

## Contributors to this Issue

W. R. BENNETT, B.S., Oregon State College, 1925; A.M., Columbia University, 1928. Bell Telephone Laboratories, 1925-. Mr. Bennett has been engaged in the study of the electrical transmission problems of communication.

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ARTHUR B. CRAWFORD, B.S. in Electrical Engineering, Ohio State University, 1928. Member of Technical Staff, Bell Telephone Laboratories, 1928-. Mr. Crawford has been engaged chiefly in work relative to radio communication by ultra-short waves.

CARL R. ENGLUND, B.S. in Chemical Engineering, University of South Dakota, 1909; University of Chicago, 1910-12; Professor of Physics and Geology, Western Maryland College, 1912-13; Laboratory Assistant, University of Michigan, 1913-14. Western Electric Company, 1914-25; Bell Telephone Laboratories, 1925-. As Radio Research Engineer Mr. Englund is engaged largely in experimental work in radio communication.

E. B. FERRELL, B.A., 1920; B.S. in Electrical Engineering, 1921; M.A., 1924; Instructor in Mathematics, University of Oklahoma, 1921-24. Bell Telephone Laboratories, 1925-. Mr. Ferrell has been engaged in research in connection with short wave and ultra-short wave transmitters.

WILLIAM W. MUMFORD, B.A., Willamette University, 1930. Bell Telephone Laboratories, 1930-. Mr. Mumford has been engaged in radio receiving work, chiefly on the problem of propagation and measurement in the ultra-short wave region.

JOHN RIORDAN, B.S., Sheffield Scientific School, Yale University, 1923. American Telephone and Telegraph Company, Department of Development and Research, 1926-. Mr. Riordan's work has been mainly on problems associated with inductive effects of electrified railways.

J. H. SCAFF, B.S.E., University of Michigan, 1929; Bell Telephone Laboratories, 1929-. As a member of the Chemical Laboratories, Mr. Scaff has been concerned chiefly with problems relating to the effect of gases on the properties of metals.

J. C. SCHELLENG, A.B., 1915; Instructor in Physics, Cornell University, 1915-18. Engineering Department, Western Electric Company, 1919-25; Bell Telephone Laboratories, 1925-. Mr. Schelleng has been engaged in research in radio communication and is now Radio Research Engineer.

E. E. SCHUMACHER, B.S., University of Michigan; Research Assistant in Chemistry, 1916-18. Engineering Department, Western Electric Company, 1918-25; Bell Telephone Laboratories, 1925-. Mr. Schumacher's work since coming with the Bell System has related largely to research studies on metals and alloys.

ERLING D. SUNDE, E.E., Technische Hochschule Darmstadt, 1926. American Telephone and Telegraph Company, Department of Development and Research, 1927-. Mr. Sunde's work has been mainly concerned with inductive effects of electric railways.