When stock size is such that the end held by the operator may fly up and strike him, hold-down guards should be used Such a guard is illustrated in Fig 32–7 It can be adjusted to fit any type of shear

Material to be cut should be kept within the capacity of the machine, and no attempt should be made to cut hardened steel since such action would probably result in damage to the machine and injury to the operator

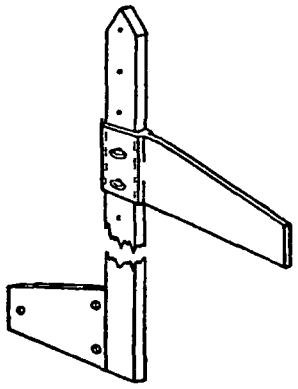

FIG 32–7 —Adjustable hold-down bar for use on an alligator shear, for cutting heavy or long material

Because of their operational differences and the wide variety of work they can do, power presses need close attention by the user and operator to the safeguarding applied to each press This is particularly true if a fixed barrier guard cannot be used for the job, and the user must depend on auxiliary safety devices to achieve the necessary degree of safety

Hand or foot operated presses

All power presses have counterparts in presses which are hand or foot powered—there are still many shops using kick presses, foot sheais, hand folders, and hand rollers Unfortunately, serious injuries can occur even though the operator is the source of power Fortunately such presses are easy to guard and without much expense

Foot press operations are most effectively safeguarded by some type of interlocking tripping mechanism which requires the simultaneous use of both hands of the operator to release the slide head before the pedal can be used At all other times, the slide head should be positively locked in the top position

One such device using a steel plate with ratchet teeth cut into the back side, next to both vertical edges, is securely fastened to the front of the slide head Two hand levers, one on each side, are anchored to pivot pins on the side of the slide head casting The upper ends of the levers, or locking dogs, are shaped to fit into the ratchet teeth

An expansion spring fastened on one end to the bottom of the levers, just above the handle, and on the other end to the casting of the foot press, holds the locking dogs engaged with the ratchet teeth

To operate this foot press, the operator must use both hands to disengage the locking dogs before the slide head may be forced down by foot pressure on the treadle bar

A secondary advantage of this type of tripping mechanism is that it provides means for the operator to brace himself when applying pressure on the treadle

Another simple, yet effective, type of two-hand device can be installed with little expense Half-inch holes are drilled through the sides of the frame and into the swinging arm of the slide Then, when the slide is in the top position, automatic locking pins that can be withdrawn by the operator are inserted into the holes Conveniently located levers with springs attached to the pins can be used by the operator to lock the slide when it is in top position

Back-to-front and side-to-side guards also have proved to be practical methods of guarding foot or kick press operations

Fig 32–8 details a moving ring guard, applicable to small bench-type pneumatic presses

Foot shears and rollers

These operations are even easier to guard than foot (kick) presses All that is needed is some type of barrier placed in front of the shear or roller which will effectively bar the operator's fingers from entering the point of operation It can be angle iron, expanded metal, or even a rod if it is positioned with due regard for the gage of the material and the distance from the point of operation