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TUESDAY MORNING SESSION

October 6, 1936

The session was called to order by General Chairman Harold M. Toombs, Armour & Co., Chicago, who presided.

Chairman Toombs reported on the activities of the Section during the past year and introduced the speakers.

Accident Prevention in the Brewing Industry

By JOHN M. ROCHE

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Mechanical and physical safeguarding is the first line of attack in any campaign to reduce brewery accidents. Machines, whether maintenance or production, should be equipped with the best guards the market offers. If no guards are

available, then they should be designed and applied by brewery engineering departments. Belts, pulleys, gears, chains, sprockets, fly wheels, and other dangerous moving parts may be found in nearly all operating departments of the modern

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brewery. Wherever they are located, they should be completely enclosed with guards. In the mechanical departments, saws, jointers, shapers, stave machines, and punches should be provided with point of operation guards that will prevent the hands of the operators from entering the danger zone while the machines are running.

Hoistways and elevators, often the scene of serious injuries, can stand plenty of improvement in most breweries. Some of these antiquated devices have long outlived any possibility of efficient operation and should be replaced with modern equipment. Where they can be made safe, action should be taken immediately to eliminate the hazards.

Floors, stairs, and platforms in breweries take severe punishment because of the nature of the work, and often they are allowed to wear to the danger point. One of the best types of floors, both from a service and safety standpoint, is a concrete floor with carborundum particles worked into the surface. This type of floor, even when wet, will prevent most slips and falls.

The market now offers composition tile with a non-slip surface that may also be used for safe flooring. Safety treads for stairways, either metal or composition, may be obtained, using carborundum or some other suitable abrasive as a surface. These are far superior to the wood treads and, although higher in first cost, actually they are more economical because of their long life.

Stairways should be provided with substantial hand rails on both sides. Working platforms should also be provided with guard rails and in addition, a toe board, at least six inches high, should be installed to eliminate the chance of material falling to the floor below.

Ladders cause many accidents in breweries. Men often use make-shift ladders. The only real solution here is to destroy this substandard equipment. Substantial ladders, constructed of a hard wood properly cured, should be provided; these should have non-slip safety feet and if they are to be used around tanks or vats, the tops should be equipped with hooks. Where possible, a steel ladder should be securely bolted in position in preference to a portable ladder.

Conveyors are coming into more general use in the industry and they bring

new hazards that should be controlled. All conveyors, live or dead, should have cross-over steps at every aisle. Sideboards should be so extended as to prevent the jumping of cases or barrels at turns or on down grades. Low headroom underpasses should be clearly shown by contrast painting and warning signs. Material, in case warehouses, should be piled so that at least a two foot aisle is maintained on both sides of the conveyor. This will make it unnecessary for men to walk on top of it or to try and ride the belt to reach the other end of the aisle.

Bottle filling machines, cappers, and labelers seem to be the points at which bottles may explode. These machines should have mesh barriers installed that will protect the operator from flying glass. This may be difficult, but it is well worth the effort if injuries are prevented.

Pitching machines are now provided with interlocks that prevent the application of air to the tank unless the barrel is in position. Those that are not equipped can easily be protected with a "home made" interlock.

Particular care should be taken to provide sufficient artificial ventilation for men who are engaged in cleaning or shellacing vats. Carbon dioxide gas may cause the suffocation of a workman in the former, while wood alcohol poisoning may cause permanent blindness in the latter. Positive feed air masks should always be supplied if natural ventilation is not obtainable. Gas masks should not be used where carbon dioxide is present in excess.

The air in the tank should be tested before an employee is allowed to enter and where tanks are being cleaned, even though the gas indication is negative, a life line should be supplied, controlled by an outside man. He should never enter the tank while the other man is inside.

These physical hazards are but a few of the many that need attention if accidents are to be decreased. Some of the others are: Grounding of electrical equipment, maintenance of clear aisles, removal of protruding set screws on moving machinery, supplying barrel skids for trucks, and providing gloves and goggles where caustic solutions are used.

Handling materials causes most injuries in the brewing industry, or about 45 out of every 100 cases. Hand and foot in-