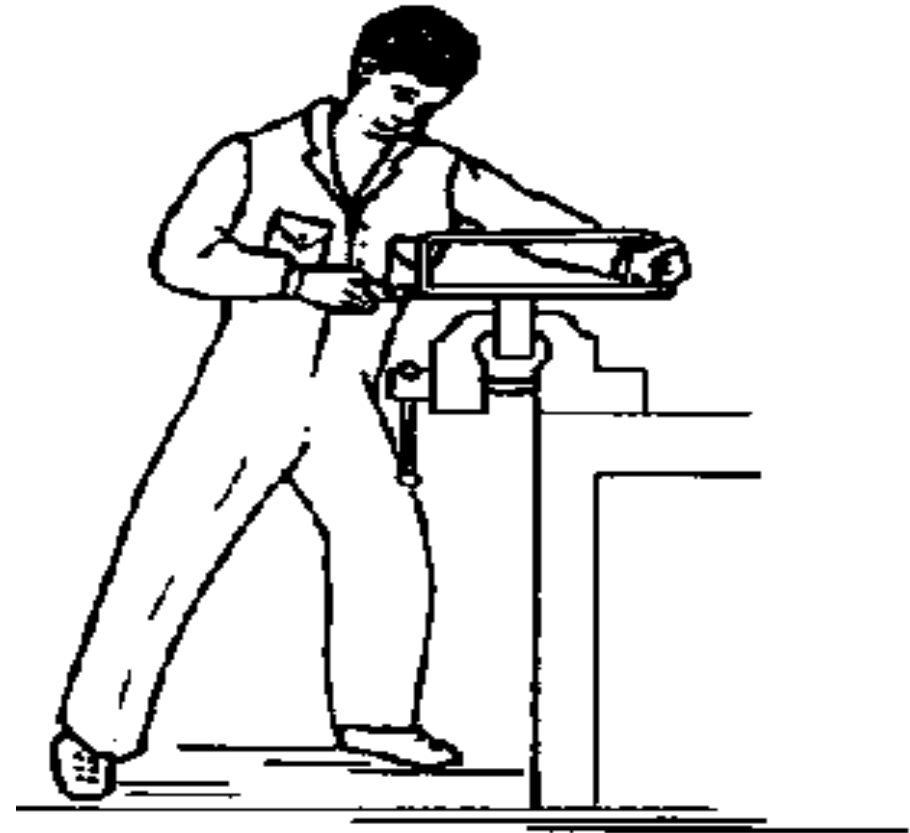
**MATERIAL :** HACKSAW BLADE (LOW ALLOY STEEL, HIGH SPEED STEEL OR HIGH CARBON STEEL)

✓ **TYPES :** TYPES OF HACKSAW BLADE (ALL HARD BLADE, FLEXIBLE BLADE)



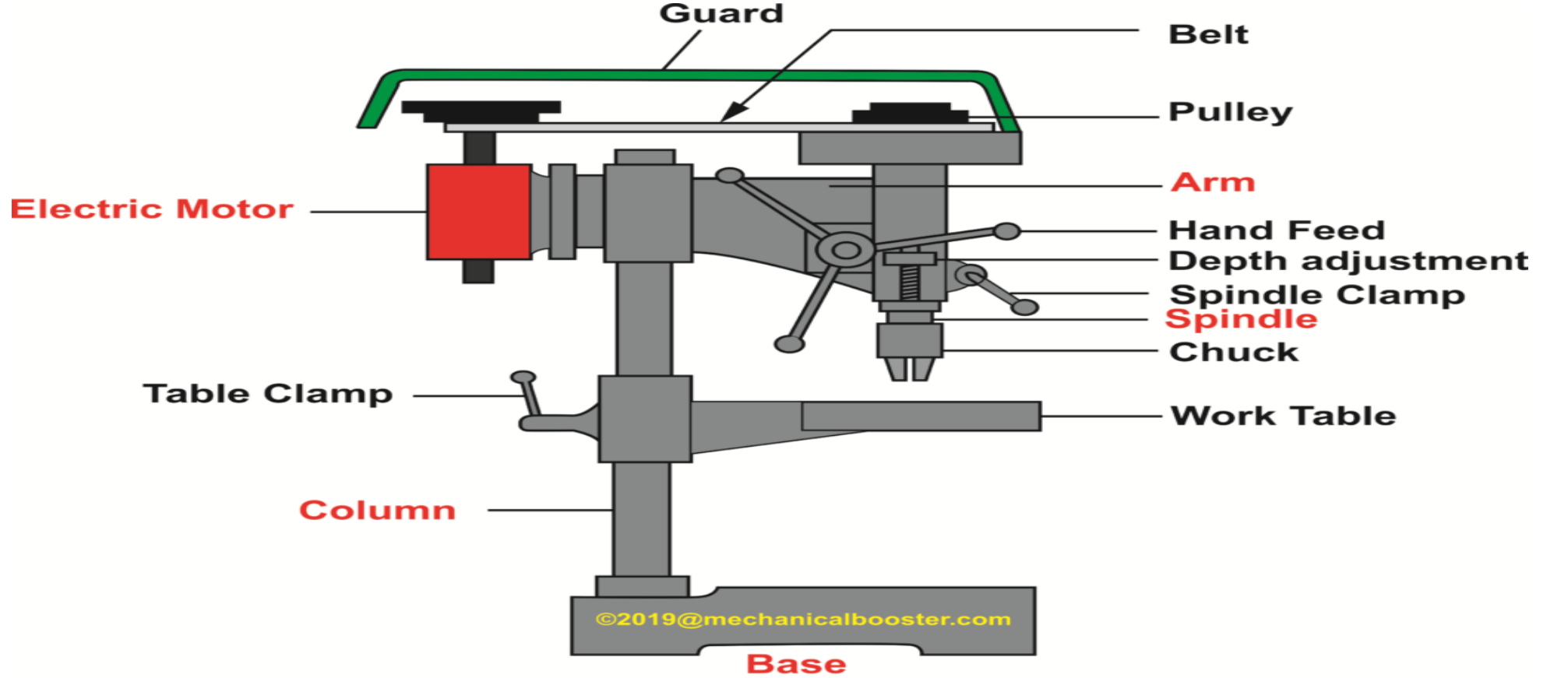
# HACKSAWING

✓ USES



# DRILLING MACHINE

ડ્રીલ મશીનનો ઉપયોગ મટીરીઅલમાં હોલ પાડવા માટે થાય છે. આ ઉપરાંત તેના વડે કાઉન્ટર સીકીંગ, કાઉન્ટર બોરીંગ, સ્પોટ ફેસીંગ જેવા ઓપરેશનો પણ કરી શકાય છે.



**Main Parts of Drilling Machine**

# TYPES OF DRILLING MACHINE



SENSITIVE BENCH TYPE



PILLAR TYPE DRILL MACHINE



# GRINDING WHEEL

મલ્ટીપોઇન્ટ કટીંગ એજ ટુલની મદદથી વધુ સારું ફીનીશીંગ મેળવવા ગ્રાઇન્ડીંગ વ્હીલનો ઉપયોગ ચાલુ થયો અને આ પ્રક્રિયા ગ્રાઇન્ડીંગ તરીકે ઓળખાવા લાગી. ગ્રાઇન્ડીંગએ અબ્રેસન પદ્ધતિથી વધારાનું મટીરિયલ દુર કરે છે. ગ્રાઇન્ડીંગ વ્હીલમાં મુખ્યત્વે બે તત્વો રહેલાં હોય છે. જે પૈકી એક અબ્રેસીવ અને એક બોન્ડ છે.

## ELEMENT : ABRASIVE & BOND

- ✓ ABRASIVE TYPES
  - ✓ NATURAL ABRASIVE
  - ✓ ARTIFICIAL ABRASIVE
- ✓ ARTIFICIAL ABRASIVE
  - ✓ SILICON CARBIDE
  - ✓ ALUMINIUM OXIDE



# GRINDING MACHINE

ગ્રાઇન્ડીંગ મશીનનો ઉપયોગ મુખ્યત્વે નળાકાર, સપાટ કે એક્સટર્નલ સરફેસનું ફીનીશીંગ કરવા માટે થાય છે.

- ✓ BENCH GRINDER
- ✓ PADESTAL GRINDER



BENCH GRINDER



PADESTAL GRINDER

# USE OF GRINDING MACHINE & GRINDER

✓ USES

