C-CLAMPS

The most common clamp is the C-clamp. C-clamps vary in size and strength from a 3 oz. aluminum clamp with a 3/4" opening to a 40 lb. heavy-duty drop forged steel C-clamp with a 12" opening. C-clamps generally have four parts: the frame, the screw, the handle and the swivel pad. The frame is usually made from stampings, castings and drop forged steel. Generally drop forged steel provides the most strength. Most clamps have a sliding crosspin handle or a wing nut for tightening the clamp. Certain heavy-duty clamps have screws that end in a square head and the tightening is done with a wrench. The swivel pad at the end of the screw allows the clamp to position itself on non-parallel work and prevents work from being marred. Certain C-clamps designed for heavy-duty applications are designed without swivel pads.

The C-clamps, like any fine tool, can be damaged by rough handling, improper job selection, and over-loading. Keep C-clamps in racks when not in use to protect them from damage. Use clamps of the proper capacity. You wouldn't drive a railroad spike with a tack hammer – and neither should you use a light-duty clamp for a heavy-duty application or a large, heavy-duty clamp where a small light-duty clamp would do the job.

FIG. 46. This type of extra heavy-duty forged steel clamp uses a wrench for tightening.

FIG. 47. Typical C-clamps.