structions When no signalman or switchman is employed, the operator should move the crane only on orders from the foreman of the department in which the crane is working

The crane should not be swung across another track until the craneman and signalman have made sure that cars are not on that track and will not be moved on to it

When he moves the crane about the yard or working space, the operator should keep the crane and boom parallel to the track to avoid striking buildings or other structures and should carry the boom low enough to clear overhead wires Buckets and magnets should not be carried on the boom when the crane is going from one location to another

Industrial truck cranes usually have four wheels, although some have three In one model, the operator sits behind a small pillar-type jib crane mounted on a chassis, while, in another, the operator stands on a platform and operates a fully or partly rotating crane Still another type has a fixed boom (which cannot be swung), so that to make side motions the entire rig must be moved from one position to another

A crane carrying a load should be driven at the lowest possible speed, and the load should be carried as low as possible

The operator should have a helper to act as a hook-on man and to give signals When a long load is being carried, the helper should walk alongside and, by means of a tag line, keep the load from swinging and striking against objects along the way

When the crane is traveling without a load, the hook should be fastened to the lower end of the boom to prevent the hook block from swinging

Aerial baskets

A study of aerial basket accidents reported for the years 1967–1971 (see NSC publication, *Study of Aerial Basket Accidents,* Volume II) shows that approximately 5 out of 6 accidents can be attributed to the acts of individuals, and that many of the accidents due to equipment failure were probably the result of abuse or misuse of the equipment

In the period from 1962 to 1971, almost 18 percent of the accidents reported involved electrical contact (Fig 25–21) The same precautions used on live-line work should be followed (See NSC Data Sheet 598, *Flexible Insulated Protective Equipment for Electrical Workers*) Use of baskets for "bare-handed" work requires extra caution to maintain adequate clearances between crews and equipment, where work involves one crew working from a grounded structure and the other doing "bare-handed" work from an insulated basket

Many accidents were caused by control levers catching on obstructions, which reemphasizes the need for guarded controls

To reduce accidents due to equipment failures, the following are *musts*

1 Aerial baskets must be of the proper design and construction for the intended work

2 The design limits of the equipment must be thoroughly understood and operated within the limits of their capabilities

3 Daily and periodic inspections are necessary to uncover defects before they become serious in nature

4 All maintenance, both preventive and corrective, must be performed by qualified personnel

From a realistic viewpoint, it would be naive to say that all aerial basket accidents due to actions of individuals can be prevented However, the lessons that can be learned from this accident study are

1 Adequate instruction and training of personnel is a must The capabilities of the equipment must be thoroughly understood and not exceeded

2 It is not safe to assume that an operator familiar with one type of aerial basket or equipment can operate other types

3 Adequate clearances must be observed and ability to judge distances is essential

4 Sufficient rubber protective equipment is as necessary in working from aerial baskets as in working from a pole

5 When jobs involving both "bare-hand" work from a basket and work from a structure are performed, coordination and teamwork between the two methods is of primary importance