

The Contributors to this Issue

JOHN R. CARSON, B.S., Princeton, 1907; E.E., 1909; M.S., 1912; Research Department, Westinghouse Electric and Manufacturing Company; 1910-12; instructor of physics and electrical engineering, Princeton, 1912-14; American Telephone and Telegraph Company, Engineering Department, 1914-15; Patent Department, 1916-17; Engineering Department, 1918; Department of Development and Research, 1919—. Mr. Carson's work has been along theoretical lines and he has published several papers on theory of electric circuits and electric wave propagation.

OTTO J. ZOBEL, A.B., Ripon College, 1909; A.M., Wisconsin, 1910; Ph.D., 1914; instructor in physics, 1910-15; instructor in physics, Minnesota, 1915-16; Engineering Department, American Telephone and Telegraph Company, 1916-19; Department of Development and Research, 1919—. Mr. Zobel has made important contributions to circuit theory in branches other than the subject of wave-filters.

J. N. KIRK, B.S., Purdue University, 1905; Engineering Department, New York Telephone Company, 1905-11; Plant Engineer for Texas, Southwestern Bell Telephone Company, 1912; Outside Plant Engineer, 1913-16; Engineering Department, American Telephone and Telegraph Company, 1917-19; Outside Plant Engineer, Department of Operation and Engineering, 1920—.

HELENE C. BATEMAN, A.B., Barnard, 1917; Department of Operation and Engineering, American Telephone and Telegraph Company, 1917—. Mrs. Bateman has been engaged in research work relating to commercial engineering.

H. D. ARNOLD, Ph.B., Wesleyan, 1906; M.S., 1907; Ph.D., Chicago, 1911; assistant in physics, Wesleyan, 1906-07; Chicago, 1908; professor, Mt. Allison, 1909-10; Engineering Department of the Western Electric Company, Research Engineer, 1911—; Director of Research, 1923—. Dr. Arnold has been in direct charge of the development of the vacuum tube for telephone repeaters and radio purposes, and also other items of telephone equipment.

G. W. ELMEN, B.S., University of Nebraska, 1902; M.A., 1904; Research Laboratories of the General Electric Company, 1904-06;

Engineering Department of the Western Electric Company, 1906—. One of Mr. Elmen's principal lines of work has been magnetic investigations.

CHARLES S. DEMAREST, E.E., University of Minnesota, 1911; American Telephone and Telegraph Company, Engineering Department, 1911-19; Department of Development and Research, 1919—. Mr. Demarest's work has been connected with the development of equipment for toll telephone systems, including that for long distance cables, carrier and radio systems.

H. W. NICHOLS, B.S., Armour Institute, 1908; E.E., 1911; M.S., Chicago, 1909; Ph.D., 1918; assistant professor electrical engineering, Armour, 1909-14; Engineering Department of Western Electric Company, 1914—. Since joining the research staff of the Western Electric Company, Dr. Nichols has been taking a leading part in the development of radio apparatus.

LLOYD ESPENSCHIED, Pratt Institute, 1909; United Wireless Telegraph Company as radio operator, summers, 1907-08; Telefunken Wireless Telegraph Company of America assistant engineer, 1909-10; American Telephone and Telegraph Company, Engineering Department and Department of Development and Research, 1910—. Took part in long distance radio telephone experiments from Washington to Hawaii and Paris, 1915; since then his work has been connected with the development of radio and carrier systems.