

the cables off the sheaves and subject the entire machine to severe stress and danger of accident.

(p) **Car Stopped By Safety Device**—If the safety device should clutch and hold the car, don't touch the hand rope or lever, but send for your foreman or other competent help. While waiting keep cool and don't allow any one to attempt to get out of the elevator, it is always dangerous.

(q) **Car Stuck**—If your elevator gets stuck and refuses to go up or down, move the rope or lever to the center and send for your foreman or other competent help. Don't try any experiments. It is dangerous.

(r) **Starting Car From Outside**—Many serious accidents have been caused by men reaching over the gate from the floor outside and pulling the starting rope. This is strictly forbidden. When you leave the car you must always lock the lever or hand rope.

(s) **Trucks Bearing Long Parts**—When trucks bearing long parts are run on your elevator, take care to see that there is room enough for the elevator to clear the floors.

BULLETIN

OF

INDUSTRIAL COMMISSION OF WISCONSIN

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GENERAL ORDERS ON SAFETY ELEVATORS

INTRODUCTION.

The orders on safety for elevators included in this bulletin were drafted by the committee on safety and sanitation, which also drafted the orders on safety published in Bulletin No. 1, under date of May 20, 1912. This committee is composed of the following persons:

- Representing Wisconsin State Federation of Labor:
 - Joseph Gressler, machinist, Milwaukee.
 - George Krogstad, patternmaker, Milwaukee.
- Representing Milwaukee Merchants and Manufacturers' association:
 - Charles P. Bossert, Pfister & Vogel Leather company.
 - Edward J. Kearney, Kearney & Trecker company (machinery), chairman.
- Representing Milwaukee Health department:
 - Joseph Derfus, chief sanitary inspector.
- Representing Wisconsin Manufacturers' association:
 - Thomas McNeill, Sheboygan Chair company, Sheboygan.
 - H. W. Bolens, Gilson Manufacturing company (engines), Port Washington.
- Representing Employers' Mutual Liability company of Wausau:
 - W. C. Landon, Wausau.
- Representing Industrial Commission of Wisconsin:
 - John W. Mapel, Pfister & Vogel Leather company.
 - Fred W. McKee, Fairbanks-Morse company (engines), Beloit.
 - C. W. Price, assistant to the industrial commission and secretary of the committee.

The following sub-committee assisted the main committee in drafting these orders; this same sub-committee assisted in drafting the rules on elevators included in Bulletin No. 1:

C. F. Ringer, former inspector of buildings, Milwaukee.
 Otto Fischer, inspector of elevators, Milwaukee.
 P. Jermain, Otis Elevator company.
 F. A. Barker, safety engineer, National association of manufacturers.
 G. N. Chapman, inspector of safety, Travelers' Insurance company.
 J. Humphrey, deputy to Industrial commission.
 C. W. Price, assistant to Industrial commission.

In working out standards for elevator protection, the committees have made most careful inquiry into the present practice of good elevator construction among the various elevator manufacturers who sell elevators in Wisconsin, and they have endeavored to draft orders in line with this practice. The investigations of the committees revealed the fact that there are a large number of points on elevators which are vital to safety, and therefore, in drafting orders, it was necessary to include many details and to cover all of these points. Up to the present time there has been no standard which would serve as a guide to the purchaser of an elevator. The result has been the installation of many elevators which are not safe.

Manufacturers, generally, are alive to the importance of safeguarding elevators because this is considered one of the most dangerous machines in the factory. In issuing these orders the commission believes it is rendering the owner of elevators a real service, because it is placing in their hands standards which will enable them to secure safety in new elevators which are purchased, as well as in old elevators at present installed.

Copies of these rules as drafted by this committee were printed and sent to manufacturers and to manufacturers' associations in December, 1912, and a public hearing was held in Madison on Jan. 7, 1913. The Industrial commission adopted the revised rules as general orders on Jan. 16, 1913. They were published in the official state paper on Jan. 21, 1913, and became effective thirty days later, Feb. 20, 1913.

PROVISIONS OF CHAPTER 485, LAWS OF 1911.

The Industrial commission law, Chapter 485 of the laws of 1911, provides that "all places of employment shall be made safe," and empowers the Industrial commission to make investigation as to what places are not safe, and to prescribe such safeguards, and issue such orders as will make them safe.

It is the duty of the Industrial commission to fix standards of safety and to formulate rules and regulations relative to the enforcement of such standards, which rules shall be published for the use of all citizens who may be interested. (Section 2394—52—Sub. 7.)

The law empowers the Industrial commission to appoint advisors, who shall serve without compensation, to assist the commission in the execution of its duties. (2394—52—Sub. 1.)

(a) Duties of Employers

Every employer shall furnish employment which shall be safe for the employes therein and shall furnish a place of employment which shall be safe for employes therein and for frequenters thereof, and shall furnish and use safety devices and safe guards, and shall adopt and use methods and processes reasonably adequate to render such employment and place of employment safe, and shall do every other thing reasonably necessary to protect the life, health, safety and welfare of such employes and frequenters. (Sec. 2394—48.)

(b) Duties of Employes

No employe shall remove, displace, damage destroy or carry off any safety device or safeguard furnished and provided for use in any employment or place of employment, nor interfere in any way with the use thereof by any other person, nor shall any such employe interfere with the use of any method or process adopted for the protection of any employe in such employment or place of employment or frequenter of such place of employment, nor fail or neglect to do every other thing reasonably necessary to protect the life, health, safety or welfare of such employes or frequenters. (Sec. 2394—49—Sub. 2.)

(c) Definition of Employment and Places of Employment

The phrase "place of employment" shall mean and include every place, whether indoors or out or underground and the premises appurtenant thereto, where either temporary or permanently any industry, trade or business is carried on, or where any process or operation, directly or indirectly related to any industry, trade or business, is carried on, and where any person is directly or indirectly employed by another for direct or indirect gain or profit, but shall not include any place where persons are employed in private domestic service or agricultural pursuits which do not involve the use of mechanical power.

The term "employment" shall mean and include any trade, occupation or process of manufacture, or any method of carrying on such trade, occupation, or process of manufacture in which any person may be engaged, except in such private domestic service or agricultural pursuits as do not involve the use of mechanical power. (Sec. 2394-41-Sub. 1-2.)

(d) Procedure for Hearing

If an employer considers any of the following orders issued by the Industrial commission as unreasonable, he may petition the Industrial commission for a hearing, and the commission, if it finds the order unreasonable, is required by law to substitute such other order as may be just and reasonable. The procedure for such hearing is as follows:

1. Any employer or other person interested either because of ownership in or occupation of any property affected by any such order, or otherwise, may petition for a hearing on the reasonableness of any order of the commission in the manner provided in sections 2394-41 to 2394-71, inclusive.

2. Such petition for hearing shall be by verified petition filed with the commission, setting out specifically and in full detail the order upon which a hearing is desired and every reason why such order is unreasonable, and every issue to be considered by the commission on the hearing. The petitioner shall be deemed to have finally waived all objections to any irregularities and illegalities in the order upon which a hearing is

sought other than those set forth in the petition. All hearings of the commission shall be open to the public.

3. Upon receipt of such petition, if the issues raised in such petition have theretofore been adequately considered, the commission shall determine the same by confirming without hearing its previous determination, or if such hearing is necessary to determine the issues raised, the commission shall order a hearing thereon and consider and determine the matter or matters in question at such times as shall be prescribed. Notice of the time and place of such hearing shall be given to the petitioner and to such other persons as the commission may find directly interested in such decision.

4. Upon such investigation, if it shall be found that the order complained of is unjust or unreasonable the commission shall substitute therefor such other order as shall be just and reasonable.

5. Whenever at the time of the final determination upon such hearing it shall be found that further time is reasonably necessary for compliance with the order of the commission, the commission shall grant such time as may be reasonably necessary for such compliance. (Sec. 2394-57-Sub. 1-5.)

(e) Penalties

If any employer, employe or other person shall violate any provisions of section 2394-41 to 2394-55, inclusive, of the statutes, or shall do any act prohibited in sections 2394-41 to 2394-71, inclusive, or shall fail or refuse to perform any duty lawfully enjoined, within the time prescribed by the commission, for which no penalty has been specifically provided, or shall fail, neglect or refuse to obey any lawful order given or made by the commission, or any judgment or decree made by any court in connection with the provisions of sections 2394-41 to 2394-71, for each such violation, failure or refusal, such employer or other person shall forfeit and pay into the state treasury a sum not less than ten dollars nor more than one hundred dollars for each such offense. (Sec. 2394-70.)

ELEVATOR ORDERS.

Definition.—The term "elevator" when used in these orders, shall mean an elevating device provided with a platform and cage which is located in a permanent shaftway, and is used for the purpose of raising and lowering persons or materials.

Order 409—Cables, Factor of Safety. The maximum safe working load for all hoisting and counterweight cables must be not more than 1/7 of the breaking load, as given in the schedule of the cable manufacturer.

Order 410—Drums and Sheaves, Minimum Size. The following shall be the schedule of cables with minimum size of sheaves and drums:

Size of Cable	Minimum size of sheaves and drums for power elevators other than dumb waiters.
3/8 inch	20 inches
7/16 inch	20 inches
1/2 inch	20 inches
9/16 inch	22 inches
5/8 inch	24 inches
3/4 inch	30 inches
7/8 inch	36 inches
1 inch	40 inches

NOTE. Attention is called to the fact that in the above schedule the minimum diameter of sheaves and drums is given, but it is recommended that wherever practicable, a larger diameter than the minimum should be used.

Order 411—Standard for Cable Inspection. Cables are considered unsafe and must be condemned when through broken wires, wear, rust, undue strain, or other conditions indicating deterioration, the strength of the cables has deteriorated 25%.

NOTE. When broken wires, or other signs of deterioration are discovered, the cables should be carefully watched. Cables should be frequently lubricated; it adds much to their durability.

Order 412—Hoisting Cables, Number Required. All elevators requiring hoisting cables must be equipped with not less than two hoisting cables.

Order 413—Passenger Elevators, Defined. Elevators used chiefly for carrying passengers shall be considered passenger elevators.

Order 414—Hydraulic Elevators, Number of Cables Required. All hydraulic elevators traveling over 250 feet per minute, or having a carrying capacity of over 2000 pounds, must be equipped with not less than 4 hoisting cables.

Order 415—Sheaves on Hydraulic Elevators, Guarded. All sheaves at the cylinder of hydraulic elevators must be provided with a cable guard to prevent the cable from leaving the sheaves in case it becomes slack.

Order 416—Cables on Drums, Turns Required. The hoisting and counterweight cables on drum types of elevators, shall have at least one and one-half turns of the cable on the drum when the car or counterweight has reached the limit of travel.

Order 417—Traction Elevators, Cables Required. Traction types of elevators must have not less than 4 hoisting cables. All traction types of elevators running over 250 feet per minute, or having a carrying capacity of over 2,500 pounds, must be equipped with not less than 6 cables.

Order 418—Cables, Fastenings at Terminals. Each hoisting cable must be independently fastened at its terminal to the overhead beam of the car, and where possible, each counterweight cable must be independently fastened at its terminal to the weight.

Order 419—Drum and Car Counterweights. All passenger elevators *hereafter installed*, must be equipped with car counterweights. All drum types of passenger elevators *hereafter installed*, must also be equipped with drum counterweights.

NOTE. The equipment of elevators with proper counterweights is very essential to safety and it is recommended that on elevators *already installed*, the above standards be followed where possible.

Order 420—Counterweights, Cables Required. Each set of counterweights on freight elevators *hereafter installed*, the weight of which exceeds 1,000 pounds, or the travel of which exceeds 25 feet, or the speed of which exceeds 60 feet per minute, must be equipped with not less than 2 cables. Each set of counterweights on all passenger elevators *hereafter installed* must be equipped with not less than 2 cables.

Order 421—Cables Protected. Where cables of one set of counterweights pass through or by another set of counterweights, they must be provided with a suitable covering to prevent them from chafing or wearing on the counterweights.

Order 422—Counterweights Bolted. Each set of counterweights on all power driven elevators *hereafter installed*, unless contained in a steel frame, must have the separate weights bolted together with not less than 4 bolts with lock nuts and cotter pins at each end, at least 2 of which bolts shall pass through all of the weights, tightly bolting them together. Counterweights on hand power elevators must be bolted together with not less than 2 bolts. On all sub-counterweights the bolts must pass through holes and not slots.

Order 423—Fireproof Shaftways on Passenger Elevators. All passenger elevators *hereafter installed* or where shaftways are altered, must have their shaftways enclosed entirely with fireproof enclosures. A fireproof enclosure must be made either of wire glass in metal frame, or of solid plaster not less than 2 inches thick on metal lath and metal frame, or of brick, concrete or tile of sufficient thickness to give rigidity. The windows in a fireproof enclosure must have metal frames, metal sash and wire glass. The doors and their frames must be of solid metal, or the doors may be made of not less than two thicknesses of matched lumber, enclosed with tin. These doors must be self-closing in case of fire. Fire doors must not swing on a vertical axis except in basements where the restricted space will not permit the use of a sliding or rolling door.

NOTE. The term "enclosure" when used in these orders, shall mean the enclosure of the shaftway on all sides. Where fireproof shaftways are required, the entrance openings to the shaftway must be equipped with fireproof doors constructed in accordance with the above order.

Order 424—Fireproof Shaftways in Basements. All elevators *hereafter installed*, must have their shaftways in the basement enclosed with fireproof enclosures, except sidewalk elevators, and freight elevators in buildings not over one story in height above the basement and where automatic lift fire doors on such elevators close the openings in the first floor. All automatic lift fire doors must be made sufficiently strong to safely

sustain a center load of 300 pounds, and must be covered on the under side with fireproof material. Guide rails must not be attached to the fire doors.

NOTE. The automatic fire door may consist of a solid cover which is automatically raised and lowered with the movement of the elevator car, or of hinged doors which automatically open and close with the movement of the car.

Order 425—Fireproof Shaftways on New Freight Elevators. All freight elevators *hereafter installed* in buildings more than two stories in height above the basement, or in buildings where the travel of the elevator car exceeds 35 feet, must have the shaftways entirely enclosed with fireproof enclosures.

Order 426—New Freight Elevators, Shaftways Guarded. All freight elevators *hereafter installed* in buildings not over two stories in height above the basement, and where the car travel does not exceed 35 feet, must have the shaftways above the basement enclosed with guards not less than 6 feet in height above each floor, unless a continuous fireproof enclosure is provided. Where not enclosed continuously with a fireproof enclosure, the shaftway opening in the top floor must be provided with a fire door which is operated by the movement of the car. If the guards are made of wood, they must be made solid with the top at least 2 feet below the ceiling. If the guards are made of wire screen, the wire must be not less than No. 10 gauge, and the mesh not more than 1 inch; wire guards may extend to the ceiling.

Order 427—Fireproof Shaftways for Hotels, Hospitals, etc. All elevators in hotels, lodging houses, hospitals and institutions for housing insane or infirm persons, or children, must have hatchways entirely enclosed with fireproof enclosures. (See Chapter 349, Sec. 2, Laws of 1901.)

Order 428—Old Freight Elevators, Shaftways Guarded. With the exception of the elevators mentioned in Order 427, all elevators *at present installed*, the shaftways of which are not continuously enclosed, must be guarded at each floor with an enclosure not less than 6 feet high, if such inclosure guards are made of wood, they must be made solid and the top must be at least 2 feet below the ceiling. If the enclosure guards are made of wire screen, the wire must be not less than No. 10 gauge, and the mesh not more than 1 inch; wire guards

may extend to the ceiling. Shaftway enclosures *at present installed*, which are not of sufficient height or sufficient strength, must be changed to conform to the above order.

Order 429—Elevators on Outside of Buildings, Guarded. All elevators located on the outside of a building must have an enclosure at each landing of not less than 6 feet in height on the sides where the floor adjoins such shaftway.

Order 430—Counterweight Runways Guarded. Where counterweight runways are located in the elevator shaftway, the outside must be entirely enclosed with a solid guard. The runways must be entirely enclosed on the inside with a solid guard to a height of 8 feet from the bottom of the pit, and 10 feet down from the top limit of travel of the car. Where counterweight runways are located outside of the elevator shaftway, they must be entirely enclosed on all sides with a solid guard.

Order 431—Pent House Construction. Where fireproof shaftway enclosures are required, the enclosures must include the pent house or enclosure of sheaves or machinery above the shaftway. The above provisions will not be required where there are sheaves only and where they are separated from the hatchway by a fireproof floor. Where a fireproof shaftway enclosure is not required, a pent house or enclosure of machinery and sheaves may be made of frame construction if the outside is covered with incombustible material.

Order 432—Pent House Entrance. The entrance to the pent house or the floors under the sheaves on *new installations*, must be located outside of the hatchway, and the access to same must be made safe and easy.

Order 433—Pits and Overhead Clearance. All elevators *hereafter installed* with a speed up to and including 50 feet per minute, must have a pit not less than 2 feet in depth below the lowest landing, and an overhead clearance of not less than 2 feet above the highest landing. All elevators with a speed over 50 feet and up to and including 150 feet per minute, must have a pit not less than 3 feet deep, and an overhead clearance of not less than 4 feet. All elevators having a speed over 150 feet and up to and including 350 feet per minute, must have a pit of not less than 4 feet in depth, and an overhead clearance of not less than 5 feet. All elevators having a speed greater than 350 feet per minute, must have a pit not less than 4 feet

deep and an overhead clearance not less than 6 feet. The overhead clearance for counterweights shall be not less than the above mentioned clearance for cars at the various speeds. The pit and overhead clearance must be equal in area to that of the shaftway.

Order 434—Buffers. All passenger and power driven freight elevators *hereafter installed* must be provided with spring, rubber or oil buffers or other approved type of buffers, which must rest on a substantial foundation in the pit. The car must be so constructed as to withstand the impact of the buffers.

Order 435—Pits Fireproof. The walls and floor of elevator pits *hereafter installed* must be constructed of incombustible material forming a tight enclosure of sufficient strength to stop the descent of the car in case it drops.

Order 436—Pits Kept Clean. Elevator machines or other machinery shall not be located in the pit; only sheaves necessary for the operation of the elevator shall be located in the shaftway or pit under the car. Elevator shaftways or pits shall not be used for the storage of any material or the running of any rope, wire or pipe, except such as is needed for the operation of the elevator. Branch pipes with sprinkler heads will be allowed in the shaftway. Elevator hatchways shall not be used as passageways.

Order 437—Elevators Kept Clean. All elevators and other mechanical devices used for similar purposes must be kept clean and free from excessive grease and dirt.

Order 438—Overhead Sheaves, Screens Under. Where the overhead machinery consists only of sheaves, a metal grating or screen in place of a floor may be placed under such sheaves, provided it extends over the entire shaftway and gives safe access to the sheaves from the floor or roof of the building. The grating or screen must be of sufficient strength to sustain a load at center of span of not less than 300 pounds with a factor of safety of 4. The openings in such grating or screen must not be wider than 1 inch.

On traction types of elevators, the screen under the secondary sheaves which are located below the floor of the pent house, must extend under the entire sheaves and must not cover more than one-half of the area of the shaftway, unless there is sufficient room for a man to stand between the screen and the pent house floor.

Order 439—Floors Under Overhead Machinery. On *new installations* where the elevator machine is placed over a shaftway there must be a floor provided to separate the machine from the shaftway. This floor must be made of fireproof construction, or it may be made of mill construction if covered on the top and bottom with asbestos board or other fireproof material, which shall closely adjoin the wood and leave no air spaces. No metal covering will be permitted where electric current is used.

Order 440—Beams Supporting Machines, Strength. All beams for the support of overhead machinery of power driven elevators *hereafter installed* must consist of iron or steel, and these beams must rest on supports of steel, concrete, masonry, or wood of sufficient strength to sustain the required load. The factor of safety for all supports must be not less than 6. If vertical wood supports are used they must be not less than 8 inches by 8 inches in size. All vertical supports must rest on foundations of concrete or masonry.

Order 441—Guide Rails. All power driven elevators which require fireproof shaftways, and all power driven freight elevators whose speed exceeds 100 feet per minute, and all passenger elevators, *hereafter installed*, must have the guide rails for car and counterweights made of wrought iron or steel. Where wrought iron or steel guide rails are not required, guide rails made of wood, or a combination of wood and steel, securely bolted together, may be used. All guide rails must be made of sufficient strength and must be so braced between the floors that they will not spread.

Order 442—Hoisting Machinery, Lifting Capacity. All passenger elevators *hereafter installed*, must have hoisting machinery capable of lifting a load carried in the car of not less than 75 pounds per square foot of car floor area.

Order 443—Entrance to Car. All sills to entrances of elevator cars and shaftways must be made with a nonslippery surface.

Order 444—Plates in Car Giving Capacity. A metal plate with raised letters not less than 1 inch long, stating the number of pounds such elevator will safely carry, must be placed in a conspicuous position on the car of all freight and passenger elevators *hereafter installed*.

Order 445—Old Elevators, Capacity Tested. Within two years from the date of the issue of these orders, all *existing elevators* must be inspected and tested for safe capacity by the owner or lessee in the presence of an inspector authorized by the Industrial commission, and a metal plate as specified above must be placed in the car.

Order 446—Hand Rope Locks. All freight elevators equipped with a hand rope operating device must be provided with a lock on the car to prevent the operation of the car by persons on other floors than the one at which the car is stationed. The operating cable must be equipped with a guard at the point where the sheaves lead the cable from the shaftway to the machine.

Order 447—Centering Rope. All hand rope controlled elevators, except hydraulic elevators, must be provided with a centering rope.

Order 448—Electric Brake and Circuit Breaker. All electric passenger elevators and all electric freight elevators *hereafter installed*, whose speed exceeds 75 feet per minute, must be equipped with an electric brake and an overload and no-voltage circuit breaker, and must be provided with an emergency switch in the car.

Order 449—Mechanically Controlled Brakes on Electric Elevators. Mechanically controlled brakes will be permitted on electric freight elevators whose speed does not exceed 75 feet per minute.

Order 450—Elevators Altered Classed as New Installations. Where the machinery of the elevator is moved to a different location or materially altered, or where the shaftway or pent house is materially altered or extended, or where the capacity of the elevator is materially increased, such alterations shall be considered the same as a *new installation* and shall bring the moved or altered parts under the orders for *new installations*.

Order 451—Factor of Safety for Elevator Parts. In the construction of all parts of elevators *hereafter installed*, the factor of safety for parts sustaining immovable loads must be not less than 4 for wrought iron or steel, and not less than 9 for cast iron. For moving loads the factor of safety must be not less than 50% more than the above standard, except in the case of cables, which must be not less than 7.

Order 452—Slack Cable Device. All elevators must be equipped with an efficient device which will automatically shut off the power in case the cables become slack.

Order 453—Wire Cables for Governors. Wire governor cables must be used on all elevators the travel of which exceeds 75 feet, and the speed of which exceeds 150 feet per minute.

NOTE. On elevators equipped with wire governor cables, the governor should be specially constructed so as to grip the cable, and throw in the safety clutch.

RULES FOR ELEVATOR OPERATORS

NOTE. Below are given nineteen suggestions for operators of elevators. The commission wishes to urge owners of elevators to have these suggestions printed in large type and posted in the elevator.

(a) **Read the Rules**—Read these rules carefully and be sure you understand them. If you do not understand a rule ask your foreman to explain. Remember you are required to thoroughly understand these rules and to obey them.

(b) **Carelessness**—Always keep in mind that a large number of serious accidents are caused by carelessness. No matter how perfect the elevator may be, you can cause accidents and the loss of life if you are not always careful.

(c) **Creeping After Car Is Stopped**—In stopping a steam elevator be careful to center the hand rope, and if the elevator creeps after it is stopped, report at once to your foreman. The brake requires adjusting.

(d) **Fooling on the Elevator**—Never allow anyone to scuffle or fool on your elevator. It is always dangerous.

(e) **Close Gate Before Starting Elevator**—Never start an elevator until the door or gate at the landing is closed and latched, and do not open the door at a landing until you have brought the elevator to a full stop.

(f) **Holding a Load**—If an elevator, when it is stopped, does not hold the load properly, report at once to your foreman. The brake needs adjusting.

(g) **Lever or Wheel, Operation of**—When running an elevator, which is operated by a wheel or lever, you should never reverse the wheel or lever suddenly, but should bring the car to a full stop, and then move your wheel, or lever in the direction you wish to go.

(h) **Report to Engineer, Rope Loose or Tight**—If the hand rope is too tight or too loose, report it at once to the engineer, who will adjust it properly. The tension of the ropes changes with the condition of the atmosphere.

(i) **Belt Elevators**—If you are running a belt driven elevator, be sure to pull the hand rope or hand chain as far as possible on either motion; by doing so you throw the belt full on the tight pulley and thus prevent it from slipping; in stopping, use the check rope.

(j) **Everything in Place Before Starting**—Before starting elevator, make sure that everything is in place and that the passengers standing nearest the door or opening of the car are well within the car and that all passengers stand facing the door.

(k) **Safe Capacity of Elevator**—Always keep in mind the safe capacity of your elevator and under no circumstances allow it to be overloaded. When the car is comfortably full, request the remaining persons to ride on the next elevator and close your door. If you have a large amount of material to take upstairs, it is safer to make two loads of it than to attempt to carry it all in one load.

(l) **Report When Out of Order**—If your elevator or gate is out of order, or if you hear an unusual sound in or about the machinery, report it at once to your foreman. If the gate is tied up do not operate the elevator until it is in place.

(m) **Centering Lever or Rope, Electric Elevators**—If you are running an electric elevator, always center your hand rope, lever, or wheel, when stopping, for if you fail to do so, you are liable to burn out parts of the starting box and motor. Electric elevators should never be overloaded, for the moment the load exceeds the lifting capacity, the fuse burns out and the elevator cannot be operated until a new fuse has been put in. Never use a piece of wire as a substitute for a safety fuse, for by doing so you will burn out the entire machine sooner or later.