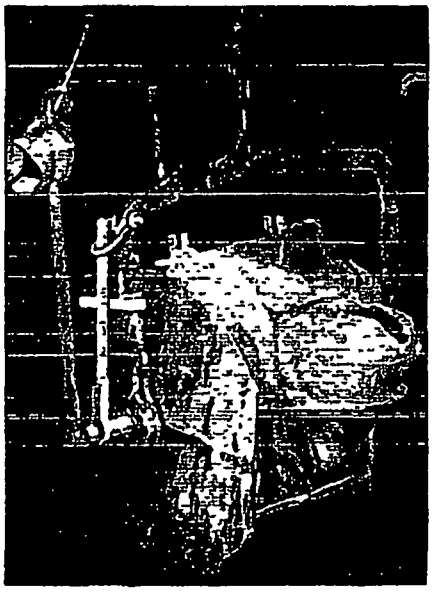


Fig. 27-2. Tilting ladle equipped with manually operated anti-tilt lever shown in white Hoist control switch cable is at left.

Suitable covers should be provided on portable ladles

The rim or lip on hand or bull ladles should be built up above the top of the metal shell with fire clay no more than ½ in. if the refractory ladle lining is less than 1½ in thick at the rim In any case, the maximum height of the rim or lip should be not greater than 1 in

Ladles should be thoroughly dried out before being used Local exhaust should be provided to control vapors or fumes produced during ladle drying. Some foundries control both vapors and excessive noise produced by gas torches used for drying by performing all operations in a ladle-drying shed located outside the foundry

Monorail ladles and trucks used to transport molten metal ladles should be equipped with warning devices (bells or sirens) to be used whenever molten metal is being transported.

Trunnions and the devices used to attach them to flasks, buckets, ladles, and other equipment should be constructed with a factor of safety of at least 10 The diameter of the head on the outside end of the trunnion shaft should be not less than one and one-half times the diameter of the trunnion shaft. The inside corners where the trunnion shaft joins the base and the head should be filleted to prevent the sling or hook from riding the trunnion base or head

Inoculation or treatment of molten metal to desulfurize it or to change its composition or type, as in the making of an alloy or ductile iron, is done in the reservoir or in a pouring ladle A hood can be made to cover this operation so that the workmen are effectively shielded from possible spatters of metal caused by the violence of the reaction The resulting fumes are drawn off and exhausted through a stack *

Hoists and cranes

Pull chains, switches, or valves which operate air and electric hoists from the floor should be plainly marked "hoist" or "lower"

Swivel load-carrying hooks should be attached to a shank or bolt by means of a threaded nut, that is locked in place with a pin or other locking device to prevent the swiveling action of the hook from turning the nut

Mechanically operated hoisting equipment should have limit switches that will prevent the lower block from being pulled into the hoisting drums or overtraveling in the lowered position.

Overhead and gantry crane tracks should be equipped with track wheel bumpers that will stop the crane and prevent it from running off the crane runway or striking the building structure Bumpers should be accurately located so that the crane or track can be realigned by sighting along a center line between the bumpers Bumpers should be anchored not only to the crane rails but also the rail girders or other supporting members

The load-carrying parts of crane buckets

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*Details for local exhaust removal of contaminants generated in this operation may be found in *Engineering Manual for Control of In-Plant Environment in Foundries.* American Foundrymen's Society. 1956.