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# TRANSACTIONS

## AMERICAN FOUNDRYMEN'S ASSOCIATION

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NOTE: Statements and opinions advanced in papers or discussions are to be understood as individual expressions of their authors and not those of the American Foundrymen's Association.

## Industrial Health Hazards and Employer Responsibility

By DR. W. J. McCONNELL,\* NEW YORK, N. Y.

*The recognition of the importance of giving greater attention, on the part of foundry executives to consideration of the employers' responsibilities in overcoming industrial health hazards which may be connected with foundry operations, prompted the holding of a special session on this subject at the 1935 Toronto convention. This paper by Dr. McConnell, one of two presented at this session, discussing some of the medical aspects, outlines foundry hazards and presents some suggestions for control programs. Discussion of this paper is combined with that of the second paper by D. E. Cummings and may be found beginning on page 180.*

A great deal has been heard recently, particularly in the State of New York, about the cost of compensation insurance for the protection against occupational diseases. Various estimates of such costs range from less than 1 to more than 10 per cent of the payroll. Irrespective of what rate will be set in the beginning, eventually the determining factor of cost will depend upon the efficiency of measures used for the protection of workers. Neglect to provide protective measures may prove extremely costly. Control will reduce the cost to an insignificant expense.

### HEALTH MAINTENANCE ECONOMICALLY NECESSARY

With the many demands made upon industry for employee compensation, either through legislative or civil action, following injury to health arising out of, or alleged to arise out of, and during the course of employment, the maintenance of the health of any working force has become, from an economic viewpoint alone, a practical necessity.

During recent years, the responsibility of the employer has steadily broadened, due chiefly to the fact that the capacity for control of health conditions in industry lies almost entirely in his hands, and the employer has found it to be good business to reduce to a minimum the money losses due to sickness among workers. He has done this by providing a program consisting largely of health supervision and education, plant hygiene and safety engineering.

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### BASIS OF HEALTH CONTROL

The essential basis of health control in industry is the physical examination. Without knowledge of the physical condition of the individual whose health is to be conserved or bettered, it is difficult, if not futile, to develop the facilities required for his care. It is also true that only by regular medical examinations over a period of years can a reliable opinion be formed regarding the effectiveness of preventive measures used to prevent the occurrence of occupational diseases.

### REASONS FOR OCCURRENCE

The question may be asked, "Why do occupational diseases occur?" Many causes might be cited, chief among which are two:

First, occupational diseases occur because of the employment of poor risks, or the failure to select workers physically and mentally capable of giving reasonably continuous service. In the selection of workers, consideration also must be given to the possibility of the job aggravating existing diseases and defects.

Second, occupational diseases occur because they are actually produced by exposing workmen to concentrations of toxic substances beyond the threshold or toxic limit of those substances, or by the failure to provide and maintain the necessary equipment to protect the workers against harmful exposure.

### FOUNDRY HAZARDS

The health hazards of an industry are determined by a physical survey of representative plants of that industry. Without going into the matter of the methods and standards used in conducting a survey of an industry, the results of that survey should evaluate the various health hazards existing. It should indicate the chief sources of the hazard, the extent and efficiency as well as the faults of equipment intended to protect workers. Whenever physical examinations are made, it is possible to correlate the physical findings with the data collected from the physical survey of the plants. Such studies indicate the foundry industry to have comparatively few health hazards. First might be mentioned the presence of dust of a mixed character. It is true that the harmfulness of a dust varies considerably, depending upon its chemical composition, its concentration, in some instances the par-