FILE NAME: Engineering (ENG)

DATE: 1934 Oct

DOC#: ENG012

DOCUMENT DESCRIPTION: Trade Journal Article - Dust and Occupational Disease

ACCIDENT PREVENTION HEALTH CONSERVATION FIRE PREVENTION

SAFETY ENGINEERING

THE MAGAZINE OF SAFETY

(with which has been combined Protection Engineering, Conservation *and* Fire Prevention.)

ARTHUR C. CARRUTHERS, Editor HARRY deG. ARMAND, Business Manager

IN THIS ISSUE:

EDITORIAL OBSERVATIONS:

Announcement 139
Dermatitis Attributed to Socks 139
A Challenge 139
Preparedness 139
Cooperative Effort 140
The Autumn 140
Expensive Delays 140

ACCIDENT:

Annual Safety Congress Scores Accident Rise..... 141
Why Accidents Continue—by JAMES D. HACKETT..... 143
Four Million Green Men—by SIDNEY J. WILLIAMS.... 144
The Menace of the Drinking Driver —by JUDGE THOMAS V. HOLLAND 145
The Foreman's Place in Industrial Accident Prevention —by M. P. GRADY 146
Poor Street Lighting Increases Automobile Accidents —by R. E. SIMPSON 146
Accident Reduction in American Industry —by ARTHUR C. CARRUTHERS 147
Safe Protective Equipment 148
The Menace of Falls—by JAMES L. GERNON..... 148
The Safety Movement and the Trend of the Times —by JOHN E. LONG 149
Philadelphia Navy Yard Wins Safety Trophy..... 150
Maine Safety Conference 150
Dust Explosion Prevention—by DAVID J. PRICE..... 151
Industrial Accidents Abroad 157
Lost-Time Accidents in England 158

SPECIAL FEATURES

Details of Annual Safety Congress on page 141

The Value of Efficient Protective Equipment, page 148

Safety Across the Sea, pages 157 and 158

Seasonal Warnings Against Fire on page 165

FIRE:

Precautions Against Freezing of Fire Extinguishing Appliances 159
Explosives in the Construction Industry—by S. R. RUSSELL..... 161
Causes of Home Fires —by R. B. CRISWELL 162
Fire Prevention in Refineries —by GLENN BYERS 164
Modern Methods of Teaching Fire Prevention—by PERCY BUGBEE 165
Autumn Fire Warnings —by WILLIAM B. WHITE 165

HEALTH:

Can the Industrial Nurse Help to Prevent Accidents? —by O. D. BRADFORD, R.N. 167
Industrial Health and the Physician —by DR. JAS. N. ADAMS 167
Hazards of Toxic Gases—by DR. H. H. KESSLER..... 168
Visiting Nurses—Their Value—by L. D. BRISTOL..... 168
Improve the Product; Protect the Worker..... 169
Dust and Occupational Disease —by DR. LEROY U. GARDNER 170
Aspects of Silicosis—by DR. H. H. MOORE..... 171
Medical Supervision—by DR. W. J. McCONNELL..... 171
Industrial Nursing:
Conference on Industrial Diseases 173
Compensation for Heart Disease..... 173
Sight and Health 173
Human Relations in Changing Industry 173
Accident Prone Employees 173
Exposure of Workers to Deleterious Substances... 173
Mortality of Industrial Workers..... 173

VOLUME LXVIII OCTOBER, 1934 NUMBER 4

THIRTY-FOURTH YEAR: THE PIONEER PUBLICATION IN ITS FIELD

Published monthly by Safety Magazine Publishing Corporation; Arthur C. Carruthers, President; Austin F. Hancock, Vice-President; Harry deG. Armand, Secretary. Editorial and General Offices—45 John Street, New York, N. Y.; Publication offices—34 North Crystal Street, East Stroudsburg, Pa.

NRA U.S. CODE GRAPHIC ARTS INDUSTRY

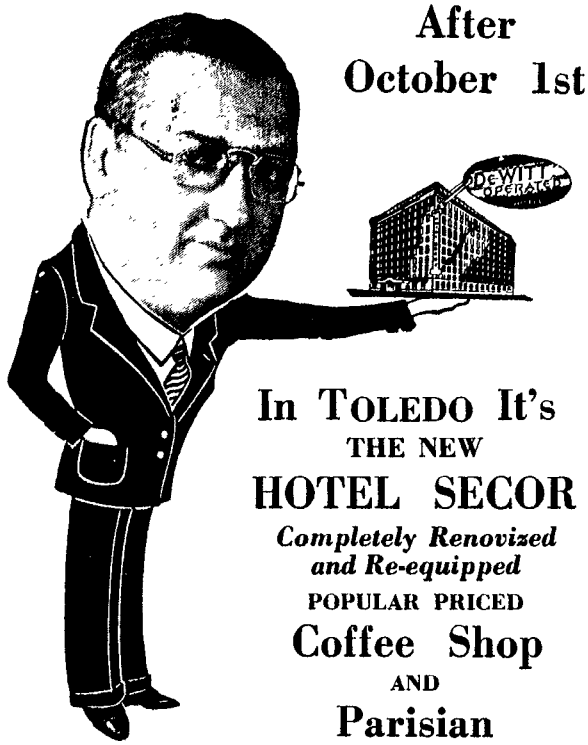
Previous issues of SAFETY ENGINEERING can be found in the Industrial Arts Index in your library. Entered as second class matter January 7, 1930, at the East Stroudsburg, Pa., Post Office, under the Act of March 3, 1879. **Subscriptions: $3.00 a year; Canada, $4.00; foreign, $4.50. Single Copies, 25c.**

machines on the market and accidents became so frequent that users of machines were forced by law to make them safe for operation. This, of course, was beginning at the wrong end. The proper course to take would have been for manufacturers not to design machines without proper guards. Great efforts have been made by State Labor Departments to enforce the law requiring users of machines to install proper guards and now it is becoming the almost universal custom to do so. But much wasted effort could have been avoided by adopting the principle of integral installation just as is now being advocated in the case of hygiene, and this course is for the manufacturers themselves.

Integral hygiene will mean a great saving to industry; first, in the cost of installation (the State of New York, for instance, requires ventilation in the case of processes evolving deleterious dust, fumes and gases); secondly, because ventilation apparatus can much more conveniently be made as a part of the machine; thirdly, because the gains made by improved hygiene will more than offset the cost by the consequent betterment in health and output. The application of the idea of integral hygiene is worthy of the most earnest consideration of manufacturers, and in fact, all who desire to maintain the health of workers at a high standard.

Theo. DeWitt Says—

After October 1st



In TOLEDO It's
THE NEW
HOTEL SECOR
Completely Renovized and Re-equipped
POPULAR PRICED
Coffee Shop
AND
Parisian Cocktail Bar
Rates from—$2.50 Single—$4.00 Double

DUST AND OCCUPATIONAL DISEASE

THE peculiar and powerfully irritating effect of silica, or quartz, on lung tissues ultimately may be shown to be due to some unrecognized property, "possibly related to its atomic structure," according to Dr. LeRoy U. Gardner, Director, the Saranac Laboratory for the Study of Tuberculosis, of the Edward L. Trudeau Foundation, Saranac Lake, N. Y.

This was suggested by Dr. Gardner on October 5th, in Cleveland, when he addressed delegates to the Twenty-Third Annual Safety Congress in a special session on "Dust in Industry."

"Experience," Dr. Gardner said, "has demonstrated that the lung tissues can tolerate very large amounts of most kinds of foreign dust particles without serious interference with function. The lung may be intensely pigmented by colored dust with no evidence that respiration is impaired. But dusts composed, in whole or in part, of silica, have been shown to be dangerous because they stimulate the growth of the connective tissues of the lungs and bring about the formation of scar tissue."

When silica has been injected into the tissues of animals, it has killed the cells where the substance lodged and excited an inflammation. In healing, Dr. Gardner indicated, a dense and characteristic kind of scar tissue forms. Most dusts, however, other than silicates, produced no inflammation and comparatively little scar.

"If the silica is combined with bases in the form of silicates," the doctor remarked, "it rarely produces such active and progressive changes. The silicate of magnesium, asbestos, does cause the formation of scar tissue in experimental animals and in the human lung, but most other silicates are not generally recognized as irritating."

Among observers it is now a common belief that uncombined silica, or quartz, is poisonous to the tissues, Dr. Gardner said, because it is slowly dissolved in the fluids of the body. "Certainly the majority of the experimental observation," Dr. Gardner remarked, "suggests a chemical injury, but it is difficult to understand how enough of such in insoluble substance as quartz could be dissolved within eight hours to produce a well-marked, acute inflammation. If solubility were the only factor one should discover a more active response after the injection of the more readily soluble silicates, but such is not the case."

The peculiar irritation of quartz particles was once believed to be due to abrasion of lung surfaces which excited the formation of extensive scar tissue in the healing process, he said, but this theory is no longer tenable, for "when animals are injected with other hard, sharp particles, like diamond, carborundum, or aluminum oxide, there is no inflammation and practically no formation of scar tissue."