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Damage to Workers' Lungs

water droplets discharged through fog nozzles at pressures of 400 to 700 pounds per square inch. The effluent gases are sprayed with process water and the sulfuric acid solution recovered from the spray system is recycled to the manufacturing process. This has resulted in effective reduction of the acid loss. The daily recovery from the spray tower in this plant is $4\frac{1}{2}$ to 7 tons of sulfuric acid.

The spraying of the effluent gases saturates them with water vapor so that there is sometimes a plume of steam over the stack.

Detecting Dust Damage To Workers' Lungs

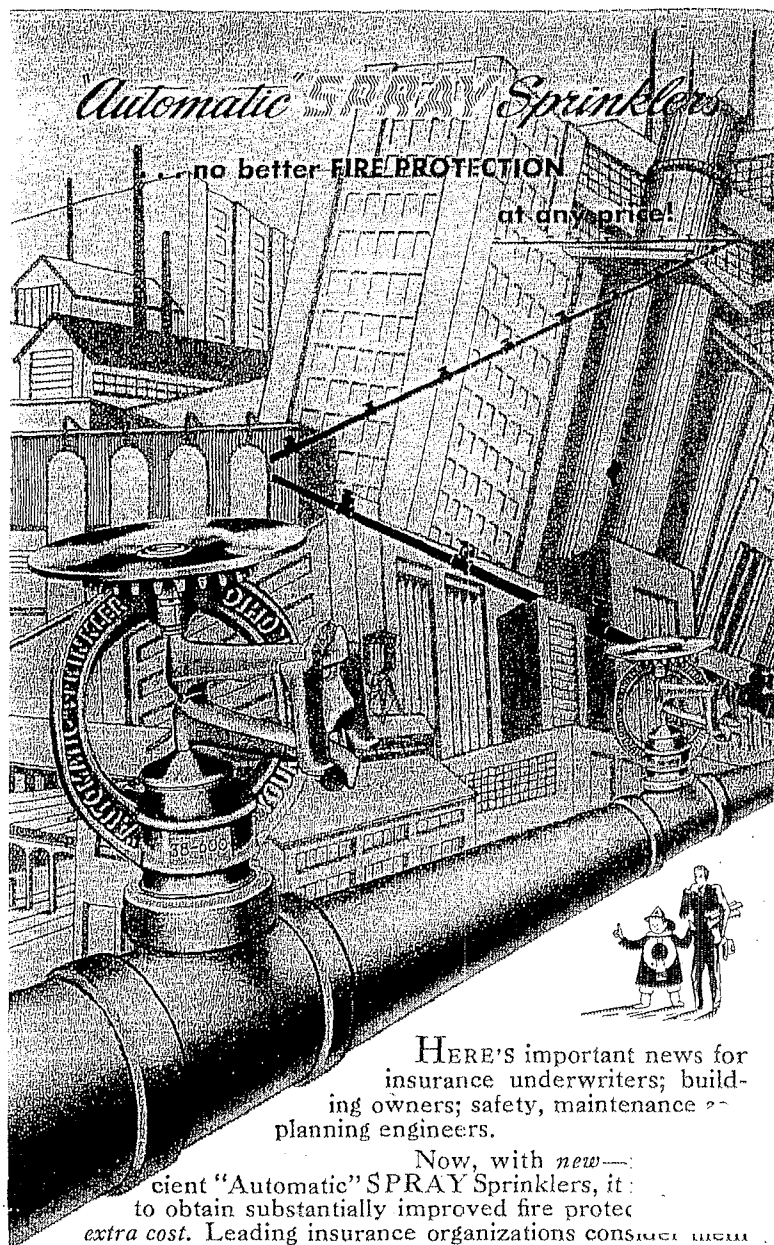
Detection of Early Lung Functional Changes in Industrial Exposure, by Hurley L. Motley. The Industrial Health Conference, April 2, 1953.

THE VARIATION in individual susceptibility to dust hazards is shown by the fact that in coal mining some men are able to work a normal life span without great injury whereas others are completely disabled after 15 to 20 years of exposure.

Measurements of vital capacity and of maximum breathing capacity have been studied in a large number of cases of chronic pulmonary disease and correlated with other measurements of pulmonary function. The maximum breathing capacity measurement seems to be most useful for the early detection of lung changes such as the loss of elasticity resulting from dust damage and such as obstruction from spasm of the bronchial tubes produced by inhaled irritants.

Measurement of the maximum breathing capacity before and after a single treatment with a bronchial dilating drug has provided a good method for determining the amount of bronchial spasm present.

The routine measurement of maximum breathing capacity together with the chest X-rays of industrial workers exposed to dust hazards would seem to be desirable in the early diagnosis of fibrosis (scar formation, and bronchial obstruction). It would enable the early detection of the more susceptible individuals. If the annual maximum breathing



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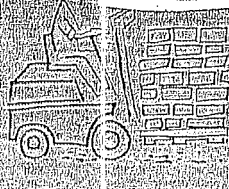
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capacity measurements progressively decrease, lung damage is indicated and the worker should be removed from the dust hazard.

Announce Noise Control Research Program

Claims totaling \$2 billion for deafness due to excessive industrial noise are in the courts today according to the American Standards Association. Noise levels in cities and industrial areas are going up to a degree which may endanger the mental and physical well-being of individuals in the vicinity. Noisy machines in factories are creating a newly-recognized hazard—that of accidents resulting from warnings and instructions misunderstood or not heard. And sales resistance to noisy industrial equipment is developing.

Current pressure from legislative bodies of the states and industry for standard criteria to assist in remedying these conditions has led to the initiation of a research program in the field of noise measurement and control by a subcommittee of the American Standards Association.

The claims for compensation for loss of hearing due to industrial noise cannot be settled without adequate bases for determination of causes. Industrial noise limits cannot be set without a sufficient body of bio- and psycho-acoustic data. Noise abatement programs are ineffectual without sufficient scientific information regarding cause and effect. These data are not yet available.

Objective of the new research program will be to explore whether criteria for noise control can be established in the light of presently available bio- and psycho-acoustic data, and to publish the findings. The committee will study the reliability and statistical significance of various sets of industrial data and data existing in governmental and university laboratories. It will review the methods by which they have been obtained and try to recommend noise limits for specific locations and conditions.

Walter A. Rosenblith, associate professor of communications biophysics of the Massachusetts In-

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