Air Hygiene Foundation of America, Inc.,
4400 Fifth Avenue,
Pittsburgh, Pa.
June 1, 1937

A. News Items

291. OHIO LEGISLATION. SILICOSIS ADDED TO LIST OF COMPENSABLE DISEASES. Ohio State Med. J. 33, 562-563 (May, 1937).
The bill mentioned in abstract No. 115 has been passed to take effect on or about August 1. Silicosis is defined as "a disease of the lungs caused by breathing silica dust, producing fibrous nodules, distributed through the lungs and demonstrated by x-ray examination or autopsy." Various provisions of the law are reviewed and a revised list of occupational diseases now included is given. (Fuller information will be given in our Legal Bulletin or may be obtained from the Ohio State Board of Health.)

292. WORKMEN'S COMPENSATION LAWS COVERING DUST DISEASES. Ceram. Ind. 28, 297-8 374-6 (April, 1937).
A brief summary of the laws of a few representative states. (The April number of CERAMIC INDUSTRY contains a number of general papers of interest, which are abstracted in this bulletin. Copies are obtainable from Industrial Publications, Inc., 59 E. Van Buren St., Chicago, Ill. at 50 cents each.)

293. PRECIPITATES DUST ELECTRICALLY. Foundry, 65, 95 (March 1937.)
This is a brief description of the electrical precipitator developed by Westinghouse and now applied to industrial air cleaning field by the Pangborn Corporation. It is claimed that its use in industry provides the advantages of dust and fume collection by electrical means within the range of general application at economical installation and operating costs. The unit consists of 3 essential parts, the collector plate cells, the ionizing assembly and the power pack. The grounded plates where the dust is collected are cleaned at necessary intervals by washing, rapping or blowing with an air jet. (For information address Pangborn Corp., Hagerstown, Md.)

294. CLEANING AIR WITH ELECTRICITY. Heating & Vent. 34, 70 (March, 1937).
Clean air will be supplied this summer to the Field Building in Chicago, by the addition of electrostatic air cleaners to its air conditioning system in the lower arcade and first four stories. The air cleaning equipment will have a capacity of 272,700 cu. ft. per min. and an expected efficiency of over 99% by weight of dust particles removed. It is said to remove particles as small as 1/5 micron, and to operate on a current consumption of 10 kw. It will consist of 18 units and the installation is expected to be completed during July.

295. BRITISH USE ALUMINA IN SILICOSIS FIGHT. Ceram. Ind. 28, 296 (April, 1937).
Due to the high death rate caused by silicosis among pottery workers, several British potteries have substituted alumina for silica for the bedding material during firing. Three large firms are using alumina exclusively, and most of the smaller potteries will probably follow their example. In the United States, several plants have been using powdered kaolin in place of sand for several years. (See note on abstract 291.)

296. COURT DECISIONS IN SILICOSIS SUITS Ceram. Ind. 28, 295-6
A review of a number of cases illustrating various phases of the silicosis situation. The status of laws in various states is presented more fully in another paper and in our Legal Bulletins, but some interesting side-lights are to be found in this article. (See note on abstract 292.)

297. SMOKE ELIMINATED BY SUPER-SOUND WAVES. Power Plant Eng., 41, 174 (No. 3, 1937) J. Frank. Inst. 223, 510 (Apr. 1937); Sci. News Let. 31, 1489 (1937).
A popular account of lectures and demonstrations of coagulation of smoke by supersonic waves, by H. W. St. Clair of the U. S. Bureau of Mines. Several other abstracts have referred to this process, and a full account will probably be given in a future publication of the Bureau of Mines.

298. BEARD IS EXCELLENT SILICOSIS PREVENTIVE. Ceram. Ind. 28, 418 (May, 1937).
"An inquiry recently instituted among a group of masonry workers showed that clean-shaven workers suffered by far the most from silicosis. Those with strong moustaches got along much better while the workers with full bushy beards and moustaches were practically immune from silicosis. The obvious explanation was that the moisture of the breath on the hair formed a very efficient filter and one which men could not take off." (The above is included as an item of interest, but it should be added that no authoritative reports of such an investigation have appeared.)

General and Scientific Papers

299. TALC DUST IN THE RUBBER INDUSTRY. Chas R. Williams. Safety Eng., 73, 49-51 (April 1937).
Talc is used in the rubber industry as a dusting agent to prevent pieces of unvulcanized rubber from sticking together, and is disseminated into the air in large quantities. The question of permanent lung damage from this inhalation of dust has been raised, but there has been little work done in connection with the problem. According to Dreessen and Dalla Valle disabling pneumoconiosis is not produced, but there is evidence of a "fine diffuse bilateral fibrosis of the lungs which is definitely demonstrable in the x-ray."
The author reports a survey of 9 representative rubber plants using talc. The dust concentrations found with the impinger varied from 7 to 194 million particles per cubic foot. The quartz content of the dust is very low, usually only a trace. Recommendations for reducing the hazard include careful handling which can be automatic in the panning operations, isolation of dusty operations, use of talc with a high carbonate content, and use of respirators. (Reprints may be obtained from the author, Engineering Dept., Liberty Mutual Insurance Co., Boston, Mass.)

300. PSEUDOTUBERCULOMA SILICOTUM. J. S. Faulds. J. Path. and Bact., 41, 129-135 (July, 1936).
Two cases of subcutaneous pseudotuberculoma, caused by implantation of siliceous material with no tubercle bacilli, are described. They are similar to those previously described under the name pseudotuberculoma silicoticum. In the two cases, 23 and 10 years respectively elapsed between the injury and the development of the tumor. Polarized light was successfully employed in examination of the mineral substance.

301. SICKNESS AMONG MALE INDUSTRIAL EMPLOYEES DURING THE THIRD QUARTER AND THE FIRST 9 MONTHS OF 1936. D. K. Brundage. U. S. Pub. Health Repts., 52, 127-129 (Jan. 29, 1937).
The total number of cases of illness lasting 8 days or longer, among 164,000 male industrial employes (exclusive of venereal diseases) rose from 87 per 1000 in 1935 to 91.8 per 1000 in the third quarter and first 9 months of 1936. The morbidity rates for new cases of tuberculosis of the respiratory system are unprecedently low for the third quarter. Pneumonia increased over the same periods while a number of other diseases were lower than in the same period of 1935. The figures are conveniently tabulated. (The Report of the above date is obtainable from the Superintendent of Documents, Washington, D. C. for 5 cents cash.)

302. DISCUSSION OF INDUSTRIAL ACCIDENTS AND DISEASES. 1935 CONVENTION OF THE INTERNATIONAL ASSOCIATION OF INDUSTRIAL ACCIDENT BOARDS AND COMMISSIONS, ASHEVILLE, NORTH CAROLINA. (U. S. Dept. Labor, Div. Labor Standards, Bull. no. 4, 1936.)
The following three abstracts summarize the papers of greatest interest among a number of others presented at this meeting. Those not abstracted include a few others on various aspects of pneumoconiosis and a larger number on prevention of occupational diseases and accidents, workmen's compensation and its administration and other matters of general interest. (The entire report is obtainable from the Superintendent of Documents, Washington, D. C., for 20 cents cash.)

303. ESSENTIALS IN THE DIAGNOSIS OF SILICOSIS AND TUBERCULOSIS. L. U. Gardner. (U. S. Dept. Labor, Div. Labor Standards Bull. no. 4, 1936).
The author begins by defining pneumoconiosis as "a condition of the lungs resulting from the prolonged inhalation of dust." The condition becomes a disease only when serious changes producing symptoms occur. An outline of the types of dust is then presented, with emphasis on the point of "adequate exposure" and the importance of a good occupational history. The pathological and roentgenological features of silicosis and asbestosis are reviewed concisely. A discussion of symptoms and prevention concludes the paper. (See note on abstract 302.)

304. RELATIONSHIP OF ASBESTOSIS AND SILICOSIS TO DISABILITY. R. R. Sayers. (U. S. Dept. Labor, Div. Labor Standards, bull. no. 4, 1936).
The definition of silicosis drawn up by the American Public Health Association is followed by the author's equally full definitions of asbestosis and of disability. The increased lost time due to respiratory infections among workers in dusty atmospheres, as compared to other workers, is demonstrated. In one of the dustiest occupations, that of hand pneumatic cutters in the granite industry, where the dust is high in silica, the time lost from such illness is four times as great as among workers exposed to minimum quantities of industrial dust. Tables of anthraco-silicosis and associated respiratory infection and of mortality from respiratory tuberculosis are included. (For reprints see abstract No. 302.)

305. PNEUMOCONIOSIS. R. Hunt. (U.S. Dept Labor, Div. Labor Standards, Bull no. 4 1936).
The author considers "pneumoconiosis" as a general term very broad in scope and referring to presence of any dust in the lungs. A review of the pathology of the pneumoconioses is followed by a more detailed discussion of that of silicosis. He states that "silica is soluble in the weak body alkalies, producing

a toxin or poison, which "so alters the immediate surrounding tissue that it loses its resistance and becomes incapable of protecting itself against the invasion of foreign bacteria." "Roughly speaking, an atmosphere containing 5 to 25 million particles (of silica dust) per cubic foot, may produce silicosis in from 5 to 25 years, and about 25% of all dust workers will eventually contract the disease." The history, physical examination, x-ray examination, dust counts and the progress of silicosis after exposure has ceased, are briefly discussed. Silica found in the lungs at autopsy amounts to 2 to 50% of the total ash. Authorities hesitate to call an amount less than 15% abnormal. (For reprints see abstract No. 302.)

306. THE HEALTH OF CEMENT WORKERS. A. J. R. Curtis. Pit and Quarry, 71, 66-70 (April 1937).
The results of several years' research work in plants of the Portland Cement Association are presented. The study included respiratory, abdominal, digestive and miscellaneous disorders. There is little evidence of silicosis among cement workers, as may be anticipated from the very low content of free silica (about 2%). The death rate for tuberculosis among cement workers is only one-half that for all males in the U. S. Registration Area. Minor respiratory diseases are common but cannot be associated with dust exposure. Rheumatism and arthritis are the most important miscellaneous illnesses. Other diseases are discussed briefly. (This office will have information about reprints on inquiry.)

307. CONDITIONS OF WORK AND MORBIDITY AMONG WORKERS AT A THOMAS SLAG MILL. A. G. Kalashian. Gigiena truda i tek. bezopasnosti (Russian) no. 6, 93-94 (1936)
Very high dust concentrations were found at the Thomas slag mill of the metallurgical plant at Kerch. Respiratory diseases are much more frequent among workers in this department than elsewhere in the plant. The author advises dust control, careful selection of workers, medical supervision and occasional transfer to less dusty places

308. MANGANESE PNEUMONIA. E. W. Baader. Aerztlich. Sachverstand. Zt. (German) 43, 75-81 (1937).
A particular case of pneumonia in a worker handling pyrolusite in making dry cells led to a bibliographical study of manganese and limonite mining in various countries. A high incidence of lung inflammation, including many fatal cases, was found in all countries. In the case described, manganese dust was found in the lungs, although there was no change in the connective tissue.

309. THE MIST PROJECTOR FOR SUPPRESSING DUST AND FUMES AFTER SHOT-FIRING -- HOLMAN-WETHERILL MIST PROJECTOR. P. S. Hay. Iron and Coal Trades Rev. 132, 580 (Mar. 27, 1936). Discussion of this paper at various meetings is carried through several later issues.
Spraying systems and other wetting processes for laying dust in mines are generally ineffective, because the comparatively small number of coarse drops is insufficient to bring them into contact with all the dust. This difficulty is obviated by the use of a fine spray, and various mechanical means of producing a fine mist were tried. Experiments were made on (1) the optimum size of the water particle, (2) the design of projector to give the most effective mist, (3) the addition of small amounts of wetting reagents, and (4) the effect in dealing with fumes and smoke from explosives, which have been shown to accelerate the development of silicosis. The addition of alkalies was effective in absorbing these gases, but it was brought out in the discussion

that the alkali dries on the clothing and bodies of miners. A small apparatus embodying the results of the research was found to reduce the dust concentration to about 17%.
With the Holmes-Wetherill mist projector a small quantity of castor oil is fed into the air stream and atomized with the water. The oil retards evaporation and consequent drying of the dust. Mine tests showed that 80% of the dust produced by blasting was wetted and deposited near the source of production. Although this projector is still in an early state, the results obtained give promise of greater comfort for the worker. The dust particles remaining in suspension are mostly 0.5 to 2 microns in diameter. The mist projector is most effective where the ventilation is sluggish. (No reprints are available, but the material may be published later in a report. Copies of the magazine are obtainable through G. E. Stechert & Co., 31 E. 10th St., New York City.)

310. THE MICROMETRIC ESTIMATION OF QUARTZ IN ROCKS. S. H. Shaw. Bull. Inst. Min. & Met. 385, 19 and 386, 9-22 (1936)
The object of the investigation was to check the chemical estimation of quartz or free silica in rocks by the micrometric method and to determine the reliability of the latter. (This method applies to material in the rock and cannot be used for dust or fine particles.) The Delasse-Rosiwal method is applicable to any homogeneous rock. A representative plane surface is prepared, and the sum of the intercepts made by any constituent on a sufficiently long line, divided by the length of the line, is taken as the volume fraction of the constituent. The chemical estimations of free silica were made by a "rational analysis" method, in which the powdered sample is treated alternately with acid and alkaline solutions so that only the silica and refractory silicates, mostly orthoclase, remain. The residue is analyzed for alumina, a proportion of silica sufficient to make orthoclase is assigned to the alumina, and the remainder is taken as free silica.
The chemical and micrometric analyses check satisfactorily for igneous rocks. In sedimentary rocks such as sandstones, the micrometric method gives low results as compared with the chemical, probably because fine-grained quartz may be overlooked. In shales, clays, etc., the discrepancy would be still greater and the micrometric method is unsuitable. The presence of carbonates causes especially low results for quartz. (These bulletins are obtainable through G. E. Stechert & Co., 31 E. 10th St., New York City.)

311. DUST PREVENTION AND ELIMINATION. Ceram. Ind. 28, 299-302, 339-41 (April 1937).
A general discussion of the necessity of cleanliness and methods of dust determination and collection is followed by a description of means actually used and found successful in pottery, glass and enamel plants, with a number of illustrations. In the pottery industry, the most difficult problem is in the handling of potter's flint or feldspar high in free silica. Shipping in double bags is a partial solution, but spraying water at the time of loading is better. In other operations properly designed exhaust systems have proved successful. After a dust survey had been conducted and improvements made, no dust concentration of over 1 million particles per cubic foot was found. In the glass industry the only hazard is in the handling of raw materials, and it has been greatly reduced by improvements such as unloading cars by suction, briquetting, dust boots and enclosed mixers. An enamel plant is easily cleaned to such an extent that the dust hazard becomes negligible. In a plant studied positive pressure is used throughout the enamel shop. The greatest hazard is in sandblasting, where suction for the enclosed room and positive pressure for the operator have been used successfully. In spraying and brushing operations a good down-draft exhaust is efficient. (See abstract 292.)

312. AIRBORNE COAL DUST -- ABATEMENT OF THE NUISANCE IN INTENSIVE CONVEYOR MINING. A. L. Davies. Colliery Guardian, 153, 755-758 (Oct. 23, 1936)
Wetting of crushed coal in a dusty screening plant was found to reduce the dust by 99.5% in the chamber under the truck tip and by 90% in the vibrating screen room, without reducing the screen efficiency. Nozzles with 1/8 inch orifices were used with a water pressure of 40 lbs. per sq. in. The coal rate was about 50 tons per hour. (Periodical obtainable from Stechert as above.)

313. PREVENTION OF SMOKE AND DUST EMISSION FROM CHIMNEYS. Nature 139, 138-141 (Jan. 1937)
In Great Britain 165 million tons of coal are used annually, including 35 million tons in domestic grates. The large industrial units are equipped with dust and cinder-catching devices, such as cyclones and settling chambers. The Cottrell process has been successfully applied to collecting fly ash, but it does not affect the sulfur gases. In a large British power station 1½ million cubic feet of flue gas are scrubbed per minute to reduce the discharged sulfur dioxide and carbon dioxide concentrations to reasonable figures. (Magazine obtainable from the McMillan Co.)

314. HYDRAULIC COALBURSTING AT NEWDIGATE COLLIERY. D. S. Newey. Trans. Instn. Min. Engrs., London, 92, 274-282. DISCUSSION, 282-290 (Feb., 1937).
This paper describes a new method of obtaining coal without the use of explosives, thus avoiding noise, danger of explosions from shot-firing, formation of nitrous fumes, and danger to the roof, and producing a minimum quantity of dust. The coal burster is a stainless steel barrel bored at fixed intervals to receive pistons or plungers. A hole of small bore runs through the barrel and communicates with each of the plunger cavities while the barrel is connected to a pump. Operation of the pump causes the plungers to emerge under pressure, usually for a distance of 3½ inches. After the coal is undercut, holes are drilled in the coal to take the burster and the pressure is turned on. The pressure developed is 4,000 to 5,000 pounds per square inch and the total force exerted is 50 or 60 tons. The coal is brought down in 2 or 3 minutes. (This office will have information on the availability of reprints.)

315. MEDICAL ASPECTS OF SILICOSIS. Ceram. Ind. 28, 294,374. (April 1937).
A brief discussion of the cause and course of silicosis, the prevalence of the silicosis racket and the necessity for expert medical examination. (See note on abstract 292).

316. SOME ASPECTS OF BLANKET COVERAGE OF OCCUPATIONAL DISEASES IN THE UNITED STATES. L. R. Thompson. U. S. Pub. Health Repts., 52, 329-334 (March 19, 1937).
Attention is called to the great diversity of workmen's compensation laws in this country. Occupational diseases are covered generally in only 8 states, in others only specified diseases are covered, and in many no provision at all is made. Laws that cover only certain diseases have been criticized as "unfair, illogical, unjust and ineffective." The change from no coverage to blanket coverage is said to increase the rates by not over 1%.
Statistics of the operation of the Wisconsin blanket law are given. Opponents of the blanket law contend that the advantage of prompt payment is frequently lost. (Copies of the Report of above date are obtainable from the Superintendent of Documents, Washington, D. C., for 10 cents cash.)

317. SILICOSIS - RACKET OR RESPONSIBILITY? (Instalment 1) Charles S. Pearce. Ceram. Ind. 28, 140, 145 (Feb. 1937).
The author cites instances of the "silicosis racket" in which physicians incompetent to diagnosis silicosis and unscrupulous lawyers have had more influence on unintelligent juries than experts with carefully and scientifically prepared evidence. The author then considers the actual danger in certain operations in the enamel industry. Sandblasting is a serious hazard, but the author's experience with spraying and grinding with carborundum wheels convince him that they do not involve a silicosis hazard. (See note on abstract 292, but note that this is in the February number.)

318. PREVENTION OF SILICOSIS BY IMPROVEMENTS IN PLANT WORKING CONDITIONS. (Instalment 2) Charles S. Pearce. Ceram. Ind. 28, 342-344 (April 1937).
A general paper on dust control, especially in the enamel industry, including exhaust systems, spraying booths, respirators and positive pressure helments. (See note on abstract 293.)

C. Scientific papers on industrial poisons and other subjects exclusive of dust.

319. CHEMICAL CANCER. M. E. van Themsche. Ing. chim. (French) 20, 30-35 (1936).
Cases of cancer due to soot are twice as frequent in chimney sweepers as in any other occupation. Personal cleanliness and tightly fitting clothing around the neck and extremities arethe best preventives. Similar precautions in cases exposed to gasoline, paraffins, oils and greases, and especially tar, pitch, rosin and aniline dyes, will do much toward preventing cancer caused by these substances. Strict medical supervision and the uses of processes which avoid contact with the product will further reduce the danger. The derivatives 1,2 - benzopyrene and 1, 2, 5, 6 - dibenzanthracene are particularly active in forming cancers. The author suggests a chemical explanation of their action.

320. THE PHOSPHORUS CONTENT OF BLOOD AND OF BONE IN VARIOUS TYPES OF EXPERIMENTAL POISONING; LEAD, MERCURY, CHROMIUM, PHOSPHORUS, STRONIUM AND FLUORINE. P. Cirla Med. del Lav. (Italian) 28, 44-54 (1937).
In lead and chromium poisoning the total phosphorus in the blood is increased, while the soluble portion is diminished. With strontium the total and lipoid phosphorus are increased, while in acute poisoning the inorganic and acid solubl fractions are decreased. In fluorine poisoning the blood phosphorus is variable but it tends to remain stationary in phsophorus poisoning. The bone phosphorus in the epiphysial region tends to diminish in lead and chromium poisoning, while with lead and mercury it remains normal. It is much augmented in fluorine and i acute strontium poisoning.

321. LEAD POISONING WITH SYMPTOMATOLOGY REFERRING TO THE ALIMENTARY TRACT. L. Preti. Med. del Lav., 28 1-11 (1937).
A discussion of a lead poisoning case, including symptoms of the gastro-intestin tract and argument concerning the duty of the state toward workers so afflicted.

322. CHRONIC LEAD POISONING WITH SYMPTOMATOLOGY REFERRING TO THE CARDIO-VASCULAR-RENAL SYSTEM. L. Preti. Med. del Lav., 28, 33-43 (1937)
A detailed description of a case of lead poisoning in a varnisher, aged 46, is presented. The (Italian) legal implications of compensation and the question of beginning old age pension retirement for such an individual are discussed.

323. SIGNIFICANCE OF THE BLOOD PICTURE, LEAD ELIMINATION IN THE URINE BY MEANS OF VARIOUS CALCIUM PREPARATIONS AND THEIR RELATION TO PHOSPHATE METABOLISM. INVESTIGATIONS ON NORMAL PERSONS. F. Schmitt and W. Basse. Arch. f. exp. Pathol. u. Pharmakol (German) 184, 541-546 (Jan. 15, 1937).
A low calcium diet in normal persons produces an increase of lead in the blood and a shift of the total phosphorus in the plasma. Calcium given intravenously or orally increases the total phosphorus, also the lead in the blood, sometimes to values approaching values found in lead poisoning. There is a relation between calcium, total phosphorus and lead, manifesting itself in a parallel increase.

324. CARBON MONOXIDE AS A TISSUE POISON. E. Schultze. Klin. Wchnschr., (German) 16, 417-428 (1937).
One of two groups of guinea pigs was exposed for 15 to 20 days, 2½ hours daily, to very small amounts of oxygen, while the other was exposed 10 to 20 minutes daily to a carbon monoxide concentration of 0.5%. In the first group the thyroi remained normal, while in the second, hyperfunction developed. Therefore it is not deprivation of oxygen but carbon monoxide that causes these changes, the latter acting as a tissue poison.

325. THE TOXICITY OF INDUSTRIAL SOLVENTS. R. G. Harry. Paint Manuf., 6, 288-290 (1936).
The important solvents and plasticizers are discussed with regard to solvent properties, uses and disadvantages, especially poisonous properties. The author recommends that only the least toxic of the chlorinated hydrocarbons be used in paints, varnish strippers, and allied products and their presence should be shown on the wrapper of the container. Ketones, esters, and plasticizers cause but little damage.

326. POISON GASES AND THE PETROLEUM INDUSTRY. S. J. M. Auld. Petroleum Times, 35, 781-782 (1936).
This paper deals with poisonous gases used in warfare and the possibility of development of new gases from petroleum. Ethylene is a great potential source of war gas, with the possibility of 40% being converted into mustard gas. Cracked gas may be the foundation of the "persistent-lethal" for which search is being made.

327. NEW DISCOVERIES ON INJURY TO HEALTH BY CHEMICAL SUBSTANCES. F. Koelsch. Chem. Fabric, (German) 421-429 (1936).
An address on the poisoning by chemical substances, their effects, individual susceptibility, diagnosis and sanitary precautions. The substances treated include most poisonous metals, carbon monoxide and some organic compounds.

328. EFFECT OF ANILINE ON THE LIVER AND ON THE FUNCTION OF THE PITUITARY AND ADRENALS N. M. Rudenko. Gigiena truda i tok. bezopasnosti (Russian) 6, 19-24 (1936).
Animal experiments on the effect of aniline administered by various methods showed that it acts on the liquids of the parenchymatous organs, especially on the liver, and not upon the central nervous system, as many authors believe. A new method of determining the effect of aniline on hormone formation shows that the thyreotropic hormone and adrenaline remain within the normal limits.

329. BENZENE SICKNESS IN WORKERS APPLYING RUBBER GLUES. E. Holstein. Med. Welt. (German) 11, 391-393 (1937).
A study was made of 85 persons engaged in gluing together pieces or rubber for rubber shoes, with a glue containing 78% benzene and 13% trichlorethylene. Eleven cases of benzene poisoning were found, also 14 others who had been ill from anemia and hemorrhage. Improved ventilation was ordered and the use of the solvent was discontinued.

330. FATAL PHOSPHINE POISONING IN FUMIGATING FOR CORN WEEVIL. O. Gessner. Samml. v. Vergift., (German) 8, (Gutachten) 13-18 (1937).
Phosphine in high concentrations was liberated from bags containing 30 grams each of aluminum phosphide, distributed throughout a granary. Twelve cases of nausea and one death followed.

331. NEW METHOD OF INVESTIGATING INDUSTRIAL DISEASES. F. Timm. Deutsch. Ztschr. f. d. ges. gericht. Med., (German) 28, 48-50 (1937).
By the use of a darkfield method proposed by the author, it is possible to detect small amounts of heavy metal in the organism, how the metal penetrated, where it is deposited and how its mobilization by medicaments takes place. He reports as an example, a case of lead poisoning. (These claims appear rather broad, but this is all the information we have at present. Abstr.)

332. A MICROGRAVIMETRIC METHOD FOR DETERMINING SMALL AMOUNTS OF MERCURY VAPOR IN AIR. V. A. Piankov. J. Applied Chem., (U.S.S.R) 9, 580-582 (1936).
On passing the air through a spiral tube containing iodine, crystals of mercuric iodide settle on the walls of the spiral. After removal of the excess iodine, the mercuric iodide is dissolved out with ether, dried and weighed.

333. PURIFICATION OF GASES AT THE MERCURY PLANT AT NIKITOVO. V. A. Piankoff and M. L. Loevsky. Gigiena truda i tek. bezopasnosti (Russian) 6, 57-58 (1936).
It was found that 2 to 3 kilograms of mercury were lost daily. Considerable sulfur dioxide was also present. The authors recommend catching the sulfur dioxide with dilute ammonia and fixation of the mercury with chlorine.

334. DETERMINATION OF MERCURY IN AIR AND ABSORPTION OF VAPORS OF MERCURY WITH THE AID OF METALLIC GOLD. V. Majer. Collection Czechoslov. Chem. Commun., 8, 339-348 (1936).
Very small quantities of mercury are determined by distilling into a fine capillary, uniting the globules with the aid of a centrifuge and measuring the length of the thread of mercury. In some cases the mercury was condensed in tubes chilled with liquid air. Quantities larger than 0.5 g. per liter the colorimetric method is advised.

335. DETERMINATION OF SMALL CONCENTRATIONS OF SULFUR DIOXIDE AND HYDROGEN SULFIDE IN AIR. II. V. G. Gurevich and V. F. Vendt. J. Gen. Chem. (USSR) 6, 962-971 (1936).
The modified method of Vorlander and Lehrm depends on the different rates of oxidation of hydrogen sulfide and sulfur dioxide in air in an ammonium hydroxide The sulfate is precipitated with lead nitrate and the turbidity due to lead sulfate is determined with the aid of a special photoelectric nepholometer. Details of the method are given in Chemical Abstracts, for Feb. 20, 1937, col. 629 or will be supplied on request) but we doubt whether they are full enough to follow without referring to the original Russian.

336. NOTE ON AN INVESTIGATION OF LUNG DAMAGE IN MINERS, CARRIED OUT IN OCTOBER-NOVEMBER, 1936 IN THE SCHNEEBERG-NEUSTADTER MINES. E. Noitzel. Arbeitsschutz pp. 70-72 (1937).
As a result of filtration experiments the author concludes that the lung injuries in the Schneeburg mines are caused by the radium emanations, and not by air colloids or dust. The quantity of emanation in the air was not decreased by filtering through carbon, although it was when silica gel was used. For protection of the miners, the author suggests the use of pneumatic drills where the emanation content is high, control of mine air, and changes of working place for the miners.

337. LATE POSTMORTEM DEMONSTRATION OF CARBON MONOXIDE. M. Pieczarkowski. Polska Gazeta Lekarska, 16, 24-26 (Jan. 10, 1937).
The literature on death by asphyxiation from illuminating gas is meager from the viewpoint of demonstrating the cause of death after exhumation of the suspected body. The author's experiments yield additional information on that point, and show that under some conditions the presence of carbon monoxide can be demonstrated for a surprisingly long time after death.
Spectroscopic and chemical examination of the blood reveals the presence of carbon monoxide, even in decomposed parts of the body after 2½ years. If blood poisoned by the gas is sealed with exclusion of air, spectral and chemical analysis demonstrate its presence even after 20 years. The presence of the gas may also be demonstrated during 1 year by pouring thickly and drying the blood. However, if the blood is in contact with air, the tests are ineffective in a much shorter time, depending on the extent of contact. The blood mixed with Jaederholm's solution shows carbon monoxide for only a short time.

338. SOVIET CARTRIDGE RESPIRATORS FOR CARBON MONOXIDE. T. P. Glazkoff. Gigiena truda i tek. bezopasnosti, 6, 89-90 (1936).
Two hopkalite cartridge respirators are described, one with 1900 cc. capacity, good for 10 to 18 hours, and the other, 700 cc. usable for 1½ to 3 hours. A disadvantage is that they give no warning when their effectiveness ceases.