

HOISTING APPARATUS AND CONVEYORS

tor can follow the swing of the rear of the cab and thus make sure that no one will be caught. On heavy, slow-moving cranes, "feeler" bars electrically connected to stop the swing will guard against the shear hazard and also help prevent accidents from insufficient clearance.

Operation. A load never should be picked up when the weight supported by the chassis rests on springs over the axles. It would be difficult to control the load, and moving it could be dangerous. For instance, the boom on an automotive crane may be swung high to one side of the chassis when it picks up the load. As the strain is taken on the boom, the springs on that side of the truck will compress, while those on the opposite side will ease up somewhat. As a result, the top of the boom will move outward, and the load, as it is picked up, will swing.

Then the boom may be slewed to the other side of the chassis. When the load passes the center of the chassis, the action of the springs on each side will be reversed, the crane will tilt the other way, and the load will swing. To prevent this hazard, all load should be taken off the springs of the vehicle by means of built-in jacks or blocks and wedges.

A boom must never be slewed too fast. If it is, the suspended load will be swung outward by centrifugal force so that the crane may rock or even be upset and the load may swing and strike a person or object.

Operating a crane on soft or sloping

ground or close to the sides of trenches or excavations is dangerous. The crane should always be level before it is put into operation. Outriggers can be relied upon to give stability only when used on solid ground.

The use of any makeshift methods to increase the capacity of a crane, such as timbers with blocking, is too dangerous to be permitted.

If the crane tips when hoisting or lowering a load, the operator should lower the load as quickly as possible by snubbing it lightly with the brakes.

When operating a crane with the boom at a high angle, the operator should take care that the suspended load does not strike the boom and bend the steel lattice bars on its underside. Bending these members will weaken the boom, and, when it picks up the next heavy load, it may collapse. Likewise, if the main members of the boom are bent even slightly, the strength of the boom may be materially reduced.

When an extension boom is used on a crane, as for structural steel erection, the operator must use extreme care in lowering it to the ground at the completion of the job. An extension boom never should be lowered to one side of the chassis or crawler, for the stability of the rig is much reduced in that position and the crane may upset.

The hook must be centered over the load to keep it from swinging while it is being lifted. Employees should keep their hands

Fig 18-18. Guard on locomotive crane prevents a man from being caught in the shear between the cab and the car body. The guard is pivoted under the corner of the cab, and the slide at the farther corner follows the continuous guide track. When the cab is parallel to length of the bed, guard is entirely under the cab, as cab swings out, the guard is extended.

