

## Contributors to this Issue

HERBERT E. IVES, B.S., University of Pennsylvania, 1905; Ph.D., Johns Hopkins, 1908; assistant and assistant physicist, Bureau of Standards, 1908-09; physicist, Nela Research Laboratory, Cleveland, 1909-12; physicist, United Gas Improvement Company, Philadelphia, 1912-18; U. S. Army Air Service, 1918-19; research engineer, Western Electric Company (Bell Telephone Laboratories), 1919 to date. Dr. Ives' work has had to do principally with the production, measurement and utilization of light.

J. W. HORTON, B.S., Massachusetts Institute of Technology, 1914; instructor in physics, 1914-16; Engineering Department of the Western Electric Company, 1916—. Mr. Horton has been closely connected with the development of apparatus for carrier current communication.

RALZEMOND D. PARKER, B.S., University of Michigan, 1905; M.S., 1906; instructor in Electrical Engineering, University of Michigan, 1906-09; assistant professor, 1909-13; Engineering Department, American Telephone and Telegraph Company, 1913-19; Department of Development and Research, 1919—. Mr. Parker's work has related particularly to telegraphy, included the development of printing telegraph apparatus, carrier, and metallic circuit systems for fine wire cables.

A. B. CLARK, B.E.E., University of Michigan, 1911; American Telephone and Telegraph Company, Engineering Department, 1911-19; Department of Development and Research, 1919—. Mr. Clark's work has been connected with toll telephone and telegraph systems.

H. W. NICHOLS, B.S., 1908, E.E., 1911, Armour Institute of Technology; M.S., 1909, Ph.D., 1918, University of Chicago; Assistant Professor of Electrical Engineering, Armour Institute of Technology, 1909-14; Engineering Department, Western Electric Company (Bell Telephone Laboratories), 1914—. Since 1916 Mr. Nichols has been in charge of the laboratories research in radio communication.

J. C. SCHELLENG, A.B., 1915; instructor in physics, Cornell University, 1915-18; Engineering Department, Western Electric Company (Bell Telephone Laboratories), 1919—. Since 1918, Mr. Schelleng has been engaged in research in radio communication.

T. C. SMITH, B.S., Purdue University, 1910; Plant Engineering, New York Telephone Company, 1910-14; engineering construction of high tension lines and municipal electric light plants, 1915; Outside Plant Engineering, New York Telephone Company, 1916-19; Automotive Engineering, New York Telephone Company, 1919-21; Automotive and Construction Apparatus Engineering, American Telephone and Telegraph Company, 1921—.

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.

KARL K. DARROW, S.B., University of Chicago, 1911; University of Paris, 1911-12; University of Berlin, 1912; Ph.D., in physics and mathematics, University of Chicago, 1917; Engineering Department, Western Electric Company, 1917-24; Bell Telephone Laboratories, Inc., 1925—. Mr. Darrow has been engaged largely in preparing studies and analyses of published research in various fields of physics.

SALLIE PERO MEAD, A.B., Barnard College, 1913; M.A., Columbia University, 1914; American Telephone and Telegraph Company, Engineering Department, 1915-19; Department of Development and Research, 1919—. Mrs. Mead's work has been of a mathematical character relating to telephone transmission.