Basic milling machines

Regardless of the classification, direction of movement, or special attachments which make varied operations possible on a milling machine, the safeguarding requirements are basically the same To guard the cutter, one of several methods should be employed (Fig 31–10)

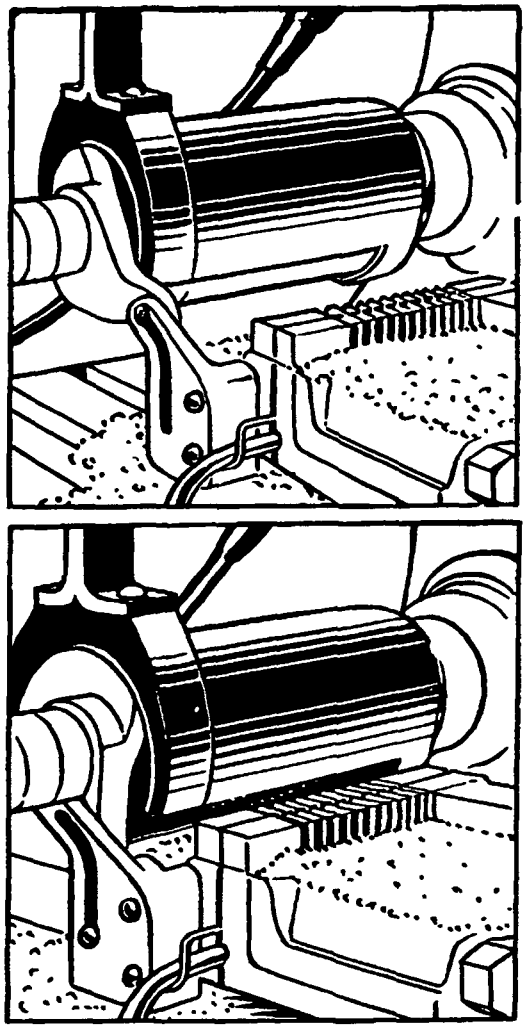

FIG 31–10 —Self-closing guard for milling machine cutter Cutter is entirely enclosed when the table is withdrawn (top), and the guard opens automatically as the table moves forward

The hand-adjusting wheels, for quick or automatic traverse on some models, should be mounted on the shaft by either clutches or ratchet devices so that the wheels do not revolve when the automatic feed is used, or else the wheels should be provided with removable handles with compression springs so that the handles cannot remain in the wheels, unless held in place by the operator

The horizontal milling machine should have a splash guard and pans for catching thrown cutting lubricant and lubricant running from the tools The lubricant should be directed on the work in such a way that the distribution setup will not be drawn into the cut by means of the cutter rotation When possible, all cuts should be made into the travel of the table, rather than away from the direction of travel

Metal saws

A circular saw for cutting cold metal stock should have a hood guard at least as deep as the roots of the teeth, and the guard should automatically adjust itself to the thickness of the stock being cut

A sliding stock guard should be used when tube or bar stock is cut The portion of the saw under the table should be guarded with a complete enclosure that provides for disposal of scrap metal A plastic or metal guard placed in front of and over the saw will provide protection against flying pieces of metal This guard should not, however, be considered a substitute for eye protection

In swing-type saws, the length of the stroke should be adjusted, so that the blade will not pass the table at its most-forward point The control should be located so that the saw can be operated with the left hand when fed from the left, or with the right hand if fed from the right This will position the operator to the side away from the whirling blade

Band saws. The upper and lower wheels of band saws for cutting metal should be completely enclosed with sheet metal or heavy, small mesh screen mounted on angle iron frames Access doors equipped with latches should be provided for changing of blades The portion of the saw blade between the upper wheel and the saw table should be com-