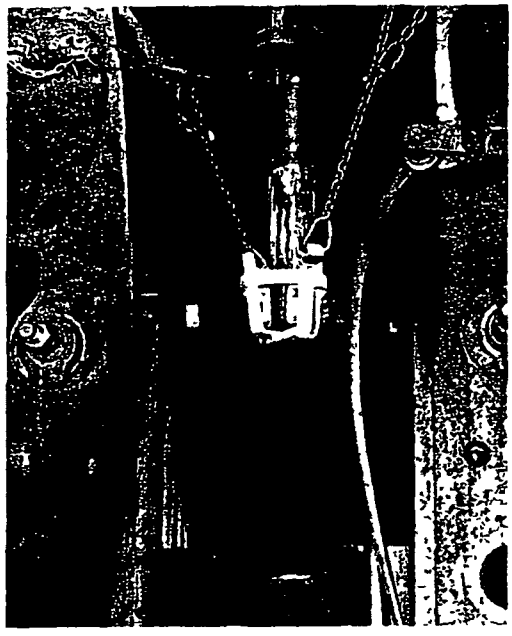

FIG 33–15 —Safety basket, made of 2 by ¼ in welded steel, holds the piston rod of a forging hammer when the steam is shut off for cleaning ram bore The ends of the bars are bent around the chain eyes

Courtesy Tractor Works, International Harvester Co

cylinder to raise the ram and the die and to assist in striking the impact blow

Since steam or air power is used in addition to the weight of the falling ram and die, the steam hammer will strike a heavier blow than will a gravity drop hammer using an equivalent falling weight

The falling weight of the ram assembly and upper die of double-acting steam hammers ranges from *1000* to about *50,000 pounds.* They commonly produce forgings ranging from a few ounces to above 500 pounds, and sometimes up to 2000 pounds

Steam and air operated hammers are manufactured with many built-in safety features Some of the most outstanding are

1 Hammers are designed so that the distance between the floor and the die seat is approximately 36 in.

2 Safety latches prevent the ram from dropping when a job is being set up or when work is being done on the die However, for complete protection, the steam or air should be shut off from the press and the ram should be blocked up

3 A safety cylinder head protects against piston overtravel

4 Many of the working parts are safely enclosed.

5 Operating levers are placed in a safe position

Hammer hazards

For the most part, all types of forging hammers have identical hazards The most frequent causes of injury are

1 Being struck by flying drift and key fragments or by flash or slugs

2 Using feeler gages to check guide wear or the matching of dies

3 Using materials handling equipment improperly, such as tong lifts

4. Crushing fingers, hands, or arms between the dies

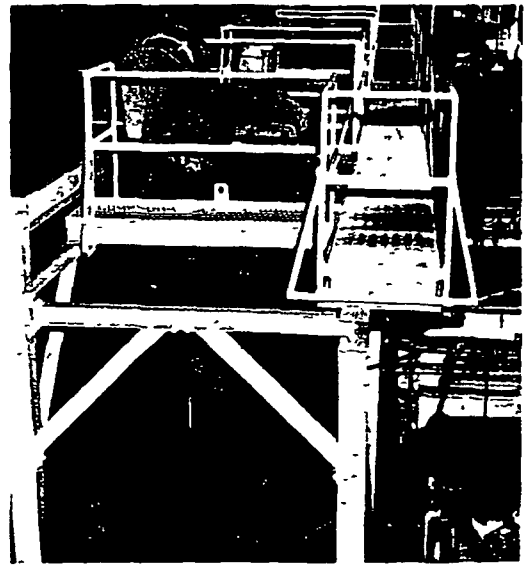

FIG 33–16 —Permanent catwalk installed along row of board drop hammers makes repair and servicing of hammers easy and safe