

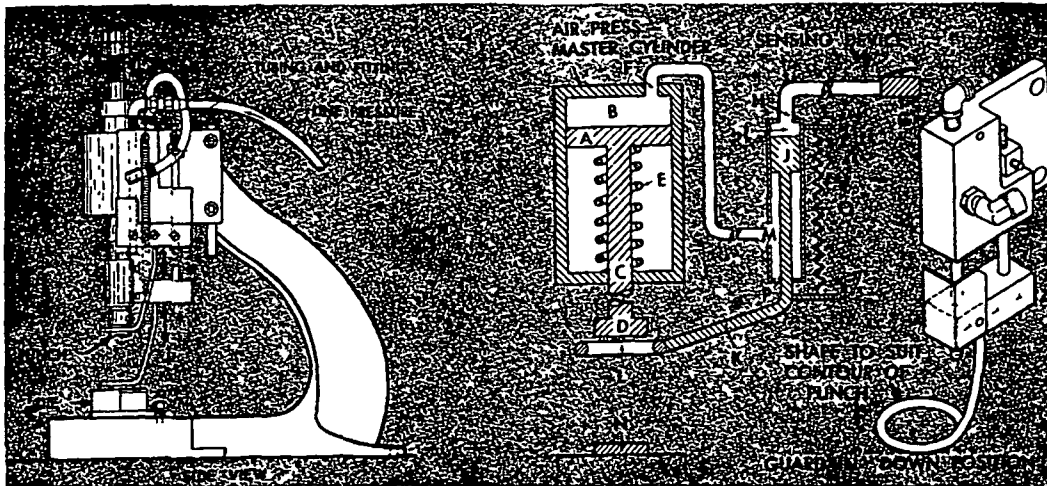


FIG 25-37 - This sketch represents a standard pneumatic bench press in combination with a specially developed safeguarding device

Operation Piston A, sliding in cylinder B, is connected by means of rod C with punch D. Spring E returns piston A to its highest position after the air pressure is released. Air enters cylinder B through port F. Without the safety device, the foot-operated valve G admits air from the storage tank directly to inlet F.

With the sensing device installed, the air admitted through valve G, now enters port H into the auxiliary small-diameter cylinder I. Piston J in cylinder I is directly connected by means of

rod K with the "ring" guard L which fits snugly around punch D. The air pressure will depress piston J, allowing air to enter main cylinder B through the orifice M in cylinder I.

Air can enter the main cylinder only under the condition that piston J has passed beyond orifice M. Any obstruction between punch D and die N will prevent the ring guard L and its attached piston J from traveling downward sufficiently to open port M. After releasing the pressure, piston J is returned to its highest position by spring O. The air in main cylinder B exhausts through port P, by way of inlet F and orifice M, allowing spring E to return piston A to its original position.

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details in Chapter 33, "Electrical Hazards")

- 2 Starters for all motors including main drive, slide-adjustment, inclining, lubrication, and auxiliary motors
- 3 A transformer to step down line voltage to a value not exceeding 120 volts for control circuits, operator controls, relays, and solenoids
- 4 Control relays for clutch, brake, air blow-off, and auxiliary devices
- 5 Operator controls, flywheel brake, rotary limit switches, air pressure switches for clutch-brake, counterbalances, and other

control items

- 6 Air valves for clutch, flywheel brake, air blow-off, and auxiliary devices

Installation

Controls for new machines should be built and installed in accordance with the *National Electrical Code* (ASI Standard C1 and NFPA Standard No. 70), applicable local codes, and recognized industry standards. The purpose of these codes and standards is to safeguard personnel and equipment.

The machine control panel should contain the main disconnect switch, motor starters,