

35—Hand and Portable Power Tools

distance behind the pivot point so that the handles cannot close against the fingers (Fig 35-17)

Pliers are often considered a general-purpose tool and are often misused for purposes for which they were not designed. Pliers are meant for gripping and cutting operations; they are not recommended as a substitute for wrenches because their jaws are flexible and frequently slip when used for this work. Pliers also tend to round the corners of bolt heads and nuts and leave jaw marks on the surface; this makes it difficult to use a wrench at some future time.

Side-cutting pliers sometimes cause injuries when short ends of wire are cut. A guard over the cutting edge (Fig 32-18) and the use of safety goggles will prevent flying short ends from causing injuries.

The handles of electricians' pliers should be insulated. In addition, the men should wear electricians' gloves, if company policy requires them to.

Because pliers do not hold the work securely, they should not be used as a substitute for a wrench.

Special cutters for heavy wire, reinforcing wire, and bolts are safer than makeshift tools. It is important that the cutting edges apply force at right angles to the wire or other work being cut (Fig 35-19). The cutter should not be used near live electrical circuits and should be used only for the rated capacity specified by the manufacturer. Eye protection should be worn.

Special cutters include those for cutting banding wire and strap. Claw hammers and pry bars should not be used to snap metal banding material. Only cutters designed for the work provide safe and effective results.

Nail band crimpers make it possible to keep the top band on kegs and wood barrels after nails or staples have been removed. Use of these tools eliminates injury caused by reaching into kegs or barrels that have projecting nails and staples.

Pullers are the only quick, safe, and easy way for pulling a gear, wheel, pulley, or bearing from a shaft. Prybars and chisels should

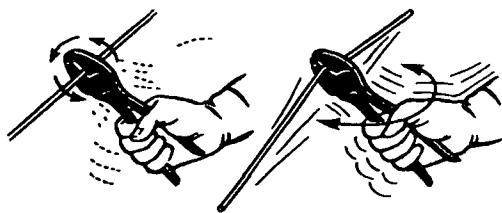


FIG 35-19—Wire should be cut with the cutter knives swung up and down, at right angles to the wire (as shown at left). Do not bend wire back and forth (as shown at right). Be sure to keep cut ends under control. Stand back when cutting wires so that if an end snaps back, it cannot reach you.

not be used as they concentrate the force at one point and tend to cock the part on the shaft. Select the correct-sized puller. The jaw capacity should be such that the jaws press tightly against the part being pulled. Use a puller with as large a pressure screw as possible.

Screw drivers The screw driver is probably the most commonly used and abused tool. The practice of using screw drivers for punches, wedges, pinch bars, or pries should be discouraged. If used in such manner, they become unfit for the work they are intended to do. Furthermore, a broken handle, bent blade, dull or twisted tip may cause a screw driver to slip out of the slot and cause a hand injury.

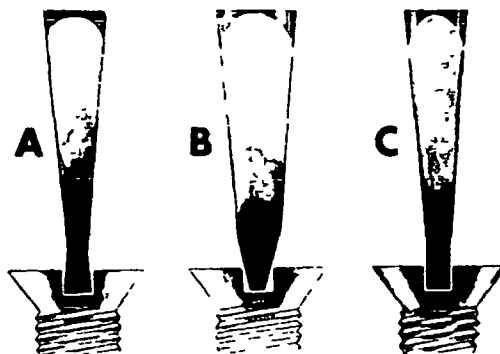


FIG 35-20—Screw driver bits with parallel sides shaped like an illustration C, or undercut slightly like in A, will grip the slot more securely than the bit shown in B.