Industrial Hygiene Foundation
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INDUS... DIGEST

Literature Abstracts

- MEDICAL
- ENGINEERING
- LEGAL - - - decisions and trends

Industrial Health News



Issued Monthly By

INDUSTRIAL HYGIENE FOUNDATION
4400 FIFTH AVENUE
PITTSBURGH 13, PA.

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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.

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IN RE: ABRAMS November 1992

Report on Employment of Disabled Veterans Sent to Members

The panel discussion, "Putting the Disabled Veteran Back to Work," a high-point of the Foundation's last annual meeting, has just been published as Special Bulletin No. 2 and sent to member companies. Release of the bulletin received nation-wide publicity in newspapers of Feb. 28. A limited number of extra copies of the report are available to members. As stated in the bulletin, members of the panel will serve Foundation companies, and industry generally, as a source of practical information and experience on the successful job-placement of veterans. Companies having questions for the panel may submit them through the Foundation. Reports on your experiences will also be helpful to other members. Says Dr. C.D. Selby, Medical Consultant, General Motors Corporation, "we want to keep this panel going until the rehabilitation job is done!"

Excellent work on rehabilitation of veterans is being done in some places on a community basis, notable in Peoria, Ill., through the leadership of Dr. H. A. Vonachen, Medical Director, Caterpillar Tractor Co., and in Cleveland through the efforts of the Society for Crippled Children and the Junior Chamber of Commerce.

Industrial Hygiene and Labor Relations

A recent list of 15 causes of labor turnover for which management is responsible, contained in a bulletin of the American Management Association, includes:

No. 5. Unhealthful working atmosphere--poor ventilation, inadequate lighting, etc.

No. 6. Inadequate sanitary facilities.

In this connection, the first news item in the Foundation's current, INDUSTRIAL HYGIENE DIGEST, reports collective-bargaining negotiations involving airline mechanics on the Pacific Coast which produced a clause whereby employers may require physical examinations of employees. The agreement further states:

(b) The company will use its best efforts to ameliorate such working conditions as are shown by these physical examinations directly to have caused physical disability.

Plant hygiene surveys and investigations, conducted by the Foundation, help companies detect and control "such working conditions." Ninety per cent of all fires could be extinguished with a cup of water if caught in time!

News Briefs -- The Office of the Rubber Director has just issued an interim report on studies of toxicity of general purpose synthetic rubbers. This will be abstracted in the Foundation's next monthly DIGEST....

Dr. Yandell Henderson -- International authority on the physiology of respiration and author, with H.W. Haggard of "Noxious Gases," died recently.

Translations of a German article "Beryllium Diseases of the Lung," by H.E. Meyer, may be obtained through the Foundation at a nominal charge.

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INDUSTRIAL HYGIENE DIGEST

INDUSTRIAL HYGIENE DIGEST
Literature and News

News Items

110 Physical Examination Clause.
A collective-bargaining conference involving a large group of airline mechanics on the Pacific Coast produced a clause on physical examinations that has been incorporated into a union agreement. The question of physical examinations for employees in unions has long been a controversial one at the conference tables. An increasing number of union agreements contain clauses covering this question. This particular clause stipulates:

(a) The company may, at least once a year, require any employee to pass a physical examination, made at the company's expense, by a medical examiner employed for that purpose by the company. The medical examiner shall supply such information as the company may require and the company shall have the right to rely and act upon the opinion of such examiner.

(b) The company will use its best efforts to ameliorate such working conditions as are shown by these physical examinations directly to have caused physical disability.

(c) Employees who have given long and faithful service and who have been unable to follow their occupations to advantage shall be given preference of such light work in their line as they are able to handle.

(d) No prospective employee shall be accepted for permanent employment, and no employee or former employee shall be accepted for reemployment, without passing a physical examination of similar purpose, similarly made, at the company's expense, when requested by the company. -- Management Record, January, 1944.

111 Oral Vaccines for Colds.
Recent communications to the offices of the American Medical Association indicate that the prescription and sale of cold vaccines is again taking place on a large scale. This, in the face of the recognized lack of scientific evidence for the value of these preparations, is indication of irresponsibility on the part of some manufacturers of pharmaceuticals. The scientific evidence against the value of oral cold vaccines is overwhelming; consequently individual physicians and firms who deal in pharmaceuticals and who lend themselves to wholesale uncontrolled distribution of such preparations are perpetrating an unwarranted commercial assault on the public pocketbook. -- J.A.M.A., 124, 236 (January 22, 1944).

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112 A Practical Rehabilitation Plan.
A model veterans' rehabilitation plan has been put into effect by the Todd Shipyards Corporation, which already is employing more than 1,000 veterans of World War II in its nine shipbuilding and ship repair yards. As outlined by THE JOURNAL OF COMMERCE, Todd's program is based on the conviction that, with proper placement, training and adjustment, the physically handicapped ex-serviceman is fully capable of resuming normal civilian activity. Of the veterans employed by the corporation, some were released from the services because of age, but others are physically unfit, handicapped or psychoneurotic in varying degrees. A disability chart and questionnaire provides the management with a case history of the physically handicapped veteran seeking work. -- Personnel, 20, 201 (January, 1944).

113 A Timely Research Study.
New York University, Division of General Education, Center for Safety Education in cooperation with the Institute for Crippled And Disabled is sponsoring a research study, conducted by Tobias Wagner, entitled "Work Efficiency and Accident-proneness of Physically Disabled Workers in Industry." The study is designed to formulate and establish efficiency standards with respect to the ability and skill of physically disabled persons to perform a variety of industrial jobs. -- Safety Eng., 87, 50 (January, 1944).

114 New Rehabilitation Program.
The Federal Security Agency announces the establishment of an enlarged program of vocational rehabilitation of handicapped persons to be administered by the Office of Vocational Rehabilitation, with funds provided by the Vocational Rehabilitation Amendments of 1943. "The scope of services available to disabled persons now and after the war has been broadened to include any services necessary to render them capable of engaging in remunerative employment or to render them more advantageously employable. -- Industrial Hygiene Letter (U.S.P.H.S.) 4, 2-3 (January, 1944).

115 Second Injury Funds.
In an annual review of state labor legislation Secretary Frances Perkins said that increasing pressure to "conserve vital manpower" was behind the creation of second injury funds in six States to encourage the employment of handicapped workers by employers who otherwise might fear large compensation costs if handicapped employees were injured a second time, perhaps permanently and totally. Such funds should be encouraged, Miss Perkins said as the war wounded return to civilian jobs. Five States also provided occupational disease coverage. -- Labor Information Bull., January, 1944.

116 Gas Warning by Electric Eye.
An ultraviolet photometer, developed by duPont, warns against dangerous concentrations of injurious gases. Its operation is based on light absorption by gases. When a particular gas passes through the apparatus and the light (including ultraviolet) is passed through a prism dark bands appear in a definite position, and an electric eye in one of these bands gives the warning signal. Carbon disulfide can be detected to the extent of one part per million. The photometer is more rapid and simple in operation than other types of gas analyzers, and permits accurate second-by-second observation of the vapor level in each step of an operation. The Mine Safety Appliance Company is planning to manufacture these instruments.

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117 Fatal Case of Acute Cadmium Poisoning.
In an Indiana plant, one worker died within 4 days after a prolonged exposure to high concentrations of cadmium fumes. The deceased worker undertook a job "flanging" two-inch cadmium plated stainless steel pipe. To produce a flange, the pipe was heated with a blow torch until the pipe became a cherry red. Soon after beginning the operation the employees complained about irritation of the nose and throat as well as the thick blue smoke present in the workers' environment. Within 4 hours, two employees were violently ill and were taken home. Vomiting, chest pains and shortness of breath were the chief symptoms at that time. The chest symptoms increased in one worker and within 4 days this worker died of a severe chest involvement. This case again emphasizes that cadmium is a very toxic element and that cadmium plated steels should not be welded, heated, brazed or burned unless the job is well controlled by a local exhaust. This death could have been prevented if someone responsible had remembered these facts. L.W. Spolyar, in Monthly Bull. Indiana State Board of Health, November, 1943.

118 Carbon Tetrachloride Poisoning in Parachute Factory.
The cause of illness among 135 employees in a Kentucky plant manufacturing parachutes was traced to carbon tetrachloride used for cleaning soiled spots on the chutes. The outbreak of illness occurred during a period of 10 days, and was manifested by abdominal cramping, nausea and vomiting. Some individuals complained of "bloating and difficulty in breathing." Many employees were acutely ill and unable to continue work. The illness lasted from 2 to 5 days in the average case although a number of workers continued to feel bad after resuming work. It was significant that the first noted symptoms began coincident with the beginning of heating, and consequent reduction of ventilation in an effort to conserve fuel. Cleaning of parachutes is now being done with mild soap and water. -- Industrial Hygiene News Letter (U.S.P.H.S.) 4, (January, 1944).

119 Statistics -- Vitamin Sales.
Statistics show that in the past 15 years sales of vitamins have increased more than 64 times. In 1925 total retail sales were only $685,108. Two years later they had increased to more than $2 million, and by 1939 the volume of business had jumped to more than $82 million. Although Government figures are not available for publication at this time owing to the war, information from private sources recently estimated sales in 1942 as totaling around $130 million. And these same groups predict sales of $150 million at the very least in 1943. -- Domestic Commerce, December, 1943.

120 Air Jets Stop Locomotive Smoke.
Elimination of smoke from several coal-burning locomotives of the Louisville and Nashville Railroad has been made possible by perfection of the design of overfire air jets as a result of work done recently by Bituminous Coal Research, Inc. The jets are simple, inexpensive, and can be applied to any standard locomotive. The equipment consists of jets to introduce air over the fire to cause turbulent mixing with unburned gases, thus promoting complete combustion and smokeless operation at low and moderate loads where smoke is often the most objectionable. The locomotive jets followed design principles developed in a research project sponsored by BCRI in the laboratories of Battelle Memorial Institute, Columbus, O. Results of this research have been published in the Transactions of the ASME for October, 1943, in a paper "Overfire Air Jets" by R.B. Engdahl and W.C. Holton. Reprints are available upon request to BCRI at Washington or Columbus.

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121 Physical-fitness Campaign.
The Federal Security Agency is initiating within industry a physical-fitness campaign intended to improve the strength and endurance of war workers, Paul V. McNutt, Federal Security Administrator, announced on January 26. To attack this home front problem, John B. Kelly, chairman of FSA's Committee on Physical Fitness, appointed a special commission headed by Dr. William P. Jacobs, sportsman and president of Presbyterian College, Clinton, S.C. The program developed by the commission is intended to bring to industrialists and labor leaders a realization of the need for action promoting and maintaining physical fitness among industrial workers.

122 Health Program for 1944.
The health program of Westinghouse Electric & Manufacturing Company for the present year emphasizes health education. Leaflets will be distributed monthly to employees, presenting the following subjects in order: rheumatism, open wounds, tuberculosis, hay fever, infant immunization, indigestion, diabetes, recreation, the common cold, syphilis, sleep, and care of the eyes. -- F.M. Catto, Safety News (Westinghouse) January, 1944.

123 Why Plant Industrial Medical Service Should Be Adopted.
This is the title of a circular sent by the Health Committee of the Chamber of Commerce and Board of Trade of Philadelphia, to manufacturers in the city and vicinity. First, the need of such service is demonstrated by the accident frequency of the Five-County Philadelphia area. The information about medical service is given in the form of questions and answers, for instance, what medical service is available to a small plant at reasonable cost? Will a medical service decrease the lost time due to accidents? The scope and cost of medical service are included, and recipients are asked to write for any other information desired.

124 Occupational Disease Reports.
The Bureau of Industrial Hygiene of the Connecticut Department of Health reports 104 occupational disease cases for November, 1943. Dermatitis accounted for 97 with pneumoconiosis and silicosis 3, carbon monoxide 1, lead 1, sulfur dioxide 1 and gas poisoning 1. During December, 1943, there were 270 occupational disease cases of which 266 were skin diseases. The remaining were silicosis with and without infection 3, and lead poisoning 1.

Legal Developments

125 Labeling Poisons.
An amendment to the New York State Sanitary Code, adopted by the Public Health Council December 17, reads as follows: "The sale, distribution or use of any poisonous substance as an exterminator or insecticide is prohibited unless the container bears a label legibly and conspicuously printed with the word 'POISON' and the symbol of the skull and cross-bones in red ink followed with the words 'CAUTION -- This exterminator or insecticide contains (state the name of the poison), a deadly poison,' together with the antidote and treatment therefor and the name and address of the manufacturer or packer, and the words 'poison,' 'caution' and 'antidote' in block type of a larger size than the other wording.

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Insecticides or exterminators containing a fluoride or an arsenic compound shall be colored a distinct blue or green and, if sold at retail in quantities of five pounds or less, the container thereof shall be of a non-refillable type. This amendment shall take effect (February 1, 1944) May 1, 1944." -- Health News Suppl. (N.Y. State Dept. of Health) January 3, 1944.

126 Exposure to Excessive Heat; Absence of Pre-Existing Cardiac Condition; Finding of Fact to be Supported by Evidence or Reasonable Inference.
A negro workman, having been employed at the coke ovens of his employer for six years, suddenly fell over backward and died within a few minutes, while in the process of removing coke from an oven. There was no evidence of any cardiac pathology and the evidence tends to show that the deceased employee was a healthy, strong man prior to his sudden death. Defendant's medical witnesses ignored the facts that decedent worked in a place that was always ten to twelve degrees hotter than normal and that the day of his death was an excessively hot day, and although no medical expert would say that death was the result of the extreme heat, it was admitted that such heat could embarrass the heart to a point of exciting heart failure. As the weight of the evidence favors claimant rather than the employer, denial of compensation was erroneous. Byrd v. Stonega Coke & Coal Co. Virginia Supreme Court of Appeals. No. 2755 (January 24, 1944. (CCH).

127 Bacterial or Chemical Pneumonia; Causal Relation to Employment.
After each of two distinct exposures to nitrous fumes in the mixing of copper nitrate, an employee having suffered a cough, chills, sweats, and expectoration of bloody sputum and after the second of such exposures having developed a severe pneumonia, it was the isolation of pneumococci in a sputum culture and the testimony of medical experts that chemical pneumonia from the inspiration of nitrous fumes in sufficient quantity to cause pneumonia would have been immediately disabling that led to a finding that there was no causal connection with the employment. -- Burdick v. U. S. Finishing Co. Conn. Supreme Ct. of Errors. January 5, 1944. (CCH).

128 Injuries Resulting from Silicosis; Degree of Care Required of Employer.
An employee was disallowed recovery for injuries resulting from the occupational disease of silicosis because the employer did not negligently fail to provide the employee with a reasonably safe place to work; although there might have been a better way for the employer to conduct the hauling of ore, for which the employee was hired, the test of negligence is that degree of care and method of operating the business commonly adopted by those in the same business. Wommack v. Orr. Missouri Supreme Court. No. 38,634. December 6, 1943. (CCH).

129 Course of Employment.
Where an employee suffering with a diseased heart, with arteriosclerosis and hypertension, died after exerting himself during his employment, the finding of the board that the employee's death was hastened by the exertion of the work that he was required to perform and that his death was the result of an injury arising out of and in the course of his employment was proper, because though the pre-existing physical condition of the employee was a remote cause of death, it could be found that the physical exertion of the work that he was doing resulted in the acute failure of the heart which caused his death. Griffin's Case. Massachusetts Supreme Judicial Court, Suffolk. November 30, 1943. (CCH).

130 Locomotive Fireman's Suffering From Silicosis.
An employee, a locomotive fireman of an interstate railroad company, did not state facts sufficient to constitute a cause of action for negligence under the Federal Employers' Liability Act, for the employer's failure to provide a safe

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place to work, when he brought suit for damages caused by silicosis resulting from the inhalation of sand placed on the rails by a sanding device, which was of the type ordinarily used under the circumstances and which in other instances had not caused the disease of this type. The employer is not required to anticipate or guard against an occurrence which an ordinarily prudent person could not have anticipated.

Limitation of Action for Silicosis. An action may be brought under the Federal Employers' Liability Act for injuries sustained by an employee engaged in interstate commerce as a result of a violation of the Boiler Inspection Act; and such an action, which was brought by a locomotive fireman for injuries resulting from silicosis, is governed by the statute of limitations prescribed in the Federal Employers' Liability Act. Therefore, the accrual of this cause of action and the commencement of the statute, silicosis being an occupational disease and of slow development in a person, occur when the employee becomes incapacitated for work and ceases his employment. Uric v. Thompson. Missouri Supreme Ct. No. 38,629. December 6, 1943. (CCH).

131 Determination of Accident by Definition.

As the Florida Workmen's Compensation Act defines accident as: "accident shall mean only an unexpected or unusual event, happening suddenly," in a case where claimant admits that over a period of about a year in the course of her employment mixing dough, baking bread and scrubbing pans, she developed pain in the wrists with later formation of "knots," diagnosed as tenosynovitis with ganglion formations, the injury cannot be said to have been sudden as required by statute. S.H. Kress & Co. v. Burkes. Florida Supreme Ct. January 4, 1944. (CCH).

132 Statute of Limitations; Additional Compensation.

A claim for additional compensation on account of a change in condition must be filed within two years from the date that the Industrial Board is notified of final payment of compensation to claimant.

No Appeal from Previous Award: Res Judicata.

A previous award of compensation having been made and no appeal therefrom having been taken, the matters therein are res judicata.

Stephens, P.J. (Digest of opinion) The Code, #114-709, as amended by the acts of 1937, page 528, does not provide that a claim for additional compensation on account of a change in the condition of the claimant, in order to give the Industrial Board jurisdiction thereof, must be filed with the Board within two years after the date of the final payment of compensation under a previous award, but provides that the claim based on change in condition "must be filed within two years from the date that the Industrial Board is notified of final payment of compensation to the claimant." On the hearing of a claim for additional compensation, based on a change in the condition of the claimant since the previous award by the Industrial Board of compensation to him, a finding by the Industrial Board in making its previous award that the claimant's tuberculous condition, which caused his disability, had been aggravated by the administration of ether during the performance of an operation on him for hernia, which hernia was caused by an accidental injury received by the claimant while at work for his employer, which previous award was not appealed from, is conclusive and constitutes res judicata that the claimant's permanent disability resulted from his tuberculous condition, and that the same was caused by an accidental injury growing out of his employment. Fidelity & Casualty Co. v. Brooks. Georgia Ct. of Appeals. No. 30,075. December 3, 1943. (CCH).

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133 Applicability of Statutes to Municipality.

A municipality engaged in furnishing public utility services in its private corporate capacity is subject to the occupational disease statute where an employee

suffers damages from personal injuries sustained as a janitor in the chemical building at the minicipality's water purification plant. Lockhart v. Kansas City, Missouri. Missouri Supreme Ct. No. 38,614. December 6, 1943. (CCH).

134 Silicosis; Factory Act; Inapplicability of Occupational Diseases Act.
An employee, having contracted silicosis through the alleged negligence of the employer in its violation of the Factory Act, Chapter 142, Acts 1899, by failing to exhaust dust from grinding wheels and other dust creating machinery and the common law negligence of failing to eliminate dust from the room where the employee worked, recovered a judgment of $8,000 in an action for damages, and the affirmance of that award by this court is based upon the decision of The Dalton Foundries, Inc. v. Jefferies (1943), 51 N.E. (2d) 13, which held that where the Indiana Workmen's Occupational Diseases Act was not applicable for the purpose of compensation under the Act, because that employee was not exposed for a period of sixty days after the effective date of the Act, the provisions of the Act could not govern nor have any effect upon the employee's recovery in an action for damages, and having violated the Factory Act, the employer was negligent whether or not the exact resulting disease therefrom was anticipated. The Dalton Foundries v. Dean. Indiana Appellate Ct. No. 17,052. November 19, 1943. (CCH).

135 Nurse's Tuberculosis as Result of Occupational Injury; Inaccurate Claim; Occupational Disease Referees.
Where the evidence shows that a nurse, upon her employment with a hospital, had previously had an active tuberculosis which was then dormant, quiescent, and arrested and, due to a series of colds caused by exposure to great and sudden changes of temperature in various parts of the hospital and overwork due to insufficient help, her power of resistance became so diminished that the pre-existing tuberculosis was activated and disabled here, a causal connection between the employment and injury was shown; the fact that the claim filed varied from the proven facts is immaterial as it could have been cured by amendment if controversy on this point had arisen; industrial referees are to be appointed only when an employee claims to be disabled as a result of an injury by industrial disease, and, as the claim made no mention of an injury, there was no authority to appoint referees and their reports are without effect. Mercier's Case. Massachusetts Supreme Judicial Ct., Suffolk. December 27, 1943. (CCH).

136 Silicosis as Cause of Death; Claim for Death Benefits and Remarriage Award Made After Remarriage.
Where the deceased employee was compensated for disability, due to silicosis, from the date of his disability on December 23, 1939 to his death on May 26, 1942, and his widow remarried on June 20, 1942 but did not file her claim until July 6, 1942, there was no error in awarding death benefits from the date of death of her husband to the date of her remarriage, and for the remarriage award as of the date of her remarriage. Gutierrez v. Republic Steel Corporation. New York Supreme Ct., Appellate Div., 3d Judicial Dept. No. 234-3. Nov.16, 1943. (CCH).

137 Jurisdiction of State Industrial Commission; Occupational Disease; Lack of Competent Evidence to Support Finding of Fact.
Because the Oklahoma Workmen's Compensation Law covers only disabilities and diseases resulting from an accident, in point of time, an occupational disease such as chronic lead poisoning, which is the result of a slow, insidious process, with the cause attributable to no specific period of time nor to a specific event, is not a compensable accident within the meaning of the Act, and the State Industrial Commission is without jurisdiction to make any order other than one of dismissal; since the evidence fails to support the finding that the occupational disease was the result of the alleged inhalation of chlorine gas on May

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28, 1938, the award must be vacated. National Zinc Co. v. Goines. Oklahoma Supreme Ct. No. 31,204. January 25, 1944. (CCH).

138 Federal Employers' Liability Act; Heat Exhaustion; Safe Place to Work. The United States Supreme Court denied certiorari in the case of the death of Robert P. Beamer who died within a short time after having worked for over two hours as a steam fitter in a steam turbine room where the temperature was 135°. The Virginia Supreme Court of Appeals held that the Railway Co. was not negligent since the temperature was not hotter than is required by standards of good practice in such plants and the employer is required only to exercise ordinary care. Beamer v. Virginian Railway Co. U.S. Supreme Ct. No. 330. Certiorari denied, January 17, 1944. (CCH).

139 Prima Facie Correctness in Questions of Law and Fact. -- Although the decision of the Department is deemed to be prima facie correct unless and until there is sufficient evidence produced to prove otherwise, where there is no evidence from which a reasonable inference can be drawn that the employee's death due to cardiac asthma and acute myocarditis was the result of exposure to wood dust in the lumber mill where decedent had been employed, the decision was a conclusion of law based on speculation and surmise and is not prima facie correct on a finding of fact.

Definition of Occupational Disease. -- An occupational disease is one due entirely to causes and conditions characteristic of a particular occupation and not due to causes and exposure common to all employed people. In the classified list of occupational diseases, there is no disease to which logging company's employees were or could be exposed in the line of duty.

Attorney's Fees -- Rem. Rev. Stat., No. 7697 provides for a reasonable attorney's fee payable out of the administrative fund if the decision of the joint board is reversed or modified.

Supersedeas Bond.-- Although Rem. Rev. Stat., No. 1722 provides that a court will not stay proceedings on a judgment unless a supersedeas bond is given, Art.IV, No.4, of the state constitution authorizes appellate courts to grant a supersedeas pending the determination of an appeal, even though appellant may not otherwise be entitled thereto by statute.

Millard, J. (Digest of opinion) Where the cause of death was given as cardiac asthma and acute myocarditis, and there was no medical testimony or other evidence to show that the asthma was the result of exposure to wood dust in the lumber mill where decedent had been employed for 22 years, the decision of the Department could not be said to be prima facie correct on a question of fact as the decision that there was causal relation was a conclusion of law based on conjecture and surmise rather than on a finding of fact, and the trial court could rightly conclude otherwise. As an occupational disease is one that arises naturally and proximately out of extra-hazardous employment, in which classification logging industries do not fall, and it has not been shown that asthma is a normal and constantly present result of logging operations, it cannot be said that there was an occupational disease or that it arose naturally or proximately out of his employment. As Rem. Rev. Stat., #7697 provides for a reasonable attorney's fee payable out of the administrative fund upon reversal or modification of the joint board's decision, the trial court having reversed the board, attorney's fees from the fund are allowable. Although the constitutional and/or inherent power of a reviewing court to grant a writ of supersedeas when necessary to preserve the rights of the parties, pending an appeal may be subject to legislative regulation, as by Rem. Rev. Stat., #1722, regarding the issuance of a supersedeas bond, that power, inherent or granted by Art. I , #4 of the state constitution, cannot be wholly divested by the legislature. Furthermore, there is no necessity for supersedeas in cases such as this, as the preservation of

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the trust fund, which is in the custody of the state, may be effectuated by the court's suspension of the operation of the Department's order making the award pending the disposition of the appeal from that order to the superior court. Affirmed. St. Paul & Tacoma Lumber Co. v. Dept. of Labor and Industries. Washington Supreme Ct. No. 29,048. December 10, 1943. (CCH).

Book Reviews and Notices

140 Occupational Lead Exposure and Lead Poisoning. Committee on Lead Poisoning of the Industrial Hygiene Section, American Public Health Assoc., 1790 Broadway, New York, N.Y. 87 pp. (1940). Price 75¢.

This report constitutes an authoritative statement of the present knowledge respecting lead poisoning hazards and must command attention because of the outstanding reputations of the eight committee members. It has been designed (1) to outline practical and effective measures for the recognition of hazardous lead exposures in industry, (2) to describe satisfactory methods for the differential diagnosis and treatment of lead intoxication, (3) to point out the factual requirements for medicolegal purposes and the means of satisfying such requirements, and (4) to refer the reader to selected sources of more detailed and comprehensive information. A comprehensive discussion of lead poisoning was avoided because of the existence of several questionable or controversial matters in the literature based on experimental and clinical investigation and observation. The available statistics indicate that there has been a progressive decline in the incidence of fatal lead poisoning in the United States of America over a period of more than twenty years. Where information is available, the same trend appears in the incidence of non-fatal poisoning but it has not been as great as with fatal poisoning. This indicates that hygienic measures have eliminated the more obvious forms of lead exposure without bringing the general level of exposure within safe limits. The bibliographical appendix brings together the more important articles on each phase of lead exposure and lead poisoning. The articles are presented in the order, by years, in which they appeared in the literature. They cover 19 phases of the problem.

141 The National Fire Codes for Flammable Liquids, Gases, Chemicals and Explosives. Compiled by R.S. Moulton. National Fire Protection Association. Boston, 1943. 502 pp.

This volume presents the complete codes for handling, storage and use of flammable and explosive material, and supersedes and amplifies the codes published in 1938. The codes are in the form of suggested ordinances, standards or recommended good practice requirements and constitute a valuable guide to good engineering practice. The general classifications include: (1) flammable liquid storage and handling; (2) oil and gasoline burning equipment; (3) liquified petroleum gases; (4) utilization of flammable liquids in engines, motor craft, airplane fueling operations, dry cleaning, dip tanks and paint spraying; (5) fuel gases, anesthetic gases and oxygen in hospitals; (6) refrigeration and fumigation, and (7) explosives and nitrocellulose materials. The book closes with two very useful tables, one of common hazardous chemicals, and the other of fire-hazard properties of flammable liquids, gases and volatile solids, the two totaling about 70 pages and supplemented by directions for flash point tests. Anyone concerned with design, construction or manufacture where flammable materials are concerned, will find the volume invaluable.

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142 National Fire Codes for Extinguishing and Alarm Equipment. Compiled by R. S. Moulton. National Fire Protection Assoc., Boston, 1943. 669 pp.
The National Fire Protection Association has prepared over a hundred comprehensive standards on various phases of fire prevention. The present volume brings together for convenient reference the many standards dealing with various types of fire extinguishing and alarm equipment and related features. The general headings include: (1) automatic sprinklers and water supply; (2) extinguishers and hose; (3) special extinguishing systems, e.g. carbon dioxide, foam, steam and water spray; (4) public protection, municipal and rural; (5) alarm and supervisory systems; (6) employee organization, and (7) miscellaneous, including among other subjects fire fighting equipment in metal mines, marine fire protection, and protection of nitrocellulose films and pyroxylin plastic. This volume will be valuable to those concerned with fire protection.

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143 Anoxia in High Altitude Flying. Med. J. of Australia. 2, 172-173 (August 28, 1943).
This article is a review of the whole issue of Beitrage zur pathologischen Anatomie of September 16, 1942. A review of the first paper records the physiological changes and histological lesions produced by exposing animals to critical altitudes repeatedly for various lengths of time. The second paper reports on the lesions in organs other than the central nervous system which were found in animals suffering sudden death by rapid exposure to extreme low pressure. The third paper gives observations at the autopsies of members of air crews who died in similar circumstances. The fourth paper discusses the question whether anoxia is the only cause for the observed findings.

144 Hazards of Exposure to Glass Wool, Glass Frit or Foam Glass. B. J. Hein. Correspondence, J.A.M.A. 124, 187-188 (January 15, 1944).
The author disagrees in part with the reply to a question in "Queries and Minor Notes" regarding hazards of glass wool (Abstract No. 892, September, 1943 Digest) believing that the informant is not familiar with the particular products mentioned. No carbon tetrachloride or ether is used in making glass wool, and no mechanical injury from spicules has occurred. References are given to several articles that have been quoted in the Digest.

145 Health Aspects of Magnesium and Other Foundries. W.A. Cook. Am. Foundrymen's Assoc. Reprint 43-36, (Magnesium Alloys Foundry Practice), pp. 140-148.
The writer affirms that greater productivity, less absenteeism, and better personnel relations may be achieved through: (1) improvement of the health of the men and women in the industry through educational means, and (2) provision of hygienic working conditions. The author has found valuable in achieving the first object, an integrated program, presenting a single phase of healthful living, such as the amount of sleep needed, prevention of the common cold, etc. The subject can be presented at safety meetings or through public address systems in plants, using such devices as the strip film talkie. Concerning exposure to fluorides and sulfur dioxide the writer states that their effects, under foundry operating conditions, after prolonged exposure, are not fully known. He concludes that, "for the present, every effort should be made to keep fluoride

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exposures as low as good engineering practices will permit, certainly below the amount which causes local irritation, to keep a record of the atmospheric concentrations in which the men are working, and to undertake such periodic physical examination as medical authorities recommend." Some data obtained from studies of fluoride and sulfur dioxide exposures in magnesium foundries are given. The use of lead-in-urine determinations in foundries and in other industries where there are lead exposures is of value in indicating whether the workers are exposed to too much of this metal. Periodic x-ray examinations coupled with dust control should be maintained in all foundries.

146 Hazards from Silicon and Fluorides. Queries and Minor Notes. J.A.M.A. 124, 268 (January 22, 1944).
The question has arisen as to the toxic nature of calcium silicide, which is used as a reducing agent for electric furnace slags; also fluoride gases, calcium carbide, sulfur dioxide and iron oxide. The reply refers to the lack of specific information on the physiologic action of calcium silicide. In general, however, silicides are comparatively inert materials. All fumes which are liberated as fumes in the process described should be regarded as possible acute irritants whether they cause progressive chronic disease of the skin or respiratory tract is unknown. (Editor's note: Fluorosis from fluorine compounds is a possibility of current interest.)

147 Fluoride Vapors and Dusts. V.E. Ready. Mich. Labor & Ind., 5, 6 (January, 1944). From Calif. Safety News.
Hydrogen fluoride and its compounds are used extensively in pickling metals, treating textiles to remove weighting materials, cleaning sandstone and marble, laundry work and fertilizers. Whenever fluorides come in contact with moisture, hydrogen fluoride may be given off. A number of specified additional [illegible]tions involve a fluorine exposure hazard. Coated welding rods may contain fluorides which give off silicon fluoride, which, on inhalation, breaks down into hydrogen fluoride and silica, so that constant exposure to these fumes may cause either fluoride poisoning or silicosis. (Editor's note: Tebbens and Drinker, "Ventilation in Arc Welding with Coated Electrodes," Jour. Ind. Hyg. & Tox., 23, 322-342 (1941) demonstrate that silica in welding fumes is not present in a form that will cause silicosis. Studies by Sander and others confirm Tebbens and Drinker.

148 Accident Facts - 1943 Edition. National Safety Council. Paper, 96 pp. 50 cents per copy, discount in quantities.
This booklet gives an extensive tabulation of accidents in the United States in 1942, industrial and non-industrial. Much of the material is given in easily understandable graphic form. The industrial frequency rate (of companies reporting) dropped 2% from 1941 to 1942, while the severity rate increased 3%. Falls are the most costly, while accidents from handling objects are most frequent. Accidents are tabulated by industry, part of the body, cause and locality.

149 Inflammability of Methylene Chloride-Oxygen-Nitrogen Mixtures. G.W.Jones, R.E. Kennedy and F.E. Scott. U.S. Bureau of Mines, Rept. of Invest., #3727. Pamphlet. 7 pp. (October, 1943).
Methylene chloride, dichloromethane CH_2Cl_2, a low-boiling and highly volatile organic chlorinated compound, is used extensively as a refrigerant in air conditioning installations, as an intermediate in organic synthesis, and as a solvent for cellulose acetate and other materials. As its vapors are not flammable in air at ordinary temperatures, it can be used to advantage where it would be highly dangerous to use flammable solvents. The question has been raised as to its flammable range in pure oxygen and in air enriched with oxygen. To find the answer to this question tests were carried out with various mixtures of methylene

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chloride, oxygen, and nitrogen mixtures. It was found that methylene chloride has wide limits of flammability in pure oxygen -- 13.5% for the lower and 66.4% for the upper limit. All mixtures falling within these limits are flammable. If air is enriched with oxygen, so that the final mixture contains 18.3% or more oxygen, flammable mixtures are produced when the amount of methylene chloride vapor present comes within certain limiting concentrations. At high temperatures, methylene chloride vapor becomes flammable in air and ignites at 642°C. It ignites at 606°C in oxygen.

150 Carcinogens and Experimental Carcinoma. Queries and Minor Notes. J.A.M.A. 123, 1148-9 (December 25, 1943).
In response to an inquiry about the experimental production of papillomas in the rabbit by the application of benzene, the following comment is offered: "Careful compilation of the relative carcinogenic activity of various carcinogens by Hartwell in 1941 does not give any instance of papillomas induced in rabbits by benzene. Carcinoma may be induced in the mouse by a variety of substances. Those most frequently used are 3,4 benzpyrene, 20 methylcholanthrene and 1,2,5,6, dibenzanthracene. The shortest period after application of the carcinogen to the appearance of the tumor is about sixty days. Usually a considerably longer time is required. Carcinoma in the guinea pig is more difficult to induce. Foulds reports 1 case following injection of thorium dioxide in the nipple region. It may also prove that estradiol will be active in producing carcinoma, according to Lipschutz. The review of the field of carcinogens published by J.L. Hartwell, National Cancer Institute, Bethesda, Md., is recommended for detailed information.

151 Experimental Gastric Cancer from Ingestion of Oxidized Fats. A.H. Roffo. Bol. inst. med. exptl. estud cancer. 19, 503-30 (1942).
Rats were fed for a period of 2 years on a diet of bread, milk, corn and a small quantity of oxidized fat. The latter, oxidized by heating, takes on carcinogenic properties which may be caused by the high cholesterol content. These findings coincide with those of N. Waterman (Chem. Absts., 31, 4389) who has shown that cholesterol oleate not only enhances the effect of tar, but that it also contains carcinogenic substances. An excess of cholesterol esters favors the formation of tar carcinomas. This process, produced by heat, is analogous to the one induced under the action of ultraviolet rays or solar rays, which produces a local accumulation of cholesterol. The latter, under irradiation, forms the carcinogenic oxicholesterol.

152 The Allergenic Properties of the Vegetable Gums: A Case of Asthma Due to Tragacanth. H.H. Gelfand. J. Allergy, 14, 203 (March, 1943).
Published reports of sensitivity to vegetable gums indicate that the chief sources of sensitization are karaya gum in hair waving lotions and acacia (gum arabic) in the offset spray used by printers. Other persons exposed to occupational contact with the gums include confectioners, employees of gum plants, persons engaged in the manufacture of cigars, metal polish, matches, porcelain, pottery and others. A list of the known sources of possible contact with the gums is presented. The usual mode of contact is by inhalation, but ingestion, injection and surface contact have also accounted for reactions. The morbid processes include vasomotor rhinitis, bronchial asthma, urticaria, atopic dermatitis, angioneurotic edema and gastrointestinal disturbances. The author reports the case of a woman with asthma due to tragacanth, who was sensitive to acacia, also, but not to karaya. Acacia and tragacanth are members of the same family (leguminosae) but karaya belongs to an entirely different family (sterculiaceae). This fact may have a bearing on the antigenic relation of the gums.

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153 Dermatitis Due to Tyroglyphus Longior, Gerv., Var. Castellanii, Hirst, in Cheese Dust. E.W.P. Thomas. Brit. J. Dermat., 54, 313 (December, 1942).
Thomas reports a diffuse erythematous dermatitis of the forehead, face, ears and neck, with slight edema of the eyelids and involvement of the flexor surfaces of the forearm, in a railway loader. The eruption was due to cheese dust in which the mite Tyroglyphus longior, Gerv., was found. The cheeses mainly attacked are those that have been left a considerable time in store. The mites, which are said to be present in most dairies and can be found in dust and scrapings from the shelves, apparently crawl on to the cheese, select a minute hole or crevice and eat their way in; eggs are laid and a flourishing colony is soon established. On the surface of the cheese a coating of fine powder forms, which may be a quarter of an inch (0.6 cm.) thick, composed of layer on layer of dead bodies of mites, macerated skins, feces, minute particles of uneaten cheese and the living mites themselves. Mite-infected cheese can be recognized by this fine brown powder and by the numerous small holes and cavities.

154 Effects on the Skin of Irritant Explosives. C. Swanston. Proc. Roy. Soc. Med., 36, 633-638 (October, 1943).
Industrial or contact dermatitis is the cause of more lost time in British munition factories than any other industrial complaint, the time lost being only slightly less than that due to accidents. The principal irritant explosives are mercury fulminate and tetryl, to which may be added TNT on account of the severity, rather than the incidence of the dermatitis produced. Symptoms produced by the various explosives are described. Treatment involves: (1) Removal from contact, (2) Avoidance of all skin irritants including soap and water after initial cleansing, (3) Allaying of irritation to avoid scratching and to give the patient sleep and rest, (4) Variation in individual treatment, which must be regular and closely supervised. Dressings must be light. Prophylaxis includes: (1) Selection of workers, (2) Proper working conditions, (3) Protective clothing, (4) Thorough washing, (5) Barrier substance such as creams and powders.

155 Contact Dermatitis With Special Reference to Industrial Dermatitis. N.P. Anderson. Ind. Med., 12, 584-587 (September, 1943).
The author presents a somewhat different point of view of contact dermatitis namely, that in any individual, it may be considered a toxic reaction. He cites a number of authorities and cases in support of his thesis. This newer viewpoint tends to modify some of the present day ideas both as to causation and treatment of this group of skin disorders. The following are suggested procedures for use in treatment: (1) The use of chemical antidotes which act either (a) by neutralization of the poison or (b) detoxifying the irritant by forming insoluble or non-irritating compounds; (2) The use of absorbent powders, such as charcoal and kaolin; (3) The new synthetic wetting agents might be used to remove toxic chemicals from the skin and possibly also to carry neutralizing agents.

156 Metol Dermatitis as an Occupational Disease of Photography. E. Wagner. Phot. Korr. 78, 26-7 (1942). (German).
The symptoms produced on the skin (usually on the hands and under the arms) of workers who are allergic to metol are briefly described and their similarity to those of frostbite and eczema is pointed out. The irritation caused by contact with hydroquinone and pyrogallol also produces symptoms resembling those of metol. Swelling and degreasing of the skin by developer alkalis aggravate the action of metol. Lanolin should be applied to the skin at night and a skin specialist should be consulted.

157 Oral Prophylaxis Against Upper Respiratory Infection. T.B. Herron. Ind. Med., 12, 590-593 (September, 1943).
The author describes a series of investigations among unselected industrial workers to test the value of oral vaccine tablets in upper respiratory infections.

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He believes the results appear to recommend this procedure as an effective and practical method to provide immunization against upper respiratory infection in industrial workers and other large masses of the population.

158 Keratoconjunctivitis Control Measure Recommended for Industry. M. Heiman. N.Y. State Indust. Bull., 22, 328 (August, 1943).
The disease is apparently caused by a neurotropic virus, with trauma bearing little relation to the disease, although this question is not adequately answered at this time. Either sex may be affected at any age. There is evidence that medical personnel has had a hand in transmitting the disease. Generally patients complain of either a foreign body in one of the eyes, or that the eyes feel as if they had "sand" in them. In the typical case the bulbar and palpebral conjunctiva will be found edematous, with the upper lid more severely involved than the lower. Congestion of the conjunctiva, lacrimation and a few hemorrhagic spots will be found. A pseudomembrane is often found, especially in the inferior conjunctival sac. The amount of discharge is minimal. Corneal involvement shows subepithelial opacities, moderate in number and often involving the pupillary area. There amy be glandular involvement of the preauricular, submental or cervical chain. The disease usually lasts at least 10 days, with corneal involvement lasting longer and leaving scars. Cold compresses give relief and sulfonamides have been recommended.

159 Eye Injuries in Shipyards. F.S. McElroy and A.L. Svenson. Monthly Labor Rev., 57, 1151-1154 (December, 1943).
During the first 5 months of 1943, 19,244 disabling injuries to shipyard workers were reported. Of these, 4,089, or 21% were eye injuries. A great variety of eye hazards is present in shipyard work, and the same worker may be exposed to several hazards. Welder's flash accounted for 37% of the eye injuries and only one in six of these were caused by exposure to the worker's own arc. Flying particles accounted for 51%, and here again others than the worker performing the operation were often injured. The suggested methods of prevention include: (1) more extensive use of goggles; (2) more extensive use of screens; (3) segregation of operations whenever possible. The essential data are presented in tables.

160 Intraocular Foreign Bodies. E. Stieren. J.A.M.A. 123, 880-882 (December 4,1943).
The author discusses proper methods of treating eye injuries. The history of the accident is all important in determining a magnetic or non-magnetic foreign body. An immunizing dose of tetanus antitoxin should be administered to every patient. Methods of detecting the wound of entrance and the position and size of the foreign body and details of removing foreign bodies in various locations are presented. For combating infection the author depends on systemic shock resulting from injection of foreign protein or intravenous injections of typhoid vaccine. Brass and copper are particularly toxic in intraocular fluids.

161 Industrial and Domestic Injuries of the Eye. C.P. Clark. J.A.M.A. 124, 157-59 (January 15, 1944).
The prevention of ocular injuries commands an important place in industry, agriculture and the home. Efficient first-aid treatment is important in reducing the loss of man hours of work, in relieving the suffering associated with the injury and, most important of all, in retaining useful vision of the injured eye. Penetrating and non-penetrating wounds are treated according to the rules that have been proved best by years of experience of the medical profession. Particular care should be taken to avoid sympathetic ophthalmia when there has been an injury of the uveal tract, especially of the ciliary body. -- Author's summary.

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162 Colored Reflex From Anterior Capsule of Lens in Mercurialism. W.S. Atkinson. Amer. J. Ophthal., 26, 665 (July, 1943).
A colored reflex from the anterior capsule of the lens is observed in cases of chronic mercurialism or in those who have been exposed for a long time to mercury. It is believed to be a deposit of mercury on or in the anterior capsule, and does not subside when exposure ceases. Seventy persons examined were at some time engaged in the manufacture of thermometers and one was a coner in the felt hat industry. The colored reflex was present in over half of the cases. The author suggests that the colored reflex is an early diagnostic sign of mercurialism.

163 Industrial Music and Morale. D.D. Halpin. J. Acoustical Soc. of Am., 15, 115-123 (October, 1943).
The first of a series of papers dealing with the use of music in industrial plants stresses the importance of engineering the system used to serve specific needs. Four succeeding papers in the same issue were written by specialists who have conducted research or assembled data on various phases of the subject. Titles of these papers are: "Music as a Safety Factor," "Attitudes Toward Types of Industrial Music," "Programming Music for Industry," and "Statistical Method in Determining the Effects of Music in Industry."

164 Maternity Policies in Industry. C. Silverman. The Child. 8, 1-4 (August,1943).
A sound industrial maternity policy involves: (1) Avoidance of penalizing regulations, so that women will be encouraged to report their pregnancies early and avoid serious consequences that may follow concealment. (2) A health evaluation of every case to form a basis for decisions regarding continuation of employment. (3) A job evaluation of every case, and, if necessary, transfer to suitable, non-hazardous work. (4) Periodic reports on physical condition. (5) Reasonable and protective minimum prenatal and postnatal leave periods. (6) Job protection for a reasonable period of time. (7) Cooperation among plant physicians, private practitioners, and public health departments. Industrial maternity problems are part of community maternity problems and deserve the combined interest of all persons and agencies concerned. -- Condensed from Author's summary.

165 Safety in the Operation of Anhydrous Hydrogen Fluoride Alkylation Plants. R. Benson. Nat. Petroleum News. 35R 532-6 (November 3, 1943.)
New safety precautions are required in the design and operation of alkylation plants because of the nature of the anhydrous hydrogen fluoride used as a catalyst. Mechanical features have been incorporated in the plant design to minimize accidental discharge of acid to the atmosphere. These include locating the acid-carrying equipment in a pit provided with the means for neutralizing any escaping acid, and exhaust systems for removing or neutralizing acid or vapors from sections opened for repairs or other purposes. Special types of neoprene or rubber clothing are provided for various classes of work and precautions are taken to prevent injury to workmen exposed to contact with the acid. First-aid treatment is described. -- Author's summary.

166 Further Knowledge on the Clinical Picture of The Aluminum Lung. G. Goralewski. Deut. Tuberkulose-Blatt., 17, 3-10 (January, 1943). (German).
The author presents data on "aluminum lung" in 700 workers in Germany, a disease that occurs frequently there but apparently has not been encountered at all in America. The symptoms and slight blood changes observed agree with those reported in the Author's earlier papers (Abstracts 269, 271 - March, 1943; 414 - May, 1943). Radiologically the first sign consists of focal shadows in the apical regions, which progress through other portions of the lung and become confluent. One autopsy showed coarse, branching hyaline collagenous fibers enclosing phagocytes containing fine and coarsely granular particles which differed from carbon particles by their jagged outlines. In parts of the lung these fibers were

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also found surrounding the walls of the alveoli, which contained phagocytes. A few dust cells were also found in the regional lymph glands.

167 Relation of Low-Vitamin Diets to Arsenic Poisoning. E. Zimmermann. Arch. Gewebepath. u. Gewerbehyg., 11, 153-159 (1941) (German).
In investigating the toxic effects of orchard sprays containing arsenic compounds it was found that a deficiency of either vitamin A or B_1 makes rats more sensitive to the effects of arsenic trioxide. The ability of the liver to retain arsenic was not altered.

168 The Toxicity of Some Metals When Administered Intravenously in Various Forms. P. Mascherpa. Boll. Soc. Ital. Biol. Sper., 15, 226-227 (1940). (Italian).
The following minimal lethal doses are reported for intravenous injection into rabbits, of the substances named: cobalt chloride 25.5 mg., cobalt proteinate 35.2 mg., very finely divided reduced cobalt powder 109.2, cuprous chloride 3.5, cupric chloride 8.3, very finely divided, reduced copper powder 15.5, and copper proteinate 8.3 mg. The proteinate solutions were prepared by shaking an aqueous solution of ovalbumin with metal powder in the presence of air, centrifuging, filtering and concentrating the solution in vacuum.

169 Lead Exposure at the Government Printing Office. A.D. Brandt and G.S. Reichenbach. J. Ind. Hyg. & Tox., 25, 445-450 (December, 1943).
Lead exposures were determined at typical locations and at places where workmen would be most exposed, in the Government Printing office. It is concluded that (1) most sources of air contamination are controlled adequately, (2) the sources which are not controlled adequately are intermittent in nature, (3) the average weighted exposures for all workers in the departments studied is below the maximum allowable concentration of 0.15 g. per cu. m., and (4) operations in the monotype, casting, stereotype and remelt departments presented potential exposures high enough to justify periodic physical examination to detect early symptoms of abnormal lead absorption. The instruments used at first were the standard all-glass impinger, the midget impinger and electrostatic precipitator. The results with the midget impinger were high and irregular, as compared with the others, and it was discarded. It was found later that the contamination resulted from small quantities of dust which collected on the rubber stopper and were washed into the liquid. If all glass impingers are used, the stoppers are covered with pliofilm and the greatest possible care is taken, the results compare well with those obtained by other methods.

170 American Standard Allowable Concentration of Lead and Certain of Its Inorganic Compounds. American Standards Assoc., Publication Z37.11 - 1943. Approved September 16, 1943. 6 pp. Price 20¢ from above Association, 29 W.39th St., New York, N. Y.
The maximum allowable concentration of lead and its inorganic compounds, the carbonate, sulfate, oxides, nitrate, and chloride is set at 1.5 mg. of lead per 10 cubic meters of air, which has been generally accepted as a standard. Regarding sampling: "The sampling shall be in accordance with what experience shows is necessary to secure a sample which is truly representative of the actual working conditions at the locations tested. This implies that the volume of the sample and the rate at which it is drawn into the sampling apparatus shall be such that the taking of the sample does not of itself change appreciably the atmospheric conditions at the location tested. The volume of the solution shall be consistent with the sensitivity of the sample employed, but the time required for collecting a single sample should not exceed 1 hour." References to analytical procedures are given.

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171 American Standard Allowable Concentration of Mercury. American Standards Assoc. Publication Z37.8 - 1943. 7 pp. Approved January 6, 1943.
Three routes by which mercury may enter the system: inhalation, ingestion and skin penetration. The maximum allowable concentration of mercury is given as 1 mg. per 10 cu. m. of air. The analytical methods commonly used for mercury vapor detection are: selenium sulfide method, which is based on the intensity of the stain obtained when mercury vapor is passed over selenium sulfide paper, and ultraviolet absorption apparatus which is based on the selective absorption of ultraviolet at 2537A by mercury vapor. References are given for details. Other methods may be used if equal in applicability and reliability to those cited.

172 American War Standard Allowable Concentration of Metallic Arsenic and Arsenic Trioxide. American Standards Assoc., Publ. Z37.9 - 1943. Approved July 8,1943.
After a brief description of the metal and the oxide, and brief account of its toxicology, the maximum allowable concentration is specified as 1.5 mg. of arsenic (calculated as the element) per 10 cubic meters of air. Samples may be collected in impingers in the case of dust or in electrostatic precipitators in the case of fumes and may be estimated by a modification of the Gutzeit method or alternative methods, for which references are given for details. This War Standard applies only for the duration of the war, after which it will be reviewed.

173 American War Standard Allowable Concentration of Xylene. American Standards Assoc., Publication Z37.10 - 1943. Approved July 29, 1943. 8 pp.
The physical-chemical properties of the three pure xylenes and four common commercial grades are tabulated, and a brief account of toxic properties is given. The maximum allowable concentration is 200 parts per million parts of air by volume, corresponding to 0.868 mg. per liter at 25 C and 760 mm. pressure, for exposures not exceeding a total of 8 hours daily. References to analytical methods are given. The standard is approved only for the duration of the war, after which it will be reviewed.

174 "Radium Painting - Hazards and Precautions." K.M. Morse and M.H. Kronenberg. Industrial Med., 12, 12 (December, 1943).
This article together with the ones by Evans, (Abstract No. 1008, October,1943) provide an excellent picture of the present-day hazard of radium poisoning in radium painting of instrument dials. The hazards of practical importance are the inhalation of radon gas and the ingestion of solid paint containing radium. Results of determinations of radon in workroom are presented and show that most are at or below the permissible limit proposed in this country. The highest are a little less than 2 times this limit. Measurements of body content of radium in 35 workers show values varying from very low to about 1000% of the estimated safe limit. However, repeat tests on 2 workers with very high radium content showed a markedly high degree of excretion -- 1490% to 64% in one case, and 5300% to 175% in another. Control measures are discussed at length with greatest emphasis properly placed in extreme care in personal cleanliness and housekeeping of the shop and working facilities.

175 Luminous Dial Paint. Anonymous. California Safety News. 27, 7 (September,1943).
The expansion of the aircraft industry has resulted in a great increase in the luminous dial industry. The dangers from the radioactive substances used to activate the paints are described.

176 Nasal and Pharyngeal Irritation from Contact with Sucrose Octaacetate Among Operators of Compressed-air Hammers. F.J.Viles. U.S.Naval Med.Bull., 41,1378-9 (1943)
Sucrose octaacetate as a denaturant of alcohol used to blow water and ice from compressed-air lines caused severe irritation lasting 3-4 hours.

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177 Thallium Poisoning. I. Detection of Thallium in Biologic Material. A.O. Gettler and L. Weiss. Amer. J. Clin. Path., 13, 322 (June, 1943).
The authors state that, before proceeding to the actual detection of thallium, all organic matter in the tissue must be destroyed by an oxidative process. They list the procedures for the digestion of biologic material and describe the method which they found to be least time consuming and at the same time yielding a solution free of all organic substances. The various qualitative tests for thallium are critically reviewed. A detailed description for the detection of thallium in biologic material is given.

178 Thallium Poisoning. II. The Determination of Thallium in Biologic Material. A.O. Gettler and L. Weiss. Amer. J. Clin. Path., 13, 368-377 (1943).
The various gravimetric, titrimetric and iodometric methods are critically reviewed. The following iodometric technique is preferred. Digest the material with nitric acid and filter through glass wool. Treat cautiously with chloric acid and then with bromine to oxidize the thallium to the thallic state. Remove excess bromine with phenol. Add potassium iodide which will be oxidized to free iodine by the thallic ions. Titrate the liberated iodine with sodium thiosulfate

179 Carbon Tetrachloride Poisoning. E.P. Sanford. U.S.Naval Med.Bull., 41, 1486-1488 (September, 1943).
A young seaman after a day's activities working on and cleaning Diesel engine parts used carbon tetrachloride to remove oil and dirt from his hands, forearms and shoes. After supper he collapsed and was dead in a few minutes despite any restorative measures. Autopsy revealed some congestion of the lung bases and petechial hemorrhages over the epicardium. Few cases of fatal poisoning have been reported in the literature and are apparently due to inhalation of the fumes or drinking of the chemical.

180 Safety in Styrene Production. H.K. Eckert. Nat. Petroleum News. 35 R.530 (November 3, 1943).
Toxic effects of styrene are irritation of the lungs upon inhalation and of the skin upon contact, light narcosis from inhaling small amounts, and liver and kidney damage from exposure to high concentrations. As a result of animal experimentation, a tentative permissible limit of 400 parts per million has been suggested. The author believes that 200 parts per million is a preferable figure, and one which will prevent skin irritation and result in no serious health hazard even in case of repeated exposures. The styrene plant of the Monsanto Chemical Co. at Texas City, Texas, is given as an example of the maximum of protection. The safety features including outdoor construction except the control houses, in which a positive pressure is maintained; safety showers, fire blankets, protective clothing, mechanical guards, and first aid and medical departments.

181 Halowax Acne ("Cable Rash"): A Cutaneous Eruption in Marine Electricians Due to Certain Chlorinated Naphthalenes and Diphenyls. C.K. Good and N. Pensky. Arch. Dermat. & Syph., 48, 251-257 (September, 1943).
Synthetic wax (Halowax) dermatitis is a common cutaneous hazard in marine electricians handling certain types of electrical cables. An increasing number of employees with this dermatitis may be anticipated in the near future unless suitable and adequate substitutes for these synthetic waxes are discovered, or more effective means of prevention and therapy are developed. An evaluation of various preventive measures is made. The probable mechanism of the production of these lesions is discussed. The absence of systemic, visceral and hemopoietic involvement in handling the "cold" dry synthetic wax cable is noted. The Chronicity of the eruption and its resistance to therapy are emphasized. No evidence of internal absorption has been found in these cases. - Authors' summary.

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182 Investigations on the Cause of Industrial Lung Disease in the Mansfeld Copper Mines. J.H. Hellmers and H. Udluft. Arch.f.Gewerbepath.u.Gewerbehyg., 11, 483-502 (November 10, 1942).
This article is a general survey of the mineralogical aspects of the industry with special emphasis on their relation to the dust hazard, but very little medical information is contained in it. The copper mines have been worked for a period of 700 years, and what is known as Mansfeld Pneumoconiosis ("Mansfelder Staublungen"), has been the subject of a number of articles since 1934, some of the findings of which have been summarized. The article consists almost entirely of very elaborate chemical and mineralogical analysis of the raw material of the mines and the dust produced, including, by way of comparison, analyses of a portion of one silicotic lung obtained from a Mansfeld miner. No details of morbid anatomy or of the histological condition of this lung, however, are given. The figures of these analyses are not suitable for abstraction. The dust encountered showed particles of numerous different substances including limestone, kaolin, silica, quartz, felspar, mica, sericite and rutile. These varied in size from less than 2 microns up to more than 50 microns.

183 Further Observations on Occupational Carcinoma in Asbestos Workers. A. Welz. Arch.f.Gewerbepath.u.Gewerbehyg., 11, 536-560 (November 10, 1942).
This article is a record of two cases of asbestosis complicated by cancer of the lung. The first patient was aged 43, with an exposure of 11 years in an asbestos factory; death was due to squamous cell carcinoma. The second worker had had 30 years' experience in asbestos work and showed at autopsy an atypical epithelial cell new growth. The author suggests there is a causal relationship between asbestosis and carcinoma.

Methods of Detection and Determination

184 Testing Toxic Atmospheres. N.R. Bernz. Heat., Pip., & Air Cond., 15, 482-484 (September, 1943).
In this article the writer describes briefly rapid chemical and physical tests for carbon monoxide, hydrogen sulfide, hydrogen cyanide, sulfur dioxide, oxides of nitrogen, ammonia, phosgene, radon and thoron.

185 Testing Toxic Atmospheres. N.R. Bernz. Heat., Pip., & Air Cond., 15, 518-520 (October, 1943).
This article, the third in a series, describes briefly methods used for the collection of lead and cadmium. Mercury determination is discussed and methods of solvent vapor determination are described. Halogenated hydrocarbons, carbon disulfide, aniline and acid mists are covered in the rest of the paper. The material presented is not new and is intended for heating and ventilating engineers not familiar with air analysis methods.

186 Detection of War Gases. I. Dyestuffs as Reagents for Detecting Phosgene. Tung-Lieh Pu and Chien-Tao Lo. J. Chinese Chem. Soc., 8, 140-142 (1941) (Chinese).
Methyl violet, methyl violet B, gentian violet B and rosaniline were found to be specific for the detection of phosgene in air. Distinct color changes were obtained at gas concentrations of 0.7 mg./l. of air within one second.

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187 Improved Apparatus for the Determination of Carbon Monoxide. L. Shnidman. Gas and Elec. Corp., Amer. Gas Assoc. Monthly. 25, 503 (December, 1943).
The iodine pentoxide method was found most suitable for the determination of very small amounts of carbon monoxide. The portable apparatus comprised a 500 ml. gas container, a purifying system, an iodine pentoxide tube enclosed in a heating chamber, an absorption tube and a diaphragm pump. These were connected in series as a closed system. In the purifying system, the gas was treated with sulfuric acid, with chromic acid, and sulfuric acid again. The absorption tube was kept at 150°C, which ensured a rapid and complete reaction. The liberated iodine was titrated with sodium thiosulfate. Determination of known gas mixtures gave results that were correct within 5%. -- Library Bull. of Absts. (Universal Oil Products Co.), 13, 204 (December 22, 1943).

188 A Simple and Sensitive Method for Estimating the Amount of Carbon Monoxide in the Air. A. Gigon and M. Noverraz. Schweiz. Med. Woch., 72, 1356-1358 (December 5, 1942).
Poisoning by carbon monoxide is to the front, owing to the use of substitute fuels in motor cars and to the introduction of water gas into illuminating gas. Hence arises a call for a delicate means for detecting this poison. Various methods in the past are reviewed and rejected. Then a method is described in which the graduated photometer of Pulfrich is used. By this method it is claimed that 1 part of carbon monoxide in 100,000 parts of air can be detected with certainty. The air to be analysed must first be freed from all oxygen; this is effected by hydrosulphite of sodium; then it is brought into contact with a solution containing a known amount of hemoglobin. It is shaken for 10 to 15 minutes and next centrifuged. The result is then examined with the photometer. Working with known concentrations of carbon monoxide a curve has been constructed showing the amount of carbon monoxide present according to the amount of light transmitted. The method is simple and rapid; it allows for easy detection of concentrations between 1 in 10,000 and 1 in 100,000. Above 1 in 10,000 up to 1 in 200 it is better not to absorb the oxygen from the sample being analysed. A concentration of 3 in 10,000 is the limit above which clinical symptoms of poisoning may appear, since in such an atmosphere after 3 hours 30 per cent of the hemoglobin becomes combined with the carbon monoxide; at 30 to 40 per cent symptoms are liable to occur.

189 Determination of Selenium Dioxide in the Air. M.E. Chernyi. Khim. Referat. Zhur., 4, 67 (1941) (Russian).
Pass air through an absorber containing 25 cc. of water, transfer the solution to a 50 cc. measuring flask and add a sufficient amount of hydrochloric acid (d.1.19) to make the acidity equal to 1:4. To a known amount of the solution from the flask (20-5 cc.) in a cylinder or test tube add 1 cc. of 5% gum arabic solution and 1 cc. of 10% stannous chloride solution and determine the amount of selenium dioxide by the intensity of its color (comparing with standard solutions). To make a volumetric determination transfer the liquid from the absorber to a flask, add approximately 0.1 g. of sodium bicarbonate and 1 cc. of starch solution and 0.0025 N iodine solution from a buret until a blue color is obtained. Decolorize the solution with 1-2 drops of 0.0025 N sodium thiosulfate solution, add 6-10 cc. of 0.0025 N sodium thiosulfate solution, acidify the solution with 10 cc. of sulfuric acid (1:5) shake and titrate immediately with 0.0025 N iodine solution. Determine the amount of selenium dioxide from the difference between the number of cc. of iodine required for thiosulfate ion and that required for the titration. One cc. of 0.0025 N iodine solution corresponds to 0.0695 mg. of selenium dioxide.

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190 The Detection and Analysis of Arsenic in Water Contaminated with Chemical Warfare Agents. C.C. Ruchhoft, O.R. Placak and S. Schott. Pub. Health Repts., 58, 1761-1771 (December 3, 1943).
This article describes methods which can be applied to the analysis of water for the presence of contamination by arsenic from arsenical chemical warfare agents. Limits of permissible amounts of arsenic are given. A description of the method of preparing samples and details of the Gutzeit and molybdenum blue methods are also included.

191 A Critical Review of Dust Sampling Methods Employed in Witwatersrand Gold Mines. J. de V. Lambrechts. J.Chem. Met.Min.Soc. So. Africa, 43, 156-58 (March, April, 1943).
This is the author's reply to a discussion of his original paper (Abstract No. 246, April, 1941). The discussion involves details of the methods of counting samples, and comparisons of the konimeter and the thermal precipitator.

192 Criteria of Dust Determination. Effects of Particle-Deposition Technique. S.C. Blacktin. Chem. Age, 48, 575-579 (May 29, 1943).
The author classifies and compares the most common types of dust-measuring apparatus, the konimeter, jet dust counter, thermal precipitator, impinger, electrical precipitator and his own electrotor meter. The discussion is mostly mathematical, involving the relations between volume of air represented, area counted, cross-section of the particles and superposition of particles. The ordinary ultramicroscope and Blacktin's portable ultramicroscope are also discussed briefly.

193 Discoloration Methods of Rating Air Filters. F.B. Rowley and R.C. Jordan. Heat., Pip., & Air Cond., 15, 487-494 (September, 1943).
In addition to a review of the principal photometric methods used at present in rating air filters, the authors present a new method of determining the true discoloration efficiency of air filters. The theory of discoloration is analyzed. -- The term value is introduced in order to take into consideration the psychological and physiological reactions of the human eye in interpreting discoloration. Without making a specific recommendation toward adopting any efficiency the authors present their research as a contribution to the collective knowledge on the subject. -- Authors' summary.

194 An Apparatus for Measuring Air Flow During Inspiration. R.C. Lee and L. Silverman. Rev. Sci. Instruments. 14, 174-181 (June, 1943).
Measurements of the rate of flow of air during inspiration is important in respiratory physiology and for the design of protective respiratory devices. Methods that have been used previously are described and their limitations explained. A new instrument was constructed for such measurements, which offers no appreciable resistance to air flow. This instrument consists of a microscopic platinum wire suspended across the diameter of a 31.6 mm. tube. One end of the wire is attached to a fixed point and the other end to a fine spring. The displacement of the wire when air flows through the instrument is recorded photographically by a moving paper camera. The deflection of the wire is linear with air flow, and its inertia, lag, and frequency of vibration do not interfere with respiratory measurements. A low resistance valve and mask system complete the apparatus. - Authors' summary.

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Control Methods

195 Trained to Face Gas. J.C. Foster. Nat. Safety News. 49, 14-18, 64 (Jan.1944).
The Bethlehem plant of Bethlehem Steel Company has developed a school and program for training employees in the use and maintenance of gas equipment. A building was constructed to meet the needs of the course. In the class room the men are instructed in the theory of safe practice in gas filled areas and in the use and servicing of gas detectors and oxygen and canister masks. Finally comes actual practice in using the masks in an airtight chamber known as the "smoke" room. Members of the class are chosen from the foremen and workers in the departments most likely to find need for this training and three courses are offered to meet requirements of various groups.

196 Twenty-First Annual Report of the Safety in Mines Research Board, 1942. London: H.M. Stationery Office, 1943.
A review of coal dust explosions that have occurred since stone-dusting was generally adopted 20 years or so ago leads to a re-emphasizing of the need for generous stone-dusting in pits, and for the thorough mixing of the stone-dust with the coal dust. Good supervision over the state of the dust in roadways is necessary. A bad standard of admixture came to light after one explosion. For the most dangerous dusts the current requirement is that the minimum percentage of incombustible matter, intimately mixed with the coal dust, shall be 65%, but 75% is desirable for some coal dusts. The two dusts must be well-mixed. Experiments show that an explosion cannot be relied upon to bring about the necessary admixture before the flame arrives. A rotor dust extractor has been used to remove ultra-fine particles from the stone dust, thus, as tests show, increasing its dispersability. A six-shot safe exploder for multi-shot firing is now produced commercially, and the development of a twelve-shot safe exploder is proceeding. The presence of a little ammonium chloride dust, or a small amount of undetonated explosive, can bring about a striking reduction in the ignition temperature of firedamp (from 700°C. down to 430° or 370°C.).

197 Bactericidal Action of Propylene Glycol Vapor on Micro-Organisms in Air. II. Influence of Various Factors on Activity of Vapor. T.T. Puck, O.H. Robertson and H.M. Lemon. J. Exper. Med., 78, 387 (November, 1943).
Puck and his associates state that pneumococci, hemolytic streptococci, staphylococci, Hemophilus influenzae and other organisms, as well as influenza virus, when sprayed into atmospheres containing propylene glycol vapors were killed so rapidly that no micro-organisms or virus could be recovered from the test chamber. Propylene and triethylene glycols are relatively nontoxic and in vapor form are odorless, tasteless and nonirritating to the respiratory mucosa. The authors studied factors which influence or limit the action of propylene glycol vapor. The killing process was more effective when both the total number of air borne droplets and the number of organisms in the bacterial suspension were small. A temperature below 80 F. and an atmospheric relative humidity between 40 and 70 per cent were found to constitute the most favorable conditions for the lethal action of the vapor. Equally strong bactericidal action was obtained when propylene glycol was dispersed in an 800 cubic foot room as occurred in chambers of 2 cubic foot capacity. Susceptibility to vapor action of bacteria resuspended in saliva was just as great as when broth was used as the suspending medium. Both partially and completely dehydrated bacteria succumbed to the effects of the vapor. When unsterile dust collected from inhabited rooms was dispersed into the air, little reduction of the natural microbic population

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contained in this material was observed. The minimum glycol concentration necessary for effective bactericidal action on various micro-organisms was as follows: Pneumococci were killed by amounts of propylene glycol as low as 1 Gm. in 20 million cc. of air; concentrations of 1 to 5 million to 1 to 10 million were required to produce the same degree of killing of streptococci and staphylococci.

198 The Organic Industrial Solvents in Terms of Their Fire Hazards. W.H. Easton. Ind. Med., 12, 647-649 (October, 1943).
Flammability ratings for a number of solvents are tabulated, together with several other properties, including flash point volatility, ignition temperature, vapor density and lower explosive limit. When flammable solvents are being used where vapors are likely to be present, care must be taken to eliminate all sources of fire, flame or sparks. Also, the equipment must be grounded, and ample ventilation and fire extinguishing equipment must be maintained. Workers should be instructed in the hazards of their work and in preventing and extinguishing fires.

199 Personnel and Safety. J.W. Campbell and E.C. Mabon. Eng. & Mining J., 144, 118-122 (November, 1943).
The work of the personnel department of the Eagle-Picher Lead Co., which controls the insurance, safety and medical departments, is fully described. It includes the personnel system, physical examinations, first-aid, compensation, safety measures and combating health hazards. The hiring system involves the use of a card for each employee, who retains a card of the same number throughout his work for the company, whether continuous or not. From the foreman's records the company has a complete record of the employee's experience, exposure and all other data. In the physical examination a high standard is necessary, and cards are not issued to those suffering from syphilis, heart trouble, severely defective vision, hernia, communicable diseases, arthritis of the spine, or any condition that would create a hazard. There is no first-aid department, except for the treatment of very small burns. For even a slight injury, the workman is required to report to his foreman and transportation is furnished at once -- to the company physician. He is returned to his work if the doctor so directs, with no loss of pay for time. The authors and other company officials believe experience has justified this method as better than first-aid treatment which is often given by inexperienced and incompetent employees. In compensation cases, full information is taken at the first visit and follow-up reports are made until the man returns to work. The company is a self-insuror, and has found the practice successful. Many safety measures have been introduced, among those mentioned being a device for preventing premature explosions in blasting. The industrial hygiene department has an engineer on full time making dust counts and tests for other toxic materials in the mines. The standard dust count is maintained at 3 million particles per cubic foot, the dust being approximately 80% free silica. Wet drilling is used, and water is used extensively to combat dust. Workers in the lead smelter are supplied two clean respirators daily.

200 Tentative Vituminosis- and Lignite-Mine Inspection Standards. Revised September, 1943. U.S. Bureau of Mines, Inf. Cir., 7288. (December, 1943). 54 pp. Obtainable from U.S. Bureau of Mines, Div. of Information, Washington, D. C.
Tentative coal mine inspection standards were published in Information Circular 7204 in February, 1942. The war has brought about the need of revision, on account of shortages of some materials, need of additional standards, and conditions not then foreseen. Every phase of coal mining is covered in the standards, including protection against fires and dust explosions, control of dust, ventilation.

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201 Ventilation of the Climax Mine. L.H. Glanville. Tech. Publication No. 1540. Am. Inst. Min. & Met. Engrs., Mining Tech., January, 1943. 11 pp.
The ventilation system of the mine of the Climax Molybdenum Company, developed since 1934, is described. Under the prevailing atmospheric conditions heat and humidity are supplied with the ventilation by means of hot water sprays. The main fans are 7-foot, axial flow, low pressure exhausting units. Dust is precipitated by fogging sprays and entrapped by impingement on the dampened perimeter of the airway. Auxiliary fans and auxiliary dust control are used in special localities. The time, effort and expense that have gone into the ventilation program are paying dividends in increased safety of mine operation and production.

Industrial Medical Practice

202 Public Health and Economic Aspects of Pneumonia - A Comparison with Pre-sulfonamide Years. H.E. Ungerleider and others. Am.J.Pub.Health, 9, 1093-1102 (September, 1943).
The object of the study was to ascertain whether sulfonamide therapy has had any effect on public health aspects of pneumonia comparable to the remarkable changes observed in treatment of individual cases. An anlysis was made of pneumonia experience among large group of industrial workers carrying group health and life insurance with the Equitable Life Assurance Society of the United States, and a comparison was made between the pre-sulfonamide years 1935-1937 and the period from January 1, 1939 to June 1, 1942. The investigation showed a reduction in the case fatality rate from an average of 20.8 per cent to 3.9 per cent and a decrease in the total duration of illness from the modal (most frequent) period of 38 days to 27 days in 1941. It is estimated that 25,000 lives were saved annually and over a million working days. Reasons for a slight increase in the incidence of pneumonia are discussed. The increase in the number of cases of "atypical" or virus pneumonia is given as a possible cause.

203 An Approach to Syphilis in Industry. E.G. Baxter. Ohio State Med. J., 39, 441-443 (May, 1943).
Other than actual blood testing which should be done at least annually, the "follow-up" is felt to be of the greatest importance. Everything is for naught if the patient does not receive the proper therapy over a sufficient period of time, and this responsibility is rightly placed in the hands of the plant physician. More education concerning venereal diseases could be practiced in industry, but it must be of a high type. Emphasis should be placed on the fact that the various public health clinics are at the disposal of patients with low income. And of great importance is the maintenance of a close relationship between industrial and non-industrial physicians in studying and cooperating on the cases referred to them.

204 Present Day Influences in Industrial Health. C. Leggo. Ohio State Med. J., 39, 526-529 (June, 1943).
The author does not attempt to offer a program for industrial health, but rather to present a perspective of the forces which have been influencing the field. Included in his discussion are the development of compensation insurance, the importance of personnel departments in industrial plants, the function of the Council of Industrial Health, activities of the industrial nurse, and studies of environment, and promotion of better health conditions.

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205 Absence Due to Sickness. D.L. Lynch. Ind. Med., 12, 575-582 (September, 1943).
Off duty accident liabilities are more prevalent than occupational disability accidents and diseases combined. Disabling sickness, as shown by statistics, has increased and consequent involuntary industrial absence is unavoidable. This absence is more frequent and of longer duration among women than it is in men. Certain relations of sickness disability are correlated in a series of graphs and charts. The author is hopeful of the situation of absenteeism and believes that by encouragement of the worker, by leadership and by good medical service we can make progressive, forward strides.

206 Dangerous Occupation; Psychosomatic Illness; and Morale. A Study Based on Incapacitation Disorders in Underground Miners. John Halliday. Psychosomatic Med., 5, 71-83 (January, 1943).
This study presents a picture, clinical and statistical, of the psychoneurotic and psychosomatic disorders of underground miners, showing that their incidence rose steadily in the inter-war period of 1918-1939. Rather than a disorder peculiar to miners on account of the danger in their occupation, as some think, the author believes that such disorders were common to workers of all kinds, and may be described in terms of declining social health and morale and social disintegration. However with the positive needs of war facing people there appears a definite end in view and a vision of better times to come. The author believes that the peak of the wave of cultural degeneration has now probably been passed.

207 Essentials and Organization of Industrial Health Services. C.M. Peterson. Ohio State Med. J., 39, 543-549 (June, 1943).
At the present time the essentials of an industrial health service are believed to be as follows: (1) a competent physician, (2) industrial nurses, (3) industrial hygiene service, and (4) a sound health program. These essentials are further enumerated and discussed. The problem is far from simple, but certain methods of approach which have presented themselves are: (1) creation of public interest, (2) provision of competent professional and allied personnel to meet increased demands, and (3) better local organization.

208 Management's Role in Industrial Nursing. J.J. Bloomfield. Ind. Med., 12, 798-800 (November, 1943).
The nurse's participation in the industrial health program is governed primarily by management's policy toward the health program and industrial hygiene services as a whole. Functions of industrial nursing are discussed. If management has a clear understanding of the most effective type of industrial health program and also definite policies and standards regarding the duties of nurses in industry, then one can depend upon the nurse to fulfill in a creditable manner all responsibilities assigned to her.

209 Back Strain in Industry. H.G. Murray. Ind. Med., 12, 730-731 (November,1943).
A study of industrial back injuries over a 10-year period shows that the total lost time per year caused by back strains is only five weeks per year, in a factory employing an average of 2200 persons -- half men and half women. Except for two unusual and doubtful back cases, the total lost time per year is only two and one-half weeks. Only 19 of the 87 persons who sustained back strains lost any time from their factory duties. It would seem from this experience that back strains as a cause of lost time in industry have had far more attention from industrial physicians and safety men than is warranted.

210 The Treatment of Chemical Burns. C.P.G. Wakeley. Chem. Products. 6, 20-22,31 (1943).
The use of triple dye jelly in nitric acid and phosphorus burns is described.

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211 Intravenous Novocaine for Analgesia in Burns. R.A. Gordon. Canad. M.A.J., 49, 473-481 (December, 1943).
The pain occasioned by burned patients subject to much transportation and the first dressing may cause extreme exhaustion which contributes to the development of shock. Intravenous use of 0.2% novocaine in 5% glucose solution in saline is found to suppress the pain and allow proper debridgement. The quantities used in 10 described cases varied from 60 cc. to 500 cc., with the action of the novocaine lasting from 2 to 12 hours. No untoward reactions were demonstrable.

212 Phosphates in the Therapy of Chemical Burns. E. Poser and E. Haas. J.A.M.A., 123, 830-831 (November 6, 1943).
The customary therapy of chemical burns has definite disadvantages, particularly when such sensitive tissues as the cornea are involved. Certain unphysiologic antidotes are much too acidic or alkaline for treatment of vulnerable tissues. In the past, burns due to acids or bases required different antidotes, and valuable time may have been lost in eliciting the toxic agent or in getting the proper knowledge of the chemistry of the offending substance. A phosphate buffer of monobasic potassium phosphate and dibasic sodium phosphate is recommended for chemical burns for it can be used equally well in acid or base neutralization. It can be employed safely in high concentrations to assure rapid and penetrating neutralization.

213 The Treatment of Hydrofluoric Acid Burns. Illinois Med. J., 84, 280-281 (October, 1943).
Hydrofluoric acid burns may have a variable period of latency depending upon the concentration of the acid. First aid measures center about a liberal flushing with water. Calcium gluconate is injected into, under and around burns to prevent spreading and to relieve pain. General treatment is discussed in some detail.

214 The Treatment of Burns by the Pressure Ointment Method. O. Meyer. Ind. Med., 12, 727-728 (November, 1943).
The treatment of burns has two objectives, the restoration of destroyed tissue, and the prevention of infection. The first objective is achieved by the application of suitable dressings impregnated with medication which promote the cleansing of the wound, the formation of granulation tissue, and also to alleviate pain. The danger of infection is increased mainly by one factor, the presence of thrombosed veins in the burned areas. The only way to prevent infection of the thrombosed small veins is to apply pressure locally. Furthermore, pressure is the simplest and most effective way to remove pain which is due mainly to congestion. The ideal method of treatment is therefore the application of a pressure bandage. Their use is discussed and a few cases are reviewed.

215 Prevention and Treatment of Infections of the Hand. V.E. Siler. Indiana State Med. Assn. J., 36, 334-339 (July, 1943).
Industrial statistics show that infections of the hand form the major injuries which lead to partial and permanent disabilities. An attempt is made to review many of the factors in industry which, if corrected, would to a large extent aid in the prophylactic treatment of these infections. Certain definite principles of treatment should be followed: (1) promote localization of the infection, (2) provide adequate drainage once localization has occurred, (3) sterilize the infected area, (4) cover the raw surface, and (5) restore function in the best and soonest possible manner. Four types of infection are discussed in some detail: (1) focal superficial infection, (2) the felon, (3) acute spreading infection, and (4) acute suppurative tenosynovitis and fascial space abscess.

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216 Nail Puncture Wounds. J.F. McDonnell and others. J.A.M.A., 123, 894-895 (December 4, 1943).
The care of nail puncture wounds in industry is important, especially in construction projects; and in a muddy environment the injuries become more common, and the danger of infection more acute. In a nine month period of much rain 721 men were treated at a construction job with good results. The average disability was only 0.072 day per injury. The technic of treatment consisted of (a) cleansing the outside of the wound, (b) trimming skin fleps and wound edges, (c) probing to the bottom of the wound, (d) irrigating with antiseptic solution from the bottom of the wound - hydrogen peroxide solution recommended, and (e) dry, sterile dressing. Tetanus antitoxin was given in 54.4% of the cases and it was used when punctures were exceptionally deep or showed gross contamination or signs of infection. In no patient did tetanus develop. Local infection developed in 43 of the 721 patients, six of the 43 had infection severe enough to lose 8.16 days on the average. The low disability is attributed to (1) the cooperation of employees in coming in immediately for treatment and (2) proper cleansing of the wound.

217 The Return of the Pulmotor as a "Resuscitator." Y. Henderson. Science. 98, 547-51 (December 24, 1943).
The article presents a critical discussion of the use of positive suction devices for the restoration of breathing. He recommends prone pressure with a simple inhalator as an auxiliary device.

218 Treatment of the Injured Workman. H.E. Griffiths. Lancet, No. 6250, 729-733 (June 12, 1943).
The importance of prolonged exercise in the rehabilitation of the injured worker is discussed. To make such exercise possible without inducing fatigue, the exercises should be based upon established reflex action: at first the fundamental reflexes, then the conditional reflexes, and finally impulsive action. Psychological effort must be reduced to a minimum and normality must be encouraged. Full rehabilitation of the man depends largely upon the efforts of the surgeon.

219 Successful Experience with Handicapped Workers. E.R. Breech. Executives Serv. Bull., (Metropolitan Life Ins. Co.,) 21, 1-2 (November, 1943).
In the rapid expansion of the Bendix Aviation Corporation for war work it was necessary to employ workers with various handicaps, and in the new Chicago plant nearly all the workers had handicaps, not only deafness and blindness, but abnormal size due to pituitary defects, atrophied limbs, high blood pressure, hernia, heart murmurs, tuberculosis and diabetes. Instead of applying a blanket physical standard, the standard is adjusted to the job. This procedure required careful study and the plan had to be sold to the supervisory staff. In general it called for much effort on the part of many people, but its success is proved by record production at the plant, with only one lost-time accident, which happened to a non-handicapped worker.

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