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THE BULLETIN

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Discussions of Technical, Scientific,
and Art Questions, and Promotion
of Coöperative Research*

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NOTES AND NEWS

SILICOSIS

Racketeer lawyers and doctors have added to industrial hazards the liability of unwarranted financial losses, as though it were not bad enough to have the possibility of workmen contracting silicosis in spite of every possible warning and precaution.

Silicosis and all other lung troubles classified under the more general term "pneumoconiosis" have, no doubt, always afflicted those who were at all active in factories, in streets, or on farms. Science and science methods have disclosed these lung troubles. An accumulation of data and case histories has made more evident the causes and results. With increasing facilities and the acquisition of authentic scientifically exact observations there has been on the part of plant managers a growing sense of responsibility and the need for protective devices for their employees. As a reward for these humanitarian disclosures and efforts, the racketeering lawyers and doctors have seen the chance for making easy money.

It behooves every ceramic manufacturer to prepare a defense against silicosis damage suits. The plant must be as free from fine air floating dust as is possible and the men must be warned and provided with dust masks. But these precautions are not sufficient. The plant managers must be prepared to show medical and X-ray records.

As further evidence of the seriousness with which the scientists have studied the matter of silicosis the following one hundred and thirty-five references are given from a report by H. K. Pancost and E. P. Pendergrass.¹ Concerning these references the authors make the following statement:

The references we have been obliged to consult were very numerous. The literature during the past few years has been replete with articles dealing with the various phases of dust inhalation. We are obliged to restrict our list of references to those articles which present particular points of interest to the roentgenologist. We have been obliged to omit many of the references included in our previous presentations.

References

- E. ARNOULD. Is anthracosis a disease entity? *Presse med.*, 37, 1624-26 (1929).
- C. BADHAM. Studies of Industrial Hygiene No. 13. Notes on a fine type of fibrous pneumoconiosis produced by silicates and other minerals. Extract from Rept. of Director-General of Public Health, New South Wales, for year ended Dec. 31, 1927.
- C. BADHAM, H. E. G. RAYNER, AND H. D. BROOSE. Studies in Industrial Hygiene No. 12. Dust sampling in Sydney sandstone industries. *Ibid.*
- J. B. BARRETO, P. DRINKER, J. L. FINN, AND R. M. THOMSON. Masks and respirators for protection against dusts and fumes. *Jour. Ind. Hyg.*, 9, 26-41 (1927).
- T. H. BELT. Pathology of silicosis of the lung. *Can. Pub. Health Jour.*, 20, 494-509 (1929).

¹ See Editorial on "The Silicosis Racket," *Bull. Amer. Ceram. Soc.*, 12 [5], 127-34 (1933).

² *Amer. Jour. Roentgenology and Radium Therapy*, Vol. XXXVI, No. 4, October (1931).

J. J. BLOOMFIELD. Study of efficiency of dust-removal systems in granite-cutting plants. *Pub. Health Rept.*, 44, 2505-22 (1929).

M. G. BOHRON. Pulmonary siderosis; two cases with reticulo-endothelial siderosis. *Arch. Path.*, 10, 179-96 (1930).

O. C. BRINK AND A. R. RINDELL. Personal communication.

H. M. CARLETON. Effects produced by inhalation of haematite and iron dusts in guinea pigs. *Jour. Hyg.*, 26, 227-34 (1927).

W. I. CLARK. Dust hazard in abrasive industry; second study. *Jour. Ind. Hyg.*, 11, 92-96 (1929).

E. H. CULVER. Progress and present status of industrial hygiene in the Union of S. Africa. *Ibid.*, 11, 194-215 (1929). International Silicosis Conference. *Jour. Med. Assn. S. Africa*, Sept., 1930.

E. L. COLLIS. Annual Report Chief Inspection of Factories and Work Shops for England and Wales, 1910. (Quoted by Simson.) Statistical characteristics of dust phthisis (pulmonary silicosis). *Jour. Ind. Hyg.*, 8, 457-65 (1926).

E. L. COLLIS AND J. C. GILCHRIST. Effects of dust upon coal trimmers. *Ibid.*, 10, 101-10 (1928).

E. L. COLLIS AND K. W. GOADBY. Dust inhalation and iron ore mining. *Ibid.*, 12, 266-80 (1930).

W. E. COOKE. Fibrosis of the lungs due to the inhalation of asbestos dust. *Brit. Med. Jour.*, 2, 147 (1924). Pulmonary asbestosis. *Ibid.*, 2, 1024-25 (1927). Asbestos dust and the curious bodies found in pulmonary asbestosis. *Ibid.*, 2, 575-80 (1929).

Correspondence. *Jour. Amer. Med. Assn.*, 95, 288 (1930).

S. L. CUMMINS. Effects of coal dust upon the silicotic lung. *Jour. Path. & Bact.*, 30, 615-19 (1927).

EDITORIAL. *Brit. Med. Jour.*, 2, 304 (1929).

L. EDLING. Contributions to roentgenology of pulmonary anthracosis. *Acta radiol.*, 6, 369-90 (1926).

J. EWING. Neoplastic Diseases. 2d ed. W. B. Saunders Co., Philadelphia and London, 1922, p. 808.

J. W. FARNEL. Study of silica dust in hard rock drilling in New York City. *Jour. Ind. Hyg.*, 11, 69-81 (1929).

B. M. FRIED. Origin of histiocytes (macrophages) in the lungs; an experimental study by use of intratracheal injections of vital stain. *Arch. Path. & Lab. Med.*, 3, 751-67 (1927).

L. U. GARDNER. Studies on relation of mineral dusts to tuberculosis. I. Relatively early lesions in experimental pneumoconiosis produced by granite inhalation and their influence on pulmonary tuberculosis. *Amer. Rev. Tuberc.*, 4, 734 (1920). Appendix on Pathological Studies. U. S. Pub. Health Bull., No. 187 (July, 1929). U. S. Govt. Printing Office, Washington, D. C. Studies on experimental pneumoconiosis. V. Reactivation of healing primary tubercles in the lung by inhalation of quartz, granite, and carborundum dusts. *Amer. Rev. Tuberc.*, 20, 833-75 (1929). Will inhalation of siliceous dusts activate a partially healed focus of tuberculous infection? Experimental study. *Pub. Health Rept.*, 45, 282-88 (1930).

S. R. GLOYNE. Presence of asbestos fiber in lesions of asbestos workers. *Tubercle*, 10, 404-407 (1929). Reaction of tissues to asbestos fiber, with reference to pulmonary asbestosis. *Ibid.*, 11, 151-53 (1930).

A. L. GRAY AND J. L. TABB. Pneumoconiosis; report of cases. *Va. Med. Month.*, 49, 647-49 (1923).

W. E. GYE AND E. H. KETTLER. Pathology of miners' phthisis. *Lancet*, 2, 855-56 (1922).

W. E. GYE AND W. J. PURDY. Poisonous properties of colloidal silica; effects of parenteral administration of large doses. *Brit. Jour. Expt. Path.*, 3, 75-85 (1922). Poisonous properties of colloidal silica; effects of repeated

- intravenous injections on rabbits; fibrosis of liver. *Ibid.*, 1, 86-94 (1922). Poisonous properties of colloidal silica. *Ibid.*, 5, 238-50 (1924).
- A. C. HADDOW. Clinical aspects of pulmonary asbestosis. *Brit. Med. Jour.*, 2, 580-81 (1929).
- A. HAMILTON. Enamelled sanitary ware manufacture. *Jour. Ind. Hyg.*, 11, 139-53 (1929).
- D. HAZZINGTON AND A. J. LANZA. Miners' consumption in the mines of Butte, Mont. Preliminary report of an investigation made in 1916-1919. U. S. Bur. Mines Tech. Paper, No. 260 (1921).
- T. HATCH, P. DRINKER, AND S. P. CHOATE. Control of the silicosis hazard in the hard rock industries. I. A laboratory study of design of dust control systems for use with pneumatic granite cutting tools. *Jour. Ind. Hyg.*, 12, 75-91 (1930).
- P. S. HAY. Short description of a dust trap to be used in conjunction with percussive rock drills. *Ibid.*, 8, 496-98 (1926).
- E. R. HAYBURST, D. J. KINDER, B. E. NEISWANDER, AND C. D. BARRETT. Silicosis with low incidence of tuberculosis. *Ibid.*, 11, 229-44 (1929).
- P. HEFFERNAN. Notes on biophysics of silica and etiology of silicosis. *Brit. Med. Jour.*, 2, 489-92 (1929). Exposure to silica dust without the occurrence of silicosis. *Jour. Ind. Hyg.*, 8, 481-90 (1926).
- P. HEFFERNAN AND A. T. GREEN. Method of action of silica dust in the lungs. *Ibid.*, 10, 272-78 (1928).
- K. HENRUS AND O. RICHTER. Zur Frage der Einwirkung von Kohlenstaubbildung auf die Bindegewebsentwicklung in der Lunge. *Z. Tuberk.*, 46, 123-28 (1928); abstracted in *Jour. Amer. Med. Assn.*, 88, 287 (1927).
- E. HIGGINS, A. J. LANZA, F. B. LANEY, AND G. S. RICE. Siliceous dust in relation to pulmonary disease among miners in the Joplin District, Mo. U. S. Bur. Mines Bull., No. 132 (1927).
- L. HOLST, D. KAPLUNOVA, AND M. SANTOTZKI. X-ray study of pneumoconiosis of porcelain workers. *Fortschr. Gebiete Röntgenstrahlen*, 37, 358-68 (1928).
- F. L. HOFFMAN. Mortality from respiratory disease in dusty trades. U. S. Dept. Labor, Bur. Labor Statistics, Bull., June, 1918. (Quoted by Simson.) Compensation for silicosis. *Ind. Doctor*, 2, 103-106 (1924). Pneumoconiosis in the stone industry. *Amer. Rev. Tuberc.*, 6, 772-81 (1922). Problem of dust phthisis in the granite stone industry. U. S. Dept. Labor, Bur. Labor Statistics, Bull., No. 293, 1922. (Quoted by Willis.)
- R. HOLLMAN. Über die Einwirkung von Kohlen- und Graphitstaub ohne Gesteinsbeimengung auf die Lunge. *Z. Tuberk.*, 57, 394-96 (1928).
- L. G. JAVINS. Present position of miners' phthisis on the Rand. Abstracted in *Jour. Ind. Hyg.*, 11, 92 (1929).
- D. C. JARVIS. Roentgen study of dust inhalation in the granite industry. *Amer. Jour. Roentgenol.*, 8, 244-58 (1921). Dunham's fans in roentgen-ray study of granite dust inhalation. *Ibid.*, 8, 560-64 (1921). Conception of chest X-ray densities based on a study of granite dust inhalation. *Ibid.*, 9, 226-34 (1922). Clinical study of granite dust inhalation. 17th Annual Meeting, Nat. Tuberc. Assn., Trans., pp. 411-21 (1921). Upper respiratory tract in granite dust inhalation. *Ann. Otol., Rhinol., & Laryngol.*, 32, 405-12 (1923).
- S. H. KATZ, G. W. SMITH, AND E. G. MEIER. Dust respirators; their construction and filtering efficiency. Bur. Mines Tech. Paper, No. 394 (1926).
- E. H. KATZ. Experimental silicosis. *Jour. Ind. Hyg.*, 8, 491-95 (1926).
- D. J. KINDER AND E. R. HAYBURST. Stereoscopic X-ray examination of sandstone quarry workers. *Amer. Jour. Pub. Health*, 17, 819-22 (1927).
- R. B. LADOO. Non-Metallic Minerals: Occurrence, Preparation, Utilization. McGraw-Hill Book Co., N. Y., 1925.
- F. H. LAHEY. Oesophageal diverticula. *Boston Med. & Surg. Jour.*, 138, 355-61 (1923).
- H. R. M. LANDIS. Relation of organic dust to pneumoconiosis. *Jour. Ind. Hyg.*, 7, 1-5 (1925).
- F. LANGGUTH. Über die Siderosis Pulmonum. *Deut. Arch. Klin. Med.*, 55, 255 (1895). (Quoted by Bohrod.)
- A. J. LANZA. Personal communication.
- A. J. LANZA AND S. B. CHILDS. Roentgen-ray findings in miners' consumption, based on a study of 150 cases. U. S. Pub. Health Bull., No. 85 (Jan., 1917).
- K. M. LYNCH AND W. A. SMITH. Asbestosis bodies in sputum and lung. *Jour. Amer. Med. Assn.*, 95, 659-61 (1930).
- S. McDONALD. Histology of pulmonary asbestosis. *Brit. Med. Jour.*, 2, 1025-26 (1927).
- W. McFARLAND. Silicosis and tuberculosis as seen in granite workers in Barre, Vt. *Jour. Ind. Hyg.*, 9, 315-30 (1927).
- A. MAVROCORDATO. Studies in experimental silicosis and other pneumoconioses. *Pub. S. African Inst. for Med. Research*, No. 15 (March 31, 1922). Contribution to the study of miners' phthisis. *Ibid.*, Dec., 1926.
- E. R. MEREWETHER. Occurrence of pulmonary fibrosis and other pulmonary affections in asbestos workers. *Jour. Ind. Hyg.*, 12, 198-222; 239-57 (1930).
- E. R. MEREWETHER AND C. W. PATES. Report on effects of asbestos dust on the lungs and dust suppression in the asbestos industry. H. M. Stationery Office, London, 1930.
- E. L. MIDDLETON. Study of pulmonary silicosis. *Jour. Ind. Hyg.*, 2, 433 (1920-1921). Present position of silicosis in industry in Britain. *Brit. Med. Jour.*, 2, 485-89 (1929).
- W. S. MILLER. Essential points in anatomy of lung. *Amer. Jour. Roentgenol.*, 4, 269-79 (1917). Studies on tuberculous infection. III. Lymphatics and lymph flow in human lung. *Amer. Rev. Tuberc.*, 3, 193-209 (1919). Key points in lung structure. *Radiology*, 4, 173-77 (1925).
- Miners' Phthisis Medical Bur.; Rept. for year ended July 31, 1927. Pretoria Printing and Stationery Office, 1928.
- Miners' Phthisis Prevention Committee, Rept., p. 18 (1919).
- P. F. MÖLLER. Radiographic picture in chalicosis, and its differential diagnosis from other affections of the lungs. *Acta radiol.*, 8, 193-208 (1927).
- E. VON MÜLLER. Pneumoconiosis from sandblasting. *Zentr. Gewerbehyg. Unfallverhüt.*, 5, 148-50 (1928); abstracted in *Bull. Hyg.*, 31, 953-54 (1928).
- M. MURRAY. Charing Cross Hosp. Gaz., 1900. (Referred to by Cooke.)
- B. S. NICHOLSON. Dusted lung, with special reference to inhalation of silica dust (SiO_2) and its relation to pulmonary tuberculosis. *Jour. Ind. Hyg.*, 5, 220-42 (1923).
- R. C. OSMAN. Contribution to knowledge of roentgenological appearance of silicosis. *Acta radiol.*, 9, 266-88 (1928).
- T. OLIVER. Pulmonary asbestosis; a sociomedical study. *Arch. Gewerbepathol. Gewerbehyg.*, 1, 67-76 (1930). Pulmonary asbestosis in its clinical aspects. *Jour. Ind. Hyg.*, 9, 483-85 (1927). Clinical aspects of pulmonary asbestosis. *Brit. Med. Jour.*, 2, 1026-27 (1927).
- C. R. ORR. Discussion on A. E. Russell. *Jour. Amer. Med. Assn.*, 93, 1714 (1930).
- H. K. PANCOAST AND E. P. PRINDEGRASS. Review of present knowledge of pneumoconiosis, based upon roentgenologic studies, with notes on the pathology of the condition. *Amer. Jour. Roentgenol. & Radium Therapy*, 14, 381-423 (1925). Pneumoconiosis (Silicosis): A Roentgenological Study with Notes on Pathology. Paul B. Hoeber, Inc., New York, 1926.
- H. H. PERMAR. Function of the endothelial cell in pathological conditions, especially in tuberculosis. *Amer. Rev. Tuberc.*, 9, 507-18 (1924).
- Pulmonary asbestosis. *Jour. Amer. Med. Assn.*, 95, 1431 (1930).
- A. R. RINDELL. Case of silicosis with autopsy. *Can. Med. Assn. Jour.*, 15, 839-41 (1925).
- A. R. RINDELL AND H. E. ROTHWELL. Clinical and pathologic observations on silicosis in Ontario. *Jour. Ind. Hyg.*, 10, 147-57 (1928).

A. E. RUSSELL. Personal communication. Dust and pulmonary disease. *Jour. Amer. Med. Assn.*, 95, 1714-17 (1930).

A. E. RUSSELL, R. H. BRITTEN, L. R. THOMPSON, AND J. J. BLOOMFIELD. Health workers in dusty trades. II. Exposure to siliceous dust (granite industry). *U. S. Pub. Health Bull.*, No. 187 (July, 1929).

R. R. SAYERS. *U. S. Bur. Mines Circulars*, Nos. 6089, 6196, 6245, 6439. Silicosis among miners. *U. S. Bur. Mines Tech. Paper*, No. 372.

R. R. SAYERS AND F. V. MERIWETHER. Military lung disease due to unknown cause. *Pub. Health Rept.*, 45, 3994-3009 (1930).

A. SCHLOSSMANN. Anthracosis and tuberculosis. *Klin. Wochschr.*, 5, 1786-87 (1926); abstracted in *Jour. Amer. Med. Assn.*, 87, 1955 (1926).

H. E. SETLER. Case of pneumoconiosis; result of inhalation of asbestos dust. *Brit. Med. Jour.*, 2, 982 (1928).

F. W. SIMSON. Pulmonary asbestosis in S. Africa. *Brit. Med. Jour.*, 1, 885-87 (1928).

A. R. SMITH. Silicosis among the rock drillers, blasters, and excavators in New York City. *Jour. Ind. Hyg.*, 11, 59-69 (1929). Personal communication.

W. S. SMITH AND E. L. COLLIS. Report on manufacture of silica brick. H. M. Stationery Office, 1917. (Quoted by Heffernan.)

H. F. SMYTH AND H. F. SMYTH, JR. Spray painting hazards as determined by the Pennsylvania and the National Safety Council surveys. *Jour. Ind. Hyg.*, 10, 163-214 (1928).

W. B. SOPEK. Pulmonary asbestosis; report of a case and a review. *Amer. Rev. Tuberc.*, 22, 571-84 (1930).

South African Silicosis Act, experiences in administration of. *Ind. Doctor*, 2, 124 (1925).

J. V. SPARKS. Personal communication. Spray painting in Pennsylvania. Dept. Labor and Industry, Commonwealth of Pennsylvania, Harrisburg. Special Bull., No. 16 (1926).

M. J. STEWART AND A. C. HADDOW. Demonstration of the peculiar bodies of pulmonary asbestosis ("asbestos bodies") in material obtained by lung puncture and in the sputum. *Jour. Path. Bact.*, 32, 172 (1929). The immediate diagnosis of pulmonary asbestosis at necropsy. *Brit. Med. Jour.*, 2, 509 (1928).

C. L. SUTHERLAND AND S. BRYSON. Occurrence of disease of the lungs from dust inhalation in the slate industry in the Gwynn District. H. M. Stationery Office, 1930. Abstracted in *Jour. Ind. Hyg.*, 12, 199 (1930).

N. TATTERSALL. Occurrence and clinical manifestations of silicosis among hard ground workers in coal mines. *Jour. Ind. Hyg.*, 8, 456-80 (1926).

L. R. THOMPSON AND R. H. BRITTEN. Silica dust hazard in granite cutting industry. *Ibid.*, 12, 123-47 (1930).

L. R. THOMPSON AND D. K. BRUNDAGE. Study of exposure to calcium dusts generated in the manufacture of Portland cement. *Ibid.*, 11, 182-93 (1929). Respiratory diseases in a Portland cement plant. *Ibid.*, 11, 266-77 (1929).

L. R. THOMPSON, D. K. BRUNDAGE, A. E. RUSSELL, AND J. J. BLOOMFIELD. Health of workers in a Portland cement plant. *U. S. Pub. Health Bull.*, No. 176 (April, 1928).

J. M. WALNWRIGHT AND H. J. NICHOLS. Relation between anthracosis and pulmonary tuberculosis. *Amer. Jour. Med. Sci.*, 130, 386-99 (1930).

W. WATKINS-PITCHFORD. Silicosis of S. African gold mines, and changes produced in it by legislative and administrative efforts. *Jour. Ind. Hyg.*, 19, 109-39 (1927). Diagnosis of silicosis. *Med. Jour. Australia*, 2, 382-84 (1929).

A. H. WATT, L. G. IRVINE, J. P. JOHNSON, AND W. STEWART. Silicosis (Miners' Phthisis) in the Witwatersrand. Miners' Phthisis Prevention Comm. of S. Africa, Pretoria, Appendix No. 6, 1916.

T. WEDEKIND. Anthracosis and pulmonary tuberculosis. *Klin. Wochschr.*, 7, 890-95 (1928); abstracted in *Jour. Amer. Med. Assn.*, 91, 214 (1928).

H. S. WILLIS. Pulmonary effect of over three years' exposure of guinea pigs to silica dust. *Amer. Rev. Tuberc.*, 17, 253-67 (1929). Pneumoconiosis and tuberculosis. *Medicine*, 8, 413-500 (1930).

C. E. A. WINSLOW AND L. GREENBURG. Study of dust hazard in wet and dry grinding shops of an ax factory. *Pub. Health Rept.*, Oct. 8, 1920. (Quoted by Russell, Britten, Thompson, and Bloomfield.)

W. B. WOOD. Pulmonary asbestosis; radiographic appearances in skiagrams of the chests of workers in asbestos. *Tubercle*, 10, 353-53 (1929).

W. B. WOOD AND S. R. GLOVNE. Pulmonary asbestosis. *Lancet*, 1, 445-48 (1930).

W. B. WOOD AND D. S. PAGE. Case of pulmonary asbestosis. *Tubercle*, 10, 457-60 (1929).

Workmen's Compensation Act, Ontario, with Amendments to 1928, Toronto, 1928.

CERAMIC SCHOOL NOTES

NEW YORK STATE COLLEGE OF CERAMICS AT ALFRED UNIVERSITY

Dedication Exercises for the New Ceramic Building, at Alfred, New York, June 12, 1931

Introductory Remarks by Dean Major E. Holmes

I should like to call attention to the background of these dedication ceremonies which our friends have made possible for us to arrange for today.

The New York State College of Ceramics, recently elevated to that status from the status of a school, is the only institution in New York devoted to higher education in ceramics. For the current year its enrollment is 247,

this figure representing a 40% increase over that of the preceding year. There is a staff of twelve instructors, each a specialist in his line of work. The College is organized on the basis of three departments, that of General Technology and Engineering, Glass Technology, and Ceramic Art. The courses of study embrace all fields of the ceramic industries in their three essential aspects of technology, engineering, and art. The school now consists of three buildings including the new one to be dedicated today, and affords 40,000 square feet of floor space devoted to lecture rooms and laboratories. New, up-to-date equipment worth \$40,000 has been installed in this new building during the past year and \$15,000 worth will be installed in the coming year.

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 Corning Glass Works, Corning, N. Y. (J. T. Littleton)
 Cortland Grinding Wheels Co., Chester, Mass. (C. B. Tilton)
 Crane Enamelware Co., Chattanooga, Tenn. (A. M. Nelson)
 Crossman Company, South Amboy, N. J.
 Crown Potteries Co., Evansville, Ind. (J. P. Wendt)
 Detroit Electric Furnace Co., 825 West Elizabeth St., Detroit, Mich. (E. L. Crosby)
 Devilbiss Mfg. Co., Toledo, Ohio (E. F. Frey)
 Joseph Dixon Crumple Co., Jersey City, N. J. (H. P. Smith)
 Drakenfeld & Co., B. F., 45-47 Park Place, New York, N. Y. (S. J. Courtney)
 Edgar Plastic Kaolin Co., Metuchen, N. J. (D. R. Edgar)
 Empire Steel Corp., Mansfield, Ohio (C. H. Stamm)
 Engelhard, Inc., Charles, 90 Chestnut St., Newark, N. J. (W. O. Hebler)
 English China Clays Sales Corp., 351 Fifth Ave., New York, N. Y.
 Eureka Flint & Spar Co., Box 266, Trenton, N. J. (H. D. Thropp)
 Federal Seaboard Terra Cotta Co., Perth Amboy, N. J.
 Fostoria Glass Co., Moundsville, W. Va. (W. F. Curtis)
 General Ceramics Co., 71 West 35th St., New York, N. Y. (P. D. Heiser)
 George Pottery Co., W. S., East Palestine, Ohio (W. S. George)
 Gillinder Bros., Inc., Port Jervis, N. Y. (James Gillinder)
 Gladding, McBean & Co., 660 Market St., San Francisco, Calif. (Atholl McBean)
 Gleason-Tiebout Glass Co., 59 34th St., Maspeth, N. Y. (C. H. Tiebout)
 Glenwood Range Co., Taunton, Mass. (J. L. Anthony)
 Golding-Keene Co., Keene, N. H. (C. E. Golding)
 Golding Sons Co., Trenton Trust Bldg., Trenton, N. J. (H. P. Margerum)
 Great Lakes Steel Corp., Tecumseh Rd., Encourse, Detroit, Mich. (C. W. Given)
 Green Fire Brick Co., A. P., Mexico, Mo. (A. P. Green)
 Haeger Potteries, Inc., Dundee, Ill. (E. H. Haeger)
 Hall China Co., East Liverpool, Ohio (M. W. Thompson)
 Hanovia Chemical & Mfg. Co., Chestnut St. & N. J. R.R. Ave., Newark, N. J. (W. Richi)
 Hardinge Co., Inc., York, Pa. (F. E. Finch)
 Harshaw Chemical Co., Intelligence Service Div., Cleveland, Ohio (D. G. Pierce)
 Hartford-Empire Co., Hartford, Conn. (F. G. Smith)
 Hazel-Atlas Glass Co., Wheeling, W. Va. (J. H. McNash)
 Hommel Co., O., 209 Fourth Ave., Pittsburgh, Pa. (O. Hommel)
 Houze Convex Glass Co., L. J., Point Marion, Pa. (R. J. Houze)
 Hydraulic-Press Brick Co., 705 Olive St., St. Louis, Mo. (S. H. Ivery)
 Industrial Publications, Inc., 59 E. Van Buren St., Chicago, Ill. (F. A. Guignon)
 International Lead Refining Co. (Anaconda Zinc Oxide Dept.), 151st St. & McCook Ave., East Chicago, Ind. (F. O. Case)
 Kentucky-Tennessee Clay Co., Paris, Tenn. (R. C. Mecker)
 Knowles China Co., Edwin M., Newell, W. Va. (J. W. Hepplewhite)
 Kohler Company, Kohler, Wis. (C. J. Kohler)
 Koppers Research Corp., 1623 Koppers Bldg., Pittsburgh, Pa. (O. O. Malleis)
 Ladeco-Christy Clay Products Co., 1711 Ambassador Bldg., St. Louis, Mo. (W. J. Westphalen)
 Lapp Insulator Co., Inc., Leroy, N. Y. (G. W. Lapp)
 Laughlin China Co., Homer, East Liverpool, Ohio (Joseph Wells)
 Lee Clay Products Co., Clearfield, Ky. (M. S. Bowne)
 Libbey Glass Mfg. Co., W. & L. E. R.R. and Ash Sts., Toledo, Ohio (H. R. Black)
 Lindemann & Hoverson Co., A. J., Milwaukee, Wis. (W. C. Lindemann)
 Locke Insulator Corp., Box A, Baltimore, Md. (F. H. Reagan)
 London Brick Co. & Forders, Ltd., Africa House, Kingsway, London, W. C. 2, England (C. W. D. Rowe)
 Ludowici-Celadon Co., 104 S. Michigan Ave., Chicago Ill. (H. F. Eyer)
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 Macbeth-Evans Glass Co., Charlot, Pa. (H. H. Blau)
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 Maryland Glass Corp., Morrell Park Sta., Baltimore, Md. (L. C. Roche)
 Matawan Tile Co., Matawan, N. J. (B. K. Eskesen)

* Names of voters are in parentheses.

Corporation Members (Continued)

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 Moore & Munger Co., 33 Rector St., New York, N. Y. (Murray Rushmore)
 Mosaic Tile Co., Zanesville, Ohio (R. P. Herrold)
 Mt. Clemens Pottery Co., Mt. Clemens, Mich. (C. E. Doll)
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 New Jersey Porcelain Co., New York Ave. & Plum St., Trenton, N. J. (Stephen Wenzel)
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 Nippon Toki Kwaisha, Ltd., Noritake, Nagoya, Japan (Jiro Ishikawa)
 North American Refractories Co., National City Bank Bldg., Cleveland, Ohio (E. M. Weinfurter)
 North State Feldspar Corp., Micahville, N. C. (W. F. Dennen)
 Northwestern Terra Cotta Co., 4417 Oleatha St., St. Louis, Mo. (B. Purcell)
 Norton Company, Worcester, Mass. (A. T. Malm)
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 Owens-Illinois Pacific Coast Co., 15th & Folsom Sts., San Francisco, Calif. (Otto Rosenstein)
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 Roessler & Hasslacher Chemical Co., Empire State Bldg., New York, N. Y. (T. H. McKeown)
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 Tyler Co., W. S., Cleveland, Ohio (F. P. Nickerson)
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 Universal Clay Products Co., Sandusky, Ohio
 Universal Dental Co., 48th & Brown St., Philadelphia, Pa. (Joseph Kohn)
 Universal Sanitary Mfg. Co., New Castle, Pa. (W. Keith McAfee)
 Verreries Souchon Neuvesel, Siege Social, a Lyon 8, 10 rue de la Bourse, France
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 Vitreous Enameling Co., 71st St. & Grant Ave., Cleveland, Ohio (E. H. Weil)
 Vitro Manufacturing Co., Corliss Sta., Pittsburgh, Pa. (Josef Vollkommer)
 Vollrath Co., Sheboygan, Wis. (J. C. Vollrath)
 Waltham Grinding Wheel Co., Waltham, Mass. (M. F. Cunningham)
 Washington Porcelain Co., Washington, N. J. (C. J. Rukenbrodt)
 Weber Electric Co., Schenectady, N. Y. (August Weber, Jr.)
 Western Brick Co., Danville, Ill. (F. M. Butterworth)
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 Wheeling Steel Corp., Portsmouth Works, Portsmouth, Ohio (T. W. Jenkins)
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 Hotel Netherland Plaza
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