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MANUFACTURING OF A SCREW

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Abstract :

Screws and bolts are widely used in threaded fasteners for holding things together, such as pieces of wood or metal. A screw is simply an inclined plane which is wrapped around a cylinder. Screws are comparatively greater in providing strength and has more holding power than other nails. They also form a tighter seal. Unlike nails, they can also be removed easily. Thus, we know how important screws are in our day-to-day life. Over here let us see how screws are manufactured.

Introduction:

There are three process for manufacturing a screw:

- Heading
- Slotting
- Thread rolling

Heading process:

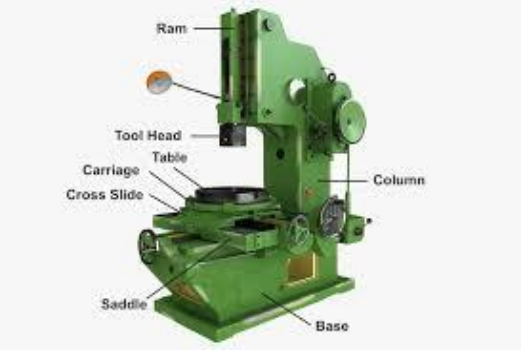
Header machine consist of following parts:

cams and Driver, driven, flywheels, keys, linkages, followers, piston and cylinder, gears, stroker, hammer, pulley, bush and bearing.

Cold heading is a method of forming metal in progressive steps into net shaped or near net shaped parts. Starting with a slug, which is cut from a continuous coil of wire material; the cold heading machine uses a series of powerful hammers and dies to form a part. This process creates very little to no waste, offers significant material cost savings.

Slotting process:

A Slotting machine produces flat surfaces.
The Ram holding the Tool reciprocates vertically up and down cuts the material only in down stroke.
There should be some mechanism to move the ram in reciprocating motion. It is called as slotter driving mechanism



Threading process:

As the motor starts working the driver rotates and make the driven rotate through v belt. driven is attached to a shaft which consist of a circular plate this circular plate has a linkage of a die. The driven rotates the circular plate rotates and through linkage one of the two die slides. There is total two die in this machine .one of them is attached to the circular plate and other is fixed. There is a filter in terms of an Indian machine and a vibrator in terms of foreign machine (Taiwan). The filter rotates and there is a strip attached to the filter from, where the screw comes down. There is brake attached to the strip which stops the movement of screw in the strip and it can roll between two dies. Lubricants are added through pipes.

Conclusion:

A screw and a bolt are similar types of fastener typically made of metal and characterized by helical ridge called a male thread. screws and bolts are used to fasten materials by the engagement of the screw thread with a similar female thread in a matching part. Screws provide greater strength, so that it could hold things together and form a tighter seal. Thus with this research, we can conclude how important a screw is, and how a screw or a bolt is manufactured using the heading, slotting and threading process.