

PLAINTIFF'S EXHIBIT

IHF-502

Industrial Hygiene Digest

INDUSTRIAL HEALTH NEWS

LITERATURE ABSTRACTS

MEDICAL

ENGINEERING

CHEMICAL

TOXICOLOGICAL

LEGAL decisions and trends

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INDUSTRIAL HYGIENE FOUNDATION

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Exhibit

39

0433

- 33 Observations on Cardiovascular Patients in Industry--Results of a Six-Year Study in a Small Industrial Plant. P.E. Dunn. *Ind. Med.*, 17, 461-467 (Dec., 1948)

(1) The performance on the job of most patients with cardiovascular disease with the exception of advanced mitral stenosis, is satisfactory provided the patient is kept under constant medical supervision and his placement on the job is re-evaluated ~~from time to time~~ ^{at the time}. (2) There is no way of classifying a patient with cardiovascular disease permanently by job analysis or placement examinations alone. His entire physical activity during a 24-hour period has to be evaluated, and emphasis should be placed on frequent follow-up examinations to determine the influence of all his activities upon his cardiac status. (3) The cooperation of family physician and industrial physician is an important factor and should be encouraged. (4) Necessary rejections from employment are usually due either to temporary aggravations of the cardiac status or to complicating diseases such as diabetes, obesity, alcoholism, cirrhosis of the liver. (5) Vocational training has a decided advantage for placing physically handicapped patients in industry. It should be encouraged and thoroughly planned. Retraining should be along the lines of any skill developed by previous occupation. (6) More uniformity of decision in compensation claims should be looked for to satisfy management and decrease insurance risks. Medical experience with cardiovascular disease in industry and medical statistics should be made the basis of compensation legislation. (7) Workers using high vibrating tools should have a physical as well as psychiatric aptitude test before being placed on the job.

-- Author's conclusions

- 34 Tissue Responses to Physical Forces. I. The Pathogenesis of Silicosis. A Preliminary Report. S.M. Evans. *J. Ind. Hyg. and Tox.*, 30, 353-357 (Nov., 1948)

(1) The ability of exogenous dusts to produce fibroblastic responses is correlated directly with molecular asymmetry and piezoelectric activity. (2) Wulfenite (lead molybdate), selected on a purely theoretical basis, produces tissue reactions comparable with quartz. (3) Wulfenite reacts in an accelerated manner when test animals are exposed in a highly concentrated electromagnetic field designed to intensify the piezoelectric effect. (4) The hypothetical biologic implications of "spheres of energetic influence" mediated through asymmetrical solid states of metabolites, foreign material and electromagnetic force fields are discussed.

-- Author's summary

- 35 What is Silicosis? P. Hefferman. *Tubercle*, 29, 169-173 (1948)

Hefferman considers the statement in Starling's text (1944), "No substance introduced into the protoplasm has any chemical influence unless it be soluble," as misleading. He concludes that the essential agent in the causation of true or "classical" silicosis, as distinguished from non-specific pneumoconiosis, is the freshly-cloven silica particle. The pathological process basically consists in the hydration of the silica particle at the expense of the cell protoplasm. Because of its atomic lattice-structure quartzite, when powdered, yields a more virulent dust than other silica formations. Fully hydrated silicon, silica hydrate, sometimes mistakenly called "silicic acid," is non-toxic and enters freely into the metabolism of plants and animals. Partly hydrated suspensions of silica in water, "colloidal silica," retain some of the chemical activity of the dry powder but in a less degree.

-- Chem. Abstra

0434

- 36 Aluminum Dust in Silicosis. Queries and Minor Notes,
J.A.M.A., 136, 1200-1207 (Dec. 25, 1943)

The question: "A male patient, aged 42, has slowly progressive pulmonary fibrosis as a result of exposure to silica dust at the age of 19." The present symptoms are described. "The roentgenogram of the chest revealed a large calcified node in the right hilar region and an increase of markings in the lung fields which I interpreted to be pulmonary fibrosis. Kindly advise treatment, especially with reference to aluminum. Is there any simplified office procedure for this method...." The reply first states that in the absence of subsequent exposure, silicosis is not progressive after so long a period. Authorities agree that silicosis is stationary after the absorbed silica particles are encapsulated in nodules, and two years is sufficient time for that process. The large calcified node is not adequate to make a diagnosis of silicosis, nor are the other markings; all may easily have other causes. Finally, there is no accepted treatment for well established silicosis. The possible value of the aluminum treatment is in prevention and arresting of silicosis in the early stages, but it is far from being established in the present stage of research.

- 37 Pneumoconiosis Among Miners Engaged in the Talc Industry in the Pinerolese.
L. Parmeggiani. *Rass. Med. Indust.*, 17, 16-47 (Jan.-Mar., 1946) (Italian)

The talc in the factories investigated had 61-77% silica, 31-29% magnesium oxide and small amounts of aluminum oxide, oxide of iron and oxide of calcium. Sixty-seven per cent of the particles had diameters less than 5 microns and 35% of the whole had diameters from 1-3 microns. Among 751 workers examined by X-ray, 18 cases of pneumoconiosis were detected, 29 in an advanced stage; eight had associated tuberculosis and 24 had tuberculosis alone. The danger limit is estimated as an atmosphere with less than 1000 particles under 5 microns per cc. Tables are given showing, in detail, the results of the examination. Workers in the ceramic division are not subject to any dust and are free from pneumoconiosis, but of 81 examined, four had pulmonary tuberculosis, though only one had active disease.

-- From Bull. Hyg.

- 38 Diagnostic Fluoroscopy at a Chest Clinic. W.H. Tattersall.
Lancet, 255, 974-975 (Dec. 13, 1945)

The value of diagnostic fluoroscopy is considered, together with its risks and its accuracy. A scheme is described in which 2908 people were referred for examination during the past years by the general practitioners in a town of 100,000. Pulmonary tuberculosis was found in 3% of cases.

-- Author's summary

- 39 Fluorographic Survey of Tuberculosis and Silicosis and Their Control in the Metal Industry in Northern Italy. E.C. Vigliani, L. Parmeggiani and E. Zanetti. *Med. d. Lavoro*, 39, 1-6 (Jan., 1948) (Italian) 0435

A report is given of fluorographic surveys made on 25,253 workers employed in northern Italian foundries for the years from 1945 to 1948. Pneumoconiosis was observed in 2.20% of the cases and divided as follows: reticulation and reticular fibrosis, 1.45%; nodular and massive silicosis and silico-tuberculosis, 0.75%. The highest frequency was found in steel works

affected classification. The inconsistency of opinion led to a plan for further experiments to investigate the value of the method of comparing unknown films with accepted standard reference films.

-- Condensed from Authors' Summary

- 99 The Heart in the Pneumoconiosis of Coal Miners. A.J. Thomas.
Brit. Heart J. 10, p. 202 (1950)

From a study of 96 cases of coal miners' pneumoconiosis, it was found that the disease remains for a long time in the pulmonary phase, with dyspnea, cough, fatigue, and chest pains. The cardiac phase occurs later, with increased dyspnea, edema of the lower extremities, and upper abdominal discomfort. Right heart failure was present in eleven cases, of which nine were fatal.

-- Condensed from Brit. J. Ind. Med.

- 100 "Galloping" Silicosis. Charles, Cavigneaux, Fuchs and S. Tara.
Arch. Maladies Profess. Med. travail et securite sociale 9, 551-554 (1948) French.

A case is described in which symptoms of silicosis first appeared 20 months after cessation of work at tunneling in siliceous rock at which the patient had been employed for almost 15 months. No precautions were taken to suppress dust or to avoid entering the workings immediately after blasting. The authors examined the patient about two years after cessation of the tunneling and found that the radiograph showed advanced silicosis. They comment on the lack of financial provisions for this patient and urge the need for preventive measures and medical control in this type of work.

-- Condensed from Bull. Hyg.

- Silicosis of the Mediastinal Lymph Nodes and its Complications.
F. Lechner. Arch. path. anat. physiol. 315, p. 341 (1950).

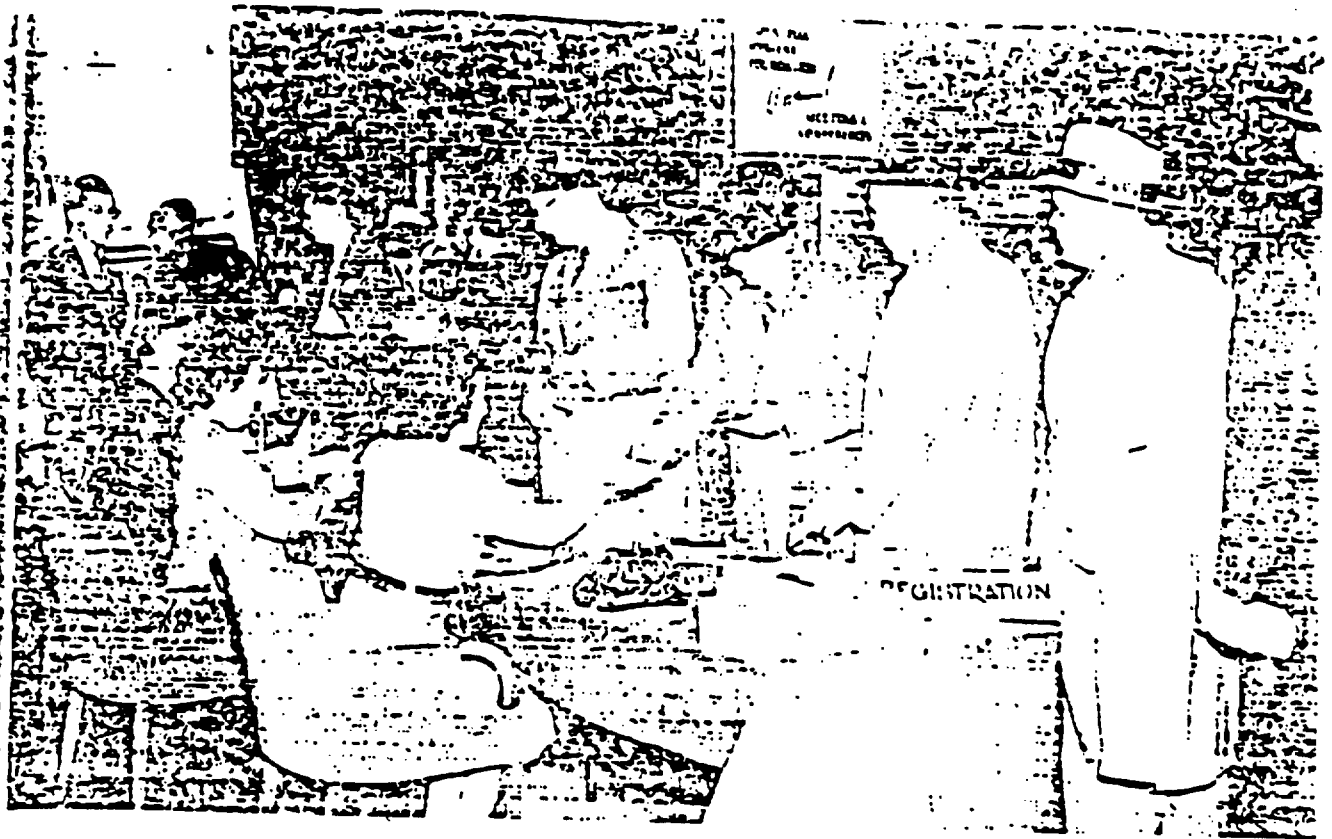
The study is based on 4,000 consecutive necropsies, 2,018 of which were on men over thirty years of age. Of these, 277 (13.7%) revealed silicotic changes, including isolated lymph-node silicosis and three degrees of pulmonary silicosis. Silicotic scarring of the mediastinal lymph nodes nearly always precedes the lung changes due to dust inhalation and appears to be a necessary factor for the occurrence of severe pulmonary silicosis. Further developments discussed are esophageal traction diverticula and secondary fistula formation.

-- Condensed from Brit. J. Ind. Med.

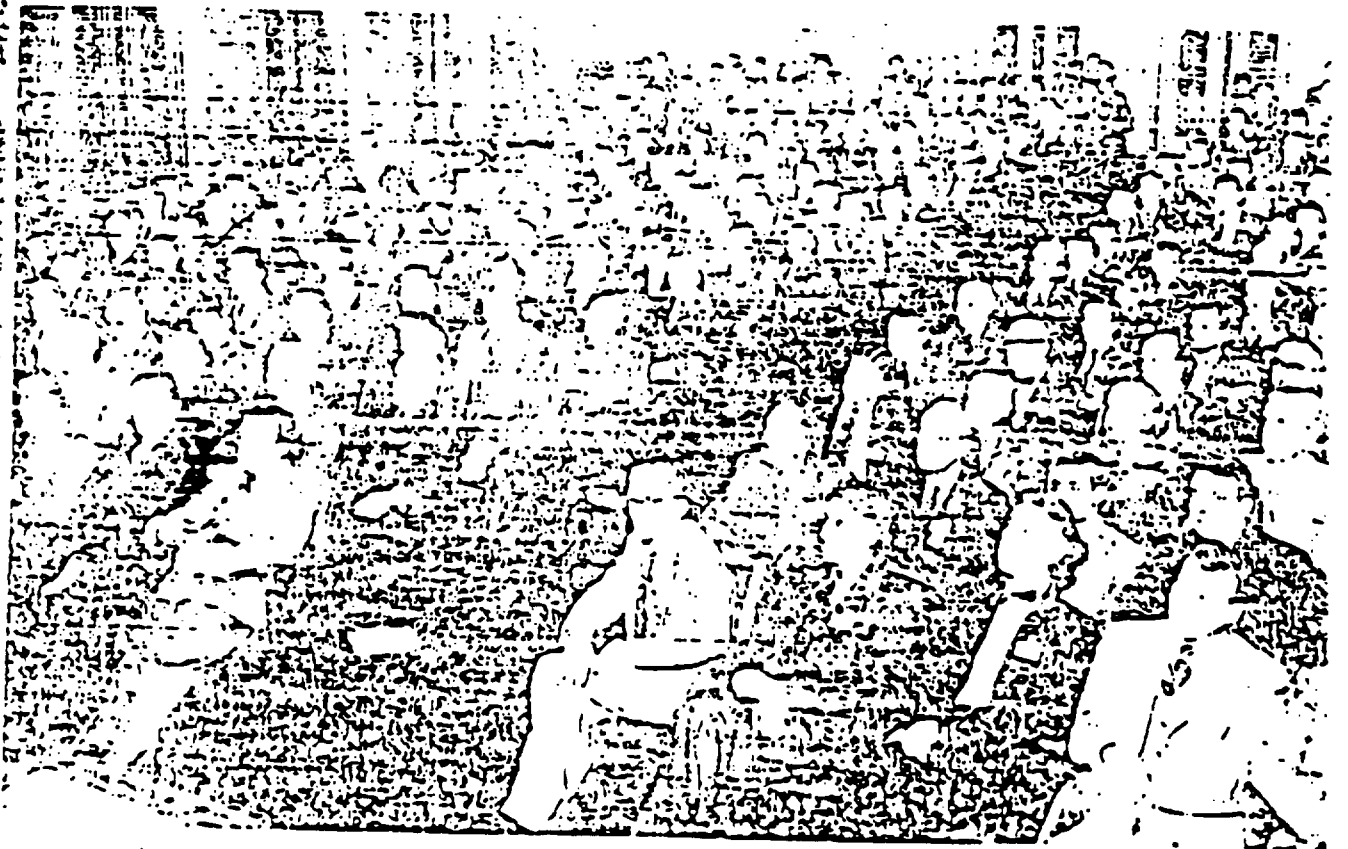
- 101 How Tinker Prevents Silicosis in Handling Silica Brick for Electric Furnaces.
E.M. Feiman. Steel 125, p. 72 (July 25, 1949).

The principal exposures to silica encountered previously were in unloading brick from the car and in scutching in the construction of tops. Now all brick used are sprayed with oil before handling, and scutching is avoided by using prefabricated brick. When an electric saw is used, a Miehaus dust separator is attached. This thoroughly mixes the dust with water and collects it in a portable tank.

0436



Registration for main session of annual meeting on November 17. Note exhibits in background.

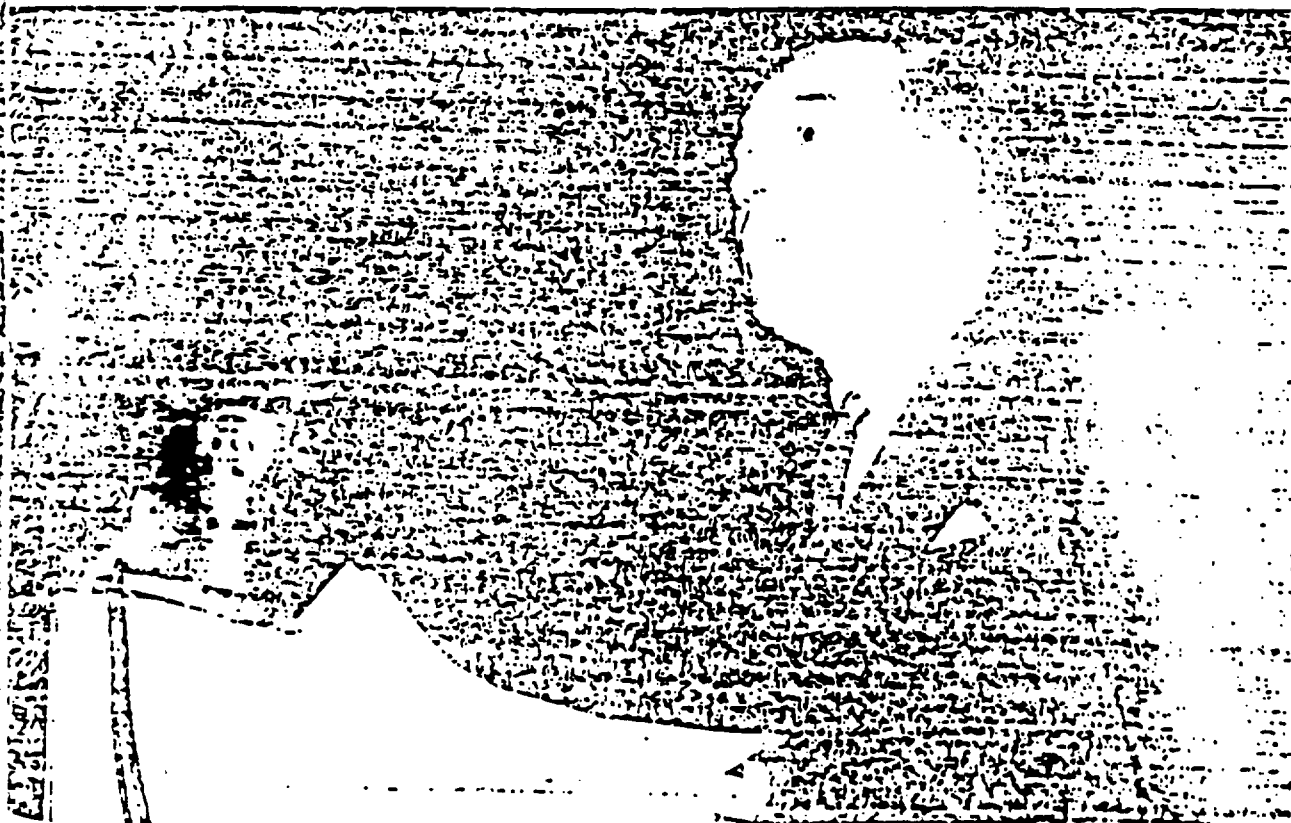


A view of the auditorium in Mellon Institute as the main meeting got under way.

0437



M. E. Coyle, Executive Vice President, General Motors Corporation, delivering the keynote address at the 14th annual meeting.



Joseph A. Schmidt, Vice President, F. Mellon and Sons, reporting results of his study on the effect of compulsory health insurance.

0438

Occupational Disease Statistics

59 Occupational Disease Statistics.

	Conn. ² Oct. Nov. 1949	Ind. ² Oct. Nov. 1949	Mich. ² Oct. Nov. 1949	Ohio ¹ May 1949	Wis. ² Sept. Oct. 1949	Totals
Asphyxiation					3	3
Bronchial asthma (dust)					1	1
Brucellosis		2				2
Burns					1	1
Carbon monoxide poisoning					2	2
Chemical burns					3	3
Chemical poisoning (NOC)				4		4
Conjunctivitis					4	4
Cyanide poisoning					1	1
Dermatitis	30*	21	21**	231	88	391
Eye infections					3	3
Hernia					4	4
Infection (NOC)			12		8	12
Inflammatory conditions			2			2
Lead absorption		1				1
Lead poisoning				2	1	3
Lung diseases (NOC)				12		12
Miscellaneous				87		87
Nasal irritation (Ulcer)					1	1
Pneumococcosis			8			8
Silicosis		2	34	42	1	79
Skin diseases (NOC)				15		15
Tuberculosis (due to contact)				5		5
Undulant fever		1			4	5
Totals	30	27	77	398	125	657

(1) Occupational Disease Cases reported to the Industrial Commission. There were 102,531 days lost, including one death from Lung diseases (NOC); eleven deaths from silicosis, and two deaths from all other occupational disease claims.

(2) Occupational Disease Cases reported to the Health Department.

* Infections caused one each; Oils, Fats & Waxes caused 13; Paints & Lacquers caused one; solvents (NOC) caused three, and 12 were caused by undetermined hazards.

** Seven cases of dermatitis caused by petroleum products.

0439

Legal Developments

1160 Point of Time When Cause of Action Arises under Occupational Disease Statute -- Exposure to Harmful Fumes in Welding--Sufficiency of Facts Upon Which to Base a Finding by the Commission.

From an order of the Industrial Commission granting compensation for disability received from breathing harmful fumes in the course of his work as a welder and holding that his cause of action arose when his doctor first determined that he was suffering a compensable disability, the State Insurance Fund appealed, contending that the applicant's cause of action arose when he became totally disabled regardless of whether he knew that his disability was total, occupationally caused and compensable. It was determined that the facts before the commission were insufficient to support the finding as to when the cause of action arose and the case was remanded for further action. State Insurance Fund v. Industrial Commission. Utah Supreme Court. No. 7274. September 1, 1949. --CCH

1161 Silicosis--Proof of Exposure and Total Disability--Mandamus--Abuse of Discretion.

Whether or not the claimant grinder suffered three years of exposure to silica dust in his employment in Ohio and was totally disabled are factual questions for the commission in its discretion to decide. A writ of mandamus to set aside the finding, denying the claim, will not issue unless gross abuse of discretion is shown. State ex rel. Brewer v. Industrial Commission of Ohio. Ohio Court of Appeals, Franklin County. No. 4210. September 26, 1949. --CCH

1162 Silicosis--Stone Cutter--No Exposure after Effective Date of Statute.

A stone cutter of long experience sought benefits under the occupational disease statute for silicosis. Where there is no exposure to the hazards of silicosis after the effective date of the act, the award will be denied. Evidence of the use of apparatus, which reduced the dust to allowable minimums prior to and after the effective date of the statute, will sustain a finding that the last injurious exposure of the claimant to the hazard of the disease occurred prior to the date of the statute. American Mutual Liability Insurance Company v. Ellison. Georgia Court of Appeals No. 32523, September 23, 1949. --CCH

0440

1163 Date of Disablement from Anthracosis-Silicosis--Transfer to Lighter Work--Doctor's Warning of Impending Disablement--Termination of Employment.

Claimant, a miner for most of his life, was transferred in 1945 to a lighter job as "topman" in a position where he continued to be exposed to silica dust. A physician warned him in 1946 that disability from anthracosis-silicosis was impending, but he continued to work until