

HOISTING APPARATUS AND CONVEYORS

- 3 A second telephone circuit, which may be grounded if desired

Suitable lighting should be provided at critical points for night operation and repairs

Portable conveyors

Belt, flight, apron, and fixed bucket conveyors are made also as inclined portable units on a pair of large wheels, for loading railroad cars and trucks with bulk materials (Fig. 18-33). The various types of portable conveyors should be provided with guards as specified for the corresponding types of fixed conveyors

Weatherproof electrical equipment should be used. With three-phase power, the flexible cord that is connected to the power outlet should be a four-conductor, the fourth wire being grounded in all plugs and receptacles. The cable should be so arranged that it cannot be run over by trucks or other machines. If the cable must cross a driveway, it should be hung on poles at a minimum height of 14 ft. If two or more sections of cable are required, the connectors should be kept above the ground, since these machines are used most in the worst weather.

Portable conveyors should have skirtboards or sideboards not less than 10 in high to keep heavy material from falling over the sides and light or loose material from blowing off. This safety feature applies to belt conveyors as well as to the other types because troughing of the belt gives insufficient protection against such spillage.

The conveyor should be stable and should be fitted with a locking device to hold the conveying unit at various fixed elevations.

The mechanism for raising and lowering the boom on all types of portable conveyors should be closely checked periodically, it constitutes one of the greatest sources of hazard in the use of such machinery. Any



Fig. 18-33. Portable conveyor.

Courtesy Conveyor Equipment Manufacturers Association

positive type may be used, but the self-walking worm or jack-screw type is preferable. Gear drives should be completely housed and run in oil. All chains within easy reach of workmen should be thoroughly guarded, and a system should be provided for convenient oiling of chains. In warehouses, the boom of portable conveyors usually consists of two sections to permit their use in a small space. These conveyors should be so designed that material will not roll back from one section to the other at the transfer point.

When portable conveyors are used for loading or unloading railroad cars, a suitable safety device should be provided to prevent the car from being shifted during the operation. The device should not be removed until the crew is sure that no one is in the car. A red banner or a standard blue warning sign at each end of the car is recommended as a warning to switchmen. (See the section "Plant Railways" in the next chapter.)

Gravity conveyors

The fact that gravity conveyors (Fig. 18-34) depend wholly upon the natural force of gravity for their operation often leads to disregard of some necessary safe practices. Even though it is not power-driven, this equipment can be the source of serious accidents.

There is real danger if an employee climbs upon a conveyor to release a blockade. He may either slip on the rollers or be knocked down should the jam suddenly be

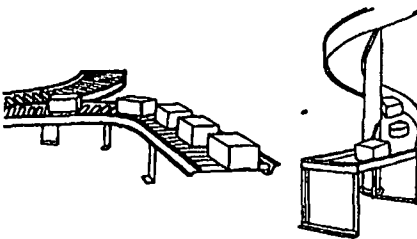


Fig. 18-34. Types of gravity conveyors. Left: roller conveyor. Right: spiral chute.

Courtesy Conveyor Equipment Manufacturers Association