ment may be caused by unexpected motion, such as the accidental starting of motors which drive machines where men may be working

Other types of injury are falls from one level to another caused by the workman's receiving a shock from defective equipment and, because of the resulting muscular contraction, losing his balance.

Statistics indicate[*] that only a small percentage of those who recover from electric shock show permanent disability In many cases, the victim may be saved by prompt application of artificial respiration, since a common result in electrical accidents is failure of that part of the nervous system which controls breathing It is therefore essential that persons engaged in electrical work be instructed in the arm-lift back-pressure, mouth-to-mouth, or mouth-to-nose methods of resuscitation It should immediately be applied to a victim of electric shock and should be continued until he revives, until death is diagnosed by a physician, or until rigor mortis sets in

Electrical Equipment

Selection

Most items of electrical equipment are designed and built for specific types of service. They will operate with maximum efficiency and safety only when used for the purposes and under the conditions for which they are intended

In the selection of equipment, it is advisable to follow the recommendations of the various codes and standards which have been established In addition to the *National Electrical Code*,[**] the state and local codes should be checked for industrial zoning requirements

Engineering consultant service, recommendations of manufacturers, and publications from the following agencies will answer practically all questions concerning electrical equipment

American Standards Association
10 East 40th St
New York City 10017

Canadian Standards Association
235 Montreal Rd.
Ottawa, Ontario, Canada

Factory Mutual Engineering Division of Associated Factory Mutual Fire Insurance Companies
1151 Boston-Providence Turnpike
Norwood, Mass 02062

Institute of Electrical and Electronics Engineers
345 East 47th St
New York City 10017

National Electrical Manufacturers Association
155 East 44th St
New York City 10017

National Fire Protection Association
60 Batterymarch St
Boston, Mass 02110

Underwriters' Laboratories, Inc
207 East Ohio St.
Chicago, Ill. 60611

When copies of codes or standards are ordered from the publishers, give full information on general types of equipment under consideration, the application and operating conditions For special problems, include photographs or blueprints to clarify the physical conditions at the installations.

Installation

When transformers, dead-front control boards, switches, motor starters, and other electrical equipment are installed in a plant, they should be laid out so that the possibility of accidental contact with energized conductors is reduced to a minimum.

When an interlock is used as a safety device, steps must be taken to assure that failure of this device will not jeopardize the safety of personnel depending upon it. Interlocks selected should meet the following standards

1 "Fail-safe" features Failure of the interlock mechanism, loss of power, short circuit, or malfunction of equipment will cause the circuit to be interrupted.

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[*] Charles F Dalziel "Effect of Electric Current on Man" *Electrical Engineering*, February 1941.

[**] National Fire Protection Association (also published by National Board of Fire Underwriters). *National Electrical Code*. Standard No 70.