

Plumbing Tools:

Wrenches – is a tool operated by hand, and is made for tightening or loosening bolts, or anything that needs to turn. The English call it a “**Spanner**”.

Pipe Wrench – A hand tool having one jaw movable and the other relatively fixed, the two parallel jaws is opened or closed when placed on a pipe and rotated in one direction.

Stillson Wrench – it is a variation of pipe wrench with a swiveling seriated jaw and knurled control knob located between the frame forming the head and the handle of the wrench. Daniel Stillson.



PIPE WRENCH (U.S.)



STILLSON WRENCH (U.K.)



END PIPE WRENCH



RAP WRENCH

End pipe Wrench – A tool fast and easy grip used on constricted spaces or close to a wall where pipes alter their course (for example where they bend with a 90 degree angle). They are set at a slight angle to the wrenches' handles and they have teeth in the jaw for an improved grip.

Rap wrench – a variation of a pipe wrench; has a deeper and broader hook jaw housing which provides a smooth, flat surface that is may be occasionally used as a hammer.

Compound Leverage Wrench – A unique type of pipe wrench in which the turning force applied is multiplied. Ideal for freeing locked couplings and joints frozen by age or damage.

Offset Pipe Wrench - A unique type of pipe wrench featuring a jaw opening parallel to the handle and a



COMPOUND LEVERAGE WRENCH



OFFSET WRENCH

narrower hook jaw which provides easy entry into tight spaces.

Adjustable Spud Wrench – It has un-serrated jaws, used to turn fittings of minimum strength, such as copper and brass valve and drain trap fitting or sinks and lavatories.



ADJUSTABLE SPUD WRENCH



ERECTION SPUD WRENCH

Adjustable Wrench / Crescent wrench – Any one of the several types of wrenches having one jaw fixed and the other adjustable; set to a desired size or opening by means of knurled. Crescent is brand name.



LOCKING WRENCH



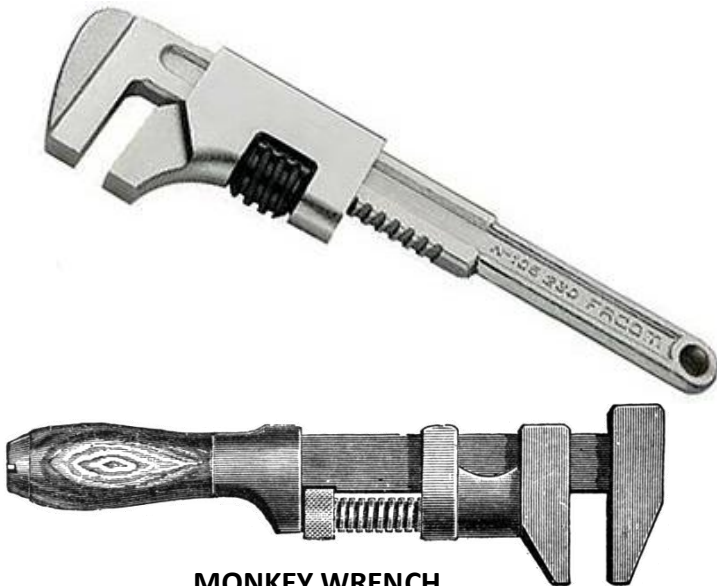
ADJUSTABLE WRENCH



PIN WRENCH

Locking pliers, Mole grips (Mole wrench) or Vise-Grips - are pliers that can be locked into position, using an over-center action. Vise grip and Mole grips are brand name.

Monkey Wrench – A tool which resembles a pipe wrench, except for its smooth jaws. It is used to hold or turn



MONKEY WRENCH



STRAP WRENCH

**JAW DROPPER
WRENCH**



a hardware having flat surfaces, such as nuts and drain fittings. An open end or adjustable wrench may be substituted for this purpose. Invented by **Charles Moncky**.

Jaw Dropper Wrench- For tightening taps without isolating the water supply. Adjustable jaws allow for access to both the pipe union nut and the tap back nut with the same spanner. Double-ended design allows use on all standard sink and bath nuts.

Strap Wrench – This is used for any polished pipes particularly plastic or synthetic and this walled or plated which are relatively soft or may be scratched or crushed by a wrench with serrated jaws. It has a long nylon strap which gives tight grip.

UST Wrench – this is an innovative wrench specifically designed to allow quick, easy removal and installation of all steel rise piping on underground storage tank. It features an adjustable chain vise quickly mounts to 3 to 4 inches riser pipes and nipples, submersible pump housing, leak detection device on submersible pumps and 4 to 2 inches reduces. It is operable in confined spaces (as small as 14 inches diameter); ideal for use in spill containment reservoirs and manholes.

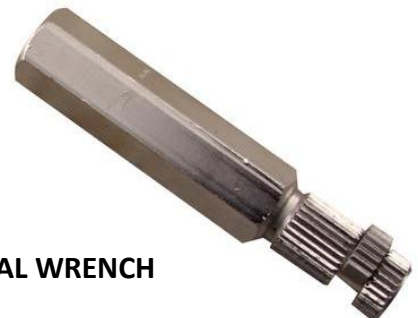
Torque Wrench – A type of wrench used in No hub soil pipe installation. It is used to ensure tight, leak free joints. The drive tightness with a fast ratchet until the wrench clicks for an accurate 60 pound torque for every application.



TORQUE WRENCH



INTERNAL WRENCH



Internal Wrench – A type of wrench used to install or extract 1 through 2 inches nipples. It is composed of serrated slotted disks of different diameters attached to a shaft, these disks expand by eccentric action and

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provides tight grip between the interior walls of the pipe and the disk. This is used to hold closet spuds and bath, basin and sink strainers with a diameter up to 2 inches.

Hex Wrench – A wrench with a hexagonal jaw which is multi-side, used to provide secure grip on all hexagonal nuts, square nuts, unions and valve packing nuts. The extra-wide opening offset is ideal for securing drain nut on sinks and tubs.



HEX WRENCH



ALLEN WRENCH

Allen Wrench – A wrench screws with hexagonally shaped recess in its head.

Valve Seat Wrench– This is used to remove faucet valve seat.



Ratcheting rotary wrench



Crawfoot's wrench

Closet Wrench – A tool designed to fasten the closet seat to the closet bowl.

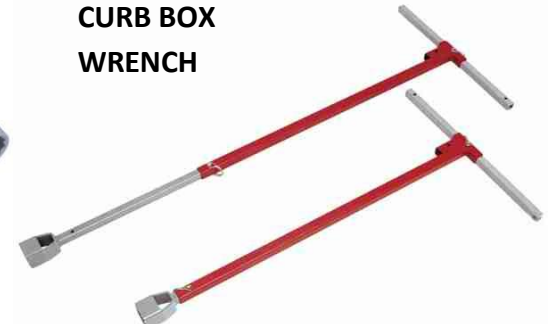
Basin Wrench or Sink wrench– This wrench has a swiveling jaw that enable a plumber to reach into places not easily accessible with conventional wrenches. One of the primary uses of this type of wrench is to loosen and tighten nuts that hold faucets, but the tool might be adapted for other close-fit application.



BASIN WRENCH



PACKING NUT
SOCKET WRENCH



CURB BOX
WRENCH

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Packing Nut Socket Wrenches – These are available in sets and fit nearly all tub, tub and shower valves. They are hexagonal on both ends and hollow core to fit over faucet stem handles. Their importance lies on the fact that faucet valve packing nuts and stem assemblies are brass; if the workman uses an open-ended or adjustable wrench, strong pressure may warp or break the nut thimble. These are practically impossible to replace without tearing out the walls.

Basket Strainer Wrench – A tool used to tighten the nut that secures the basket to the sink.



Basket Strainer Wrench



BIONIC WRENCH

Chain Wrench/ Chain Tong – a type of wrench having a sprocket chain that is slipped around a pipe and then attached to the wrench handle.



CHAIN WRENCH OR CHAIN TONGS



THE HAWK HEAVY DUTY SELF-ADJUSTMENT PIPE WRENCH

Type of chain wrench or chain tongs:

1. Light Duty Chain Tong
2. Heavy Duty Chain Tong
3. Single Ended Jaw Chain tong
4. Reversible Jaw Chain Tong
5. Double Ended Jaw Chain Tong



REVERSIBLE CHAIN TONGS allow the operator to turn the pipe in either direction without removing the tong or unhooking the chain. The handles are drop-forged steel and have a heavy-duty I-beam design.



SIGLE ENDED JAW CHAIN TONG - Designed and sized to provide extra leverage for the toughest jobs

DOUBLE ENDED JAW CHAIN TONG

Pipe Cutter/Tube Cutter – A hand tool for cutting or tubing; one end of the tool, which partially encircles the pipe carries one or more sharp wheels, the cutting edge of the wheels is forced against the pipe by a screw on the other end of the tool; cutting us done by rotating the tool around the pipe progressively.

Types of Pipe Cutter / Tubing Cutters:

1. Small Diameter Pipe Cutter
2. Small Quick Opening Tube Cutter
3. Large Tube Cutter
4. Large Quick Opening Tube Center
5. Ratchet Cutter
6. 4-Wheel Pipe Cutter
7. Wide-Roll Pipe Cutter
8. Hinged Pipe Cutter
9. Soil Pipe Cutter



4-WHEEL PIPE CUTTER



WIDE ROLL PIPE



HINGED PIPE CUTTER



RACHET CUTTER



MINI TUBE CUTTER



PLASTIC PIPE CUTTER



SOIL PIPE CUTTER

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Hacksaw – A tool for cutting plastic and metal pipe. It use blade with 16 teeth per inch for saving 1/8 to ¼ inch



tubing and thin-walled pipe.

Flaring Tool – A tool used to make watertight joints between flexible copper tubing and fitting or valve. The end of the tubing is slipped into yoke and a countersunk compressor screw is slowly tightened forming a bell-shaped tube end.

Type of Flaring Tool

1. Hammer Type Flaring Tool



- Yoke and Screw Type Flaring Tool



Pipe Die / Pipe Threader – Any of the several types of adjustable tools for cutting external threads in pipe ends; used in plumbing.



PIPE TAP

Types of Pipe Die / Pipe Threader

1. Three Way Pipe Die
2. Ratchet Type Iron Pipe Threading Die
3. Drophead Die
4. Jamrpoof Receding Pipe Die

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Pipe Tap – A tool usually made from carbon steel. Pipe taps are used to create a threading system inside a hollow pipe. It is used to create internal threads or to rethread metal piping and fittings, or other metal fabricated objects. These taps can be used with aluminum, brass, copper or steel.

Pipe Reamer – A tapered bit having sharp, spiral fluted edges along the shaft; Used to enlarge an opening, or remove burrs from the inside of a pipe especially after cutting etc.



SPIRAL RATCHET PIPE REAMER



COMBINATION PIPE REAMER



PIPE EXTRACTOR

Types of Pipe Reamer

1. **Spiral Ratchet Pipe Reamer**
2. **Combination Pipe Reamer** – A type of pipe reamer used to remove the internal and external burrs of a pipe that had resulted from cutting; usually applicable on plastic and other thin-walled pipe or tubing.
3. **Pipe Extractor**- a tool used to remove broken threaded ends of pipe, plugs, fittings, etc.

Tube Bender – a tool used to bend flexible copper tubing without distortion.



SPRING-TYPE TUBE BENDER



LEVEL-TYPE TUBE BENDER



GEARED-RATCHET TUBE BENDER

Types of Pipe Bender

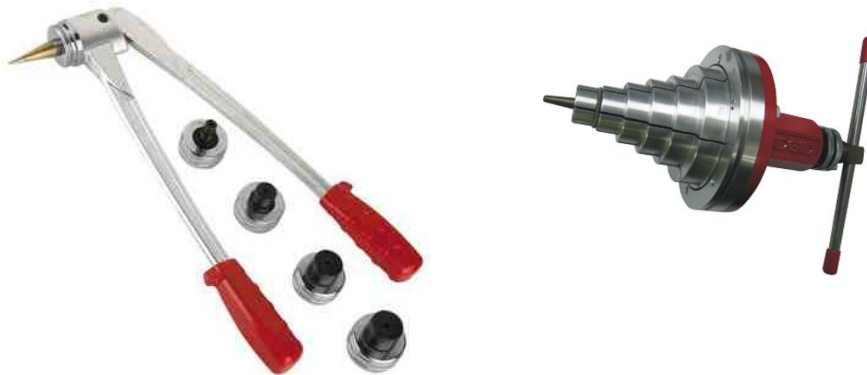
1. **Spring-type tube bender**
2. **Level type Bender**
3. **Geared Ratchet Type Bender**

Bending Iron- a tool used to straighten or to expand flexible pipe, especially lead pipe.

Bending Pin- one of a number of pins in a set in a staggered arrangement in a block which are used in bending iron or lead pipe

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Tube Expander- a hand-operated, single stage expander used to expand tubing such as copper, aluminum and soft steel tube.



Pipe Vise- a vise for holding pipe or tubing during cutting or threading operations; the pipe is held in a V-shaped serrated jaws or (for larger pipes) by chains.



1. Galutan

Types of Vises

1. **Portable Tri-stand chain vise-** it has internal legs and tray hat folds in for easy carrying and set-up large vise base overhangs front legs for clear tool swing; it has complete slots for hanging plumbing tools, has pipe rest and three pipe benders and ceiling base crew



**PORTABLE TRI-STAND
CHAIN VISE**



BENCH YOKE VISE



BENCH CHAIN VISE

2. **Bench Yoke Vice**- yoke and base are made of strong, dependable iron. It has hardened alloy steel jaws and convenient pipe rest and bender
3. **Bench chain Vice**- it has crank handle on base, rugged cast iron base has jaws of hardened alloy steel with handy pipe rest, pipe bender. Toothless jaws and neoprene coated to prevent scratching of pipe.
4. **Stand Chain Vice**- a handy stand chain vise is made of sturdy cast iron frame with allows steel jaws. It is equipped with pipe rest, pipe bender and tool tray.

STAND CHAIN VISE



PORTABLE CHAIN AND YOKE VISE

5. **Portable Chain and Yoke Vise**- a light, strong, portable post chain vise which fits any kind of post. It is equipped with tray for oil can and handy pipe bender
6. **Pipe Welding Vise** - made of durable performance-proven material and designed to resist strain, heat and warping during tacking. Machine swivel nuts and pins together with special chain screws give smooth and trouble-free assembling of vise onto pipe.

Type of Welding Vise:

1. **Straight Pipe Welding Vise**



2. Elbow Pipe Welding Vise



3. Flange Pipe Welding Vise



3. Angle Pipe Welding Vise



Drain Cleaners- These are tools used to clean, declog obstruction and maintain the efficient function of piping system.

Types of Drain Cleaners:

1. Hand Spinner



2. Flat Sewer Taps



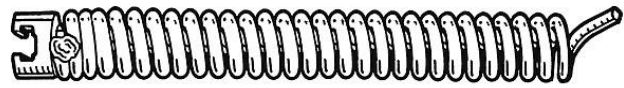
2. Grappier Hook

Types of Drain Cleaner Attachments

1. **Drop Head Auger**- for cleaning back mounted fixtures e.g. sinks, where cable needs to be led down the pipe



Drop Head Auger



Straight Auger

2. **Straight Auger**- for use in exploring and breaking up stoppages or returning sample to surface to determine correct tool.
3. **Funnel Auger**- for use as second tool in line, breaks up remains of stoppage left by straight auger



Funnel Auger



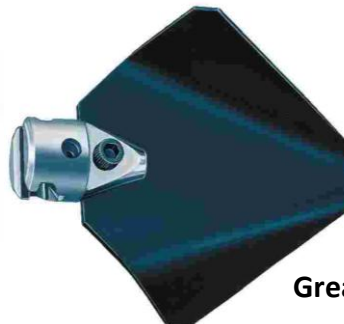
Hook Auger

4. **Hook Auger** - for heavy and dense root stoppages in pipes that require hooking and breaking up
5. **Retrieving Auger**- for searching of cable which is broken or lost in line



Retrieving Cutter

Spade Cutter



Grease Cutter

6. **Four Blade Saw Tooth Cutter** - for following up after auger had been used and to open up floor drains
7. **Spade Cutter** - for blockages caused by hardened, glazed material such as chemical deposits
8. **Grease Cutter**- for lines which have become badly greased with detergents and have to be opened
9. **Spiral Saw Tooth Cutter**- for cleaning any stoppage caused by roots, rags sticks, etc.



Spiral Saw
Tooth Cutter



Saw Tooth
Cutter



Four Blade Saw
Tooth Cutter

10. **Saw Tooth Cutter**- for cleaning lines blocked heavily with roots, unique design permits cutter to be removed from damaged pipe without locking.

11. Spiral Bar Cutter - for main sewers blocked by roots, leaf debris, sticks, sawdust, cloth sacking.

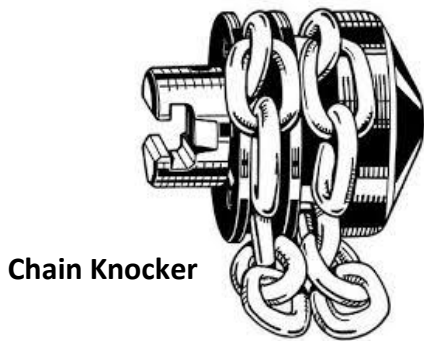


12. Shark Tooth Cutter- for use in cleaning pipes of general material clinging to pipe walls

13. Grease "C" Cutter- for grease blockage in lines leading from garbage disposal unit or waste pipe

14. Expanding Finish Cutter- for final removal of material adhering to the walls and certain roots of fibrous nature

15. Chain Kicker- for use when rigorous action is required for cleaning scale in pipes and boiler tubes



16. Flue Brush- for use in finish cleaning in boilers and heat exchangers

17. Drain rods - are plumbing equipment used to attempt to unblock drains and sewers.

Plunger, Force Cup, Plumber's Friend, Plumber's Helper- a tool consisting of a rubber suction cup attached to



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a handle; set over a plumbing trap (or the like) and worked with a pumping action to clear the trap of minor obstruction.

Accordion Plunger - this interesting looking plunger has a design better suited for clearing toilet clogs because it has a smaller cup

Taze Plunger - Not a common tool but effective for clearing blockages in larger pipes. A steel rod with an attached disk; that is the same size as the internal pipe diameter, is forced into the pipe creating a high pressure zone. Use in larger pipes not for residential.

Air-operated plunger - An air-operated plunger works by forming a suction seal and then forcing pressurized air into the blocked pipe. Some says this is for gimmick only.

A **chamber pot (ARINOLA)** (also a **mompot**, a **jordan**, a **jerry**, a **guzunder**, a **PO** (possibly from French: **pot de chambre**), a **piss pot**, a **potty**, or a **thunder pot**, **honey pot**) is a bowl-shaped container with a handle, and often a lid, kept in the bedroom under a bed or in the cabinet of a nightstand and generally used as a toilet at night.



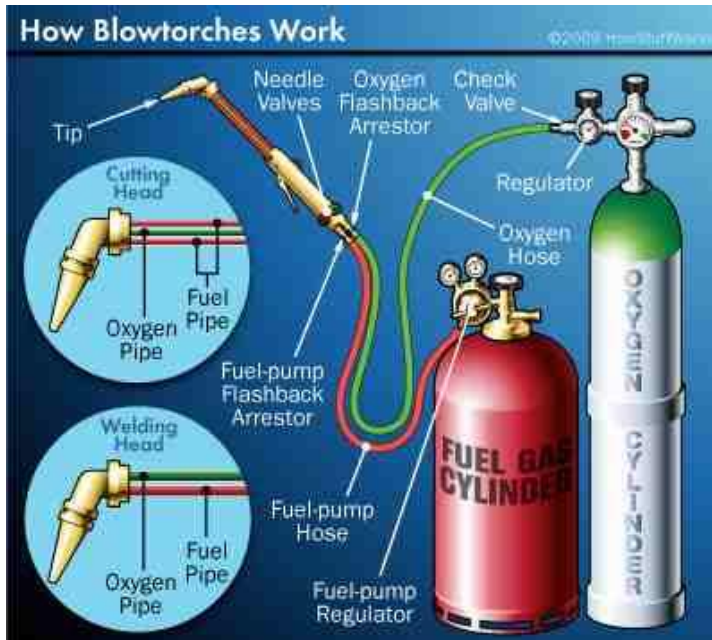
CHAMBERS POT/ARINOLA



Melting Pot and Ladle

Melting Pot and Ladle- a metal pot and spoon like scoop used for melting and pouring molten lead into a caulked joint and other related application

Blow Torch / Blow Lamp- a torch which generates high intensity flame; used for heating soldering irons, melting lead in a melting pot, burning off paint, etc. (example propane torch)



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Profane Torch- a device primarily used for soldering fitting to tubing. Different nozzles may be attached to give flames various shapes, sizes and different heat intensities. It is used to solder copper water pipes They can also be used for some low temperature welding applications, as well as for brazing dissimilar metals together.



Blow Torch

Profane Torch



Testing Tools- these are tools used to test the plumbing system for leaks and other defects. The use of which must be done in accordance with established standard procedures.

1. Mechanical Test Plug



Test Plug

Inflatable Rubber Test Balls



**Pressure Test Pump
(with pressure Gauge)**

2. Inflatable Rubber Test Balls

3. Pressure Test Pump (with pressure Gauge)

Leak Detection System

1. System safe Leak Detection(with pressure Gauge)

Lecture Part 5

Type of Hammers:

The **claw hammer** is designed for working with **wood**, the **ball peen hammer** for **metalwork**.

Sledge Hammer - Used for the heavier jobs, such as driving in stakes or to break up concrete, stone or masonry.



Ball peen Hammer



Half Hatchet Hammer



Ripping Claw Hammer



Engineer's Hammer



Curve Claw Hammer



Mason's Hammer



Tinner's Hammer



Hand Drilling Hammer

Power Hammers - More often referred to as 'powered nailers', these take the hard work out of fitting nails, staples etc.

Lecture Part 5

Hand-drilling hammers - are used to drill steel into rock or to drive wedge and feathers into cracks or drilled holes

Half Hatchet Hammer - this is a rugged tool designed for use in trimming and shaping poles.

Ball peen Hammer- is a kind of peening hammer that has 2 ends. One end is shaped like an ordinary hammerhead while the other is ball shaped. It is used in striking and shaping metal materials. It is the tool that is utilized to form the general shape of the material in metal fabrication

Engineer's hammer - Also known as a baby sledge hammer, a tool used for heavy hammering or demolition work.



Long handle Sledge Hammer



Power Hammers

Screwdriver- a tool with a handle and shank, with a tapered wedge-shaped tip which fits into the recess in the head of a screw; used for driving a screw in place or removing it by turning the head of the screw. The tip of the screwdriver may vary according to application

Flat Head Screwdriver - a screwdriver designed to turn slotted screws.

Phillips screw driver- is primarily used to fasten and unfasten screws with a star-like hole in their heads. Henry F. Phillips

Types of Screwdriver

1. Flat Head Screwdriver



Phillips Head Screwdriver



2. Pliers

Tongue and Groove Pliers



Water Pump Pliers



Lineman's Side cutting Pliers



Diagonal Cutting Pliers



Universal Side Cutting Pliers



Heavy Duty Side Cutting Pliers



Long Reach Duckbill Pliers



Long Reach Pliers



End Cutting Pliers



Slim Nose Pliers



Lecture Part 5

Slip Joint Utility Pliers



Smooth Jawed Pliers



Crimping - is joining two pieces of metal or other ductile material by deforming one or both of them to hold the other.



Machine Tools- There are electrically-powered mechanical tools used to do plumbing job quietly and efficiency

1. Power Threading Equipment
2. Power Pipe Cutter
3. Pipe Cut-off Saw
4. Power Drain Cleaner
5. Electric No-hub Nut Driver
6. Universal Wheeled Power Driver
7. Cooper Cleaning Machine
8. Rotary Hammer

Varl-orbit Jigsaw



Reciprocating Orbital Saw



Right Angle Drill



Portable Electric Drill



Portable Roll Groover



Portable Cordless Drill



Geared Threader



Core Drilling Machine



Lecture Part 5

Cut-off Chisel- a chisel with a cutting edge formed of tempered steel, used for cutting metal especially cast iron

Yarning Iron- a chisel-like tool used to pack and compress hemp rope into the bell of a cast iron pipe for the purpose of making a joint.



Spring Yarning Iron



Offset Yarning Iron

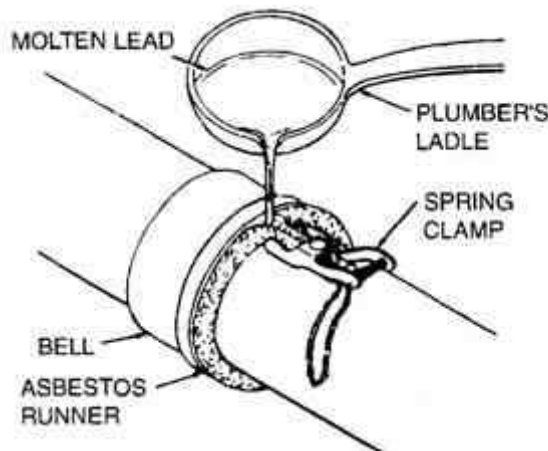


Curved offset Iron (inside and outside)



Long curved offset Iron (square end)

Caulking Iron- used upon pouring of molten lead to ensure air bubbles in the material are removed and provide a leak-free joint.



1. Galutan

Pick-out iron - has a diamond- shaped flat point; it is used to remove the lead and oakum from a joint.



Pick-out Iron



Stub Iron

Left Iron



Trimming Iron



S-Type Caulking Iron



Ceiling Iron – square end

Lecture Part 5

A **C-clamp**, or **G-clamp**, is a type of clamp device typically used to hold a wood or metal workpiece, and often used in, but are not limited to, carpentry and welding.

C - Clamp



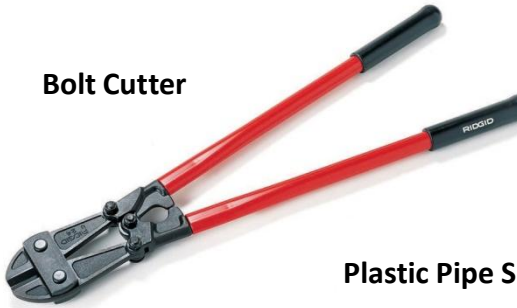
F - Clamp



An **F-clamp**, also known as a **bar clamp** or **speed clamp**, is a type of clamp. The name comes from its "F" shape. The F-clamp is similar to a C-clamp in use, but has a wider opening capacity (throat). This tool is used in woodworking while more permanent attachment is being made with screws or glue, or in metalworking to hold pieces together for welding or bolting.

A **bolt cutter**, sometimes called **bolt cropper**, is a tool used for cutting chains, padlocks, bolts and wire mesh.

Bolt Cutter



Plastic Pipe Shear



Hand Riveter



Plastic Pipe Shear - for precise cutting of PP, PE, PEX, PB and PVDF pipes up to Ø 75 mm.

Hand Riveter - is a type of manually operated tool that's used to install blind rivets

Cold Chisel



Flat File



Cold Chisel - a chisel used for cutting metal.

Flat File - a steel hand tool with small sharp teeth on some or all of its surfaces; used for smoothing wood or metal.

Lecture Part 5

Toilet Auger or Closet Auger - water closet auger which through a clog or retrieve an obstruction like a rag.



Toilet Auger



Drain Machine



Sink Auger



Drill Press



Angle Grinder



Drill Hammer



Cordless Drill Hammer



Air Impact Wrench

Drain Machine or plumber's snake, clean clogs and help clear drains quickly and efficiently.

Sink Auger - is a valuable and easy to use tool for breaking up and clearing clogs in sinks and tubs.

Drill Press - is a cutting process that uses a drill bit to cut or enlarge a hole of circular cross-section in solid materials.

A **hammer drill**, also known as a "rotary hammer", "rotary drill" or "hammering drill", is a rotary [drill](#) with a hammering action.

An **impact wrench** (also known as an **impactor**, **air wrench**, **air gun**, **rattle gun**, **torque gun**, **windy gun**) is a socket wrench power tool designed to deliver high torque output with minimal exertion by the user. These are the tool you turn to when no other wrench is working.