

INDUSTRIAL HYGIENE AND OCCUPATIONAL DISEASE

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Promoting Plant Efficiency.—The eight-hour day is not only more efficient than the ten-hour day in industrial plants, but is more economical.

This is the conclusion reached by experts of the United States Public Health Service after a careful detailed study of conditions and production in standard factories of both classes, which has been under way since 1917.

The plants surveyed were selected after a great deal of care. Each is a modern factory, employing such a large number of workers as to make any conclusions reached apply to industry in general. The other consideration was that the machinery, manufactured product and processes in the ten-hour plant should be sufficiently similar to the eight-hour plant to make a comparison fair.

The advantages are all in favor of eight-hour days, or shifts, as compared with the ten-hour day, and relate to maintenance of output, to lost time and to industrial accidents.

Here are the main conclusions summarized:

Maintenance of output: The outstanding feature of the eight-hour day is steady maintenance of output. The outstanding feature of the ten-hour system is the decline of output.

Lost Time: Under the eight-hour system work with almost full power begins and ends approximately on schedule, and lost time is reduced to a minimum. Under the ten-hour system work ceases regularly before the end of the spell and lost time is frequent.

Stereotyped Output: Under the ten-hour system the laborers seem artificially to restrict their efforts and to keep pace with the less efficient workers. Under the eight-hour day the output varies more nearly according to the individual capacity of the laborer.

Industrial Accidents: This phase of the study is of particular interest. Ordinarily accidents may be expected to vary directly with speed of production, owing to increased exposure to risk. But when fatigue is taken into consideration there is a marked modification of this rule. When there is a reduction of output due to fatigue there is an increase in the number of accidents; that is, in the

last hour of the ten or twelve-hour day, in spite of employees slowing up in work, more accidents occur. If for any reason production is speeded up in the last hours, when the laborers are fatigued, the rise in the number of accidents increases so rapidly as to leave no room to doubt that the higher accident risk accompanies the decline in working capacity of the employee.

The full report is contained in *Public Health Bulletin No. 106*, which is the first of a series to be published by the U. S. Public Health Service on the problems of industrial working capacity.

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Plant Dispensaries and their Equipment.

—Factors which make for good service in factory dispensaries include accessible location, unit arrangement, and agreeable personnel. The writer emphasizes system in the dressing of patients and illustrates the time lost by a nurse in useless trotting to and fro and in the unnecessary expenditure of motions. Charts show daily variations in number of cases for the month of February in a typical plant in Toledo. The modern industrial dispensary is an evolution from the first aid cabinet. The modern plant dispensary has become the industrial clinic. The location is the first element in prompt service, the proper arrangement the second element. A design is shown for the plan of a typical industrial dispensary.—C. D. Selby, *Hospital Management*, April, 1920.

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Industrial Physicians Extend Their Organization.

—Following the meeting of the American Association of Industrial Physicians and Surgeons at New Orleans which was held in connection with the American Medical Association, a campaign is announced to extend membership. The Association at last reports had 600 active members in what is now its fifth year. The membership has been a little larger but decreased some during the war. President Geo. E. Vincent of the Rockefeller Foundation recently stated that there were some 1,500 corporations in the country employing industrial physicians and

surgeons, most of whom were full-time men. At the New Orleans meeting a program was set on foot to interest medical colleges and teaching institutions in extending their work to qualify their graduates for this important field. It is stated that the usual medical training does not fill the bill, and that about one more year of work of graduate character, devoted to such subjects as industrial psychology, statistics, sociology, public speaking, occupational therapy, functional re-education, industrial hygiene, occupational diseases, and the administration of industrial medical service is necessary. The officers elected for the present year are as follows: President, Dr. Otto P. Geier, Cincinnati, O.; First Vice President, Dr. Thomas R. Crowder, The Pullman Co., Chicago, Ill.; Second Vice-President, Dr. W. Irving Clark, The Norton Company, Worcester, Mass.; Secretary-Treasurer, Dr. Francis D. Patterson, Dept. of Labor and Industry, Harrisburg, Penn.; and Asst. Secretary-Treasurer, Miss M. S. Shane, P. O. Box 4055, West Philadelphia Station, Philadelphia, Pa. What is believed to be the first local chapter of the National Association is the Cincinnati Chapter, whose organization has been completed in the latter part of the early months of 1920 and which has adopted a constitution and by-laws. An innovation consists in making eligible to active membership only those who are full-time industrial physicians and surgeons and leaving to associate membership all others, among whom are included a number of specialists in medical practice. The Cincinnati Chapter has to date 58 members. At the meeting of the Ohio State Medical Association in Toledo during the first week in June, under the auspices of the firm of Heath, Selby and Hein, some 15 physicians of the state, prominent in this field, perfected a temporary organization for forming a state chapter. A committee was appointed to proceed with the organization and to adopt principles of organization. In this connection it is worth while to note that a similar organization of industrial engineers is prospective. Mr. Herbert N. Casson (*100% Magazine*, June, 1920) writes the following in answer to "Who Are Industrial Engineers?"—"(1) Industrial engineering is an art, a science, and a profession—all three. (2) Its scope is the whole field of industrial production—factories, mills,

mines, shipyards, etc. (3) It affects the other engineering professions favorably by offering them a new species of skilled service. (4) No man can qualify as an industrial engineer until he has spent at least five years successfully in the practice of his profession. (5) The position of the industrial engineer will be very similar to that of the architect." Some precepts from his statement might well serve as a guide for extension work in the National Association of Industrial Physicians and Surgeons.

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Mine Rescue Work.—Two men were recently rescued from death in Indiana coal mines through the bravery of fellow-miners and a knowledge the latter had gained in mine rescue work from the United States Bureau of Mines which had just completed a course of training among these miners. It is declared by the rescuers themselves that the two men would have lost their lives if the old methods had been employed.

The two lives saved in the Clinton, Ind., field are but two of the latest instances that have come to the Bureau of Mines and generally the owners and superintendents of the mines are free to acknowledge that the rescues are the result of the efforts of the Bureau in training the miners. It quite frequently occurs that the miners in a certain part of the country succeed in their daily work in saving the life of some miner before they have finished their course with the bureau. Already more than 50,000 men have been trained, and it is estimated that men are daily being saved by these voluntary rescuers and many wounds and suffering lessened and workers are able to return earlier to their work by reason of the skill of the first-aid crews.

In order to further this movement that involves more than a million men in the United States, the Bureau of Mines holds each year a great contest in which miners' teams enter for the championship. The next contest of this character will be held at Denver, Colorado, September 9-11, and teams in the East and West are now in training to enter. This time the contests will include Canadian and Mexican teams, and promises to be a great international affair in which the workmen of three countries will participate.