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INDUSTRIAL HYGIENE DIGEST

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Literature Abstracts

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Industrial Health News



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INDUSTRIAL HYGIENE FOUNDATION

FOUNDATION FACTS

Foundation Facts is a monthly news-letter issued to industrial concerns holding membership in Industrial Hygiene Foundation. The Foundation is a non-profit association of industries for the advancement of healthful working conditions.

Vol. 8 April, 1946 No. 4

Medical and Engineering Transactions Issued

The Transactions covering the Medical and Engineering Section of the Foundation's Tenth Annual Meeting were published and sent to members recently. This notable publication contains:

A preliminary report by Dr. C.O. Sappington on a field study now in progress on Industrial Health Department Functions;

A panel discussion on Accurate Diagnosis of Silicosis, led by Dr. Leroy U. Gardner;

A report on Accurate Measurement of Silicosis Hazards by Dr. F.R. Holden and other members of the Foundation's staff, and

A detailed report by Dr. W.M. Gafafer on the continuing study of sick absenteeism in which the Foundation has been cooperating with the U.S. Public Health Service since 1940.

Use of Aluminum in Combating Silicosis

The Council on Industrial Health and the Council on Pharmacy and Chemistry of the American Medical Association have issued a report on "Aluminum in the Prevention and Treatment of Silicosis". This is published in the April 27 issue of the "Journal of the American Medical Association". A copy of the report is contained in the current INDUSTRIAL HYGIENE DIGEST.

Measurement of Air Flow

A revision of the Preventive Engineering bulletin on Measurement of Air Flow Rate in Industrial Ventilation has just been issued to members. The demand for this publication exhausted the original printing. Members desiring additional copies may now secure them.

Integration of Health and Safety

The Foundation arranged an industrial hygiene program at the Western Pennsylvania Safety Conference held in Pittsburgh late in April. Dr. Dudley A. Irwin of the Aluminum Company and Theodore F. Hatch of the Foundation participated in a joint discussion on "Integration of Industrial Safety, Hygiene and Medicine".

News Briefs: Members of the Foundation's staff attended the annual meeting of the Industrial Physicians and Industrial Hygienists held in Chicago recently..... Dr. Holden presented a paper at the meeting.....Dr. A.J. Lanza, Chairman of the Foundation's Medical Committee, was given the Knudsen Award at the conclusion of the sessions. This is presented each year to a physician for outstanding work in industrial health.

I-H-F

349 Makeshift Mine Ventilation. E. Smith. Safety Eng., 91, 53-54 (Mar., 1946)

Ventilation of idle mines is rarely given any attention, and such mines, if air passages are at all blocked, must be ventilated before they can be worked safely. Air from a compressor is satisfactory if uncontaminated but sometimes the engine stench is evident in a noticeable degree. A fan may cause recirculation of the mine air if too near the entrance. In one case the recirculation of blackdamp was sufficient to stop the engine. A gasoline engine may constitute a fire hazard. Several cases of makeshift ventilation, none of them successful, are reported. For instance in one case tin paddles were attached to a wheel of a bicycle to convert it into a fan. As an air moved it proved to be still a pretty good bicycle. Other improvised blowers proved to be dangerous. Stove ventilation has been used in small mines, using the draft of a stove at the surface to cause a slight circulation in the mine. It is only effective as long as the fire burns, and fatalities have resulted from such an arrangement when the fire went out. Puzzling appearance and disappearance of blackdamp from certain parts of a mine is caused by changes in barometric pressure. The gas expands out of unused parts of the mine under reduced pressure and contracts back into those parts under increased pressure. A Mine Safety Order does not permit men to work when the oxygen content of the air is under 19.5% by volume (dry basis), but a deficiency is difficult to determine, as safety lamps still burn brightly at that percentage.

350 Armstrong Cork Takes Dust for a Ride. Occ. Hazards, pp. 18-20, 30-31 (Mar., 1946)

The Armstrong Cork Company describes the precautions taken against fire hazards from dust. These include an airtight dust collector system which keeps dust under control at all stages from cutting to final grinding, with frequent insertions of screw conveyors which act as baffles to stop any fire; rigid fire precautions with automatic sprinklers, portable fire extinguishers and fire doors; exhaust ventilation with explosion type emergency vents; and workers constantly on the alert to clean up at once any escaped dust.

Industrial Health Hazards and Their Effects

351 Silicosis: Clinical Study. H. Dayman.
Am. Rev. Tuberc., 52, 449-462 (Dec., 1945)

Dayman reports observations on 116 patients with silicosis, 33 of whom came to necropsy. Thirty of the 116 patients who did not present evidence of clinical tuberculosis are divided into two groups; those with simple nodular silicosis (15 cases) and those with simple conglomerate silicosis (15 cases). The majority of the 15 patients with simple nodular silicosis were free of symptoms. A few noted slight dyspnea on exercise. The diagnosis was established solely on a history of prolonged exposure to silica dust and the minute, widely distributed shadows in the roentgenogram. The patients with simple conglomerate silicosis exhibited symptoms and signs of pulmonary emphysema. Dyspnea was often the sole outstanding complaint. In seven of the 15 cases massive shadows were situated symmetrically in either lung field at the hilar level, while in

8 cases the principal shadows were somewhat smaller, more numerous and irregularly distributed. In 12 there were additional minute disseminated shadows compatible with silicotic nodulation. In 77 of the 116 patients with silicosis, complicating tuberculosis existed. The symptoms were predominantly those of the tuberculous disease. The constitutional reaction is not so pronounced when tuberculosis complicates silicosis as when tuberculosis alone is present. The chest roentgenogram presented widespread minute shadows similar to those observed in simple nodular silicosis together with larger mottled shadows, the latter usually being due to the intimately combined lesions of silicosis and tuberculosis. The presence of silicosis evidently predisposes the patient to progressive tuberculosis. Sixty-six of 77 died. — J.A.M.A.

352 A Note on the Occurrence of Silicosis in Bituminous Coal Miners.
M.J. Small. W. Va. Med. J., 42, 6 (Jan., 1946)

Ten cases of silicosis have occurred in the past four years in the author's private practice in an area of small bituminous coal mines, contrary to general experience. Investigation of the cases showed that all the patients "worked on the motor", that is, they operated the cars that hauled the coal from the pit to the surface. The grade being quite steep, sand is sprinkled on the wheels to increase traction, and is ground to a heavy cloud of dust of sufficiently small size to cause silicosis. This hazard has been recognized by the coal companies and in recent years masks have been issued to the miners thus exposed. However, new cases continue to appear, perhaps to some extent because the miners are delinquent in wearing their masks constantly. The author believes that many more such cases will be found on careful examination, and questions whether one case mentioned by Pendergrass in a recent paper (our Abst. 862, July, 1945) may not have the same cause.

353 A Health Survey of Pipe Covering Operations in Constructing Naval Vessels.
W.E. Fleischer, F.J. Viles, Jr. R.L. Gade and Philip Drinker. J. Ind. Hyg. and Tox., 28, 9-16 (Jan., 1946)

(1) The character of asbestos pipe covering industry on board naval vessels is such that conclusions drawn from other asbestos industries such as textiles, cannot be applied. (2) The operations of band saw cutting, grinding, cement mixing, and installation on board ship should be equipped with exhaust ventilation to keep the total dust concentration low. (3) The incidence of asbestosis among pipe coverers in the shipyards studied was low, 0.29 per cent or three cases out of 1074. In view of the nature of shipyard pipe covering work, this low incidence is not surprising. (4) Since each of the three cases of asbestosis had worked at asbestos pipe covering in shipyards for more than 20 years, it may be concluded that such pipe covering is not a dangerous occupation — Authors' conclusions.

354 Chronic Mercurialism. Queries and Minor Notes.
J.A.M.A., 130, 981 (Apr. 6, 1946)

A patient was exposed to mercury fumes four years ago, and her physician questioned whether a slightly enlarged spleen and aching in the left upper quadrant might be due to mercurial poisoning. A study of 102 cases of chronic mercurialism gives no instance of enlargement of the spleen. The syndrome of chronic mercurialism includes central nervous system disturbances and other symptoms which are easily recognized. Therefore, this case is probably not chronic mercurialism.