the crane has more than one hoisting unit, each hoist should have its rated load marked on it or its load block, and this marking should be clearly legible from the ground or floor The crane should not be loaded beyond its rated capacity, except for testing

The general arrangement of the cab and the location of control and protective equipment should be such that all operating handles are within convenient reach of the operator, when facing the area to be served by the load hook or when facing the direction of travel of the cab The arrangement should allow the operator a full view of the load hook in all positions

Each controller and operating lever should be marked with the motion it controls and its direction These levers should have spring returns, so that they will move automatically into the OFF position and latch themselves there if the operator releases the handle

Other factors that should be considered

1 Platforms, footwalks, steps, handholds, guardrails, and toeboards should be provided for safe footing and accessways

2 All machinery, equipment, and material hoists operating on rails, tracks, or trolleys should have positive stops or limiting devices on the equipment, rails, tracks, or trolleys to prevent overrunning safe limits and should be equipped with overspeed devices

3 All joints requiring lubrication during operation should have fittings so located or guarded as to be accessible without hazardous exposure

4 Platforms, footwalks, steps, handholds, guardrails with intermediate rails, and toeboards should be provided on machinery and equipment to provide safe footing and accessways Platforms and steps should be of nonskid material

5 Access to the cab and/or bridge walkway should be provided by conveniently placed fixed ladders, stairs, or platforms whose steps leave no gap exceeding 12 inches Fixed ladders should be in conformance with the American National Standard A14 3, *Safety Code for Fixed Ladders*

6 A carbon-dioxide, dry-chemical, or equivalent fire extinguisher should be kept in the cab

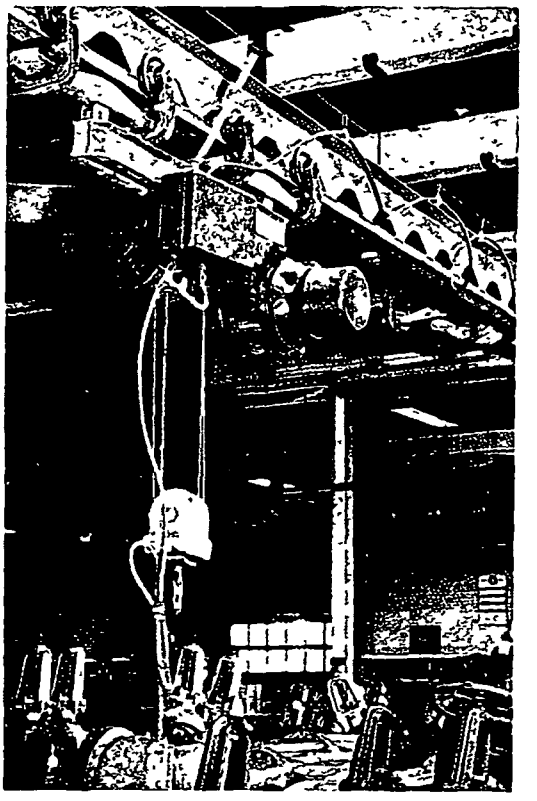


FIG 25–4 —Load blocks are safer when guarded

Cranes—guards and limit devices

Gears and other moving parts should be totally enclosed, covered by screen guards, or out of reach

No overhung gears should be used, unless means are provided to prevent their falling if they should break or work loose

The bolts in shaft couplings should be recessed, so that the tops of the nuts do not project

To prevent fingers from being crushed, load hooks on cranes should have handles, so that the men can hold or guide the hooks when slings are being placed on them Also, on small cranes, the pinch points where cables pass over sheaves in the load block should be guarded (Fig 25–4)