

**BULLETIN**  
OF THE  
**AMERICAN**  
**MATHEMATICAL SOCIETY**

EDITED BY  
DAVID R. CURTISS

EARLE R. HEDRICK

WILLIAM R. LONGLEY

WITH THE ASSISTANCE OF

HAROLD T. DAVIS

HARRY W. KUHN

THEOPHIL H. HILDEBRANDT

HENRY L. RIETZ

JOHN R. KLINE

PAUL A. SMITH

VOLUME XLIII, NUMBER 9

SEPTEMBER, 1937

PUBLISHED BY THE SOCIETY  
MENASHA, WIS., AND NEW YORK  
1937

---

Whole No. 456

\$9.00 a Year

PUBLISHED MONTHLY

Entered as second class matter April 24, 1926 at the post office at Menasha, Wis., under the act of August 24, 1912. Acceptance for mailing at the special rate of postage provided for in the act of February 28, 1925, embodied in paragraph 4, section 528, P. L. and R., authorized May 9, 1935.

## AMERICAN MATHEMATICAL SOCIETY

**Mail Address:** Low Memorial Library, 531 West 116th Street, New York, N.Y., for the Secretary, Treasurer, Librarian, and Office Manager.

**Office:** Room 302, Low Memorial Library, 531 West 116th Street, New York, N.Y.

**President:** Professor R. L. Moore, University of Texas, Austin, Tex.

**Secretary:** Dean R. G. D. Richardson, Brown University, Providence, R.I.

**Associate Secretaries:** Professor T. R. Hollcroft, Wells College, Aurora, N.Y.; Professor M. H. Ingraham, University of Wisconsin, Madison, Wis.; Dean T. M. Putnam, University of California, Berkeley, Calif.

**Treasurer:** Professor P. A. Smith, Barnard College in Columbia University, New York, N.Y.

**Librarian:** Professor R. C. Archibald, Brown University, Providence, R.I.

**Office Manager:** Miss Evelyn M. Hull, Low Memorial Library, 531 West 116th Street, New York, N.Y.

**Managing Editor of the Bulletin:** Professor D. R. Curtiss, Northwestern University, Evanston, Ill.

**Managing Editor of the Transactions:** Professor C. C. MacDuffee, University of Wisconsin, Madison, Wis. (Until July 1, 1938, Fine Hall, Princeton, N.J.)

**Chairman, Colloquium Editorial Committee:** Professor J. D. Tamarkin, Brown University, Providence, R.I.

**Managing Editor of the American Journal of Mathematics:** Professor Abraham Cohen, Johns Hopkins University, Baltimore, Md.

**Representatives of the Society in the Division of Physical Sciences of the National Research Council:** Dr. T. C. Fry, Professor Solomon Lefschetz, and Professor J. H. Van Vleck.

**Representatives on the Council of the American Association for the Advancement of Science:** Professors M. H. Ingraham and G. T. Whyburn.

**Chairman Committee on Arrangements for the Semicentennial:** Professor T. S. Fiske, Columbia University, New York, N.Y.