

JOURNAL OF THE SOCIETY OF MOTION PICTURE ENGINEERS

SYLVAN HARRIS, EDITOR

Board of Editors

J. I. CRABTREE, *Chairman*

A. N. GOLDSMITH

A. C. HARDY

T. E. SHEA

J. G. FRAYNE

L. A. JONES

G. E. MATTHEWS

A. C. DOWNES

E. W. KELLOGG

Subscription to non-members, \$8.00 per annum; to members, \$5.00 per annum, included in their annual membership dues; single copies, \$1.00. A discount on subscription or single copies of 15 per cent is allowed to accredited agencies. Order from the Society of Motion Picture Engineers, Inc., 20th and Northampton Sts., Easton, Pa., or Hotel Pennsylvania, New York, N. Y.

Published monthly at Easton, Pa., by the Society of Motion Picture Engineers.

Publication Office, 20th & Northampton Sts., Easton, Pa.

General and Editorial Office, Hotel Pennsylvania, New York, N. Y.

West Coast Office, Suite 226, Equitable Bldg., Hollywood, Calif.

Entered as second class matter January 15, 1930, at the Post Office at Easton, Pa., under the Act of March 3, 1879. Copyrighted, 1940, by the Society of Motion Picture Engineers, Inc.

Papers appearing in this Journal may be reprinted, abstracted, or abridged provided credit is given to the Journal of the Society of Motion Picture Engineers and to the author, or authors, of the papers in question. Exact reference as to the volume, number, and page of the Journal must be given. The Society is not responsible for statements made by authors.

OFFICERS OF THE SOCIETY

* *President:* E. A. WILLIFORD, 30 East 42nd St., New York, N. Y.

* *Past-President:* S. K. WOLF, RKO Building, New York, N. Y.

* *Executive Vice-President:* N. LEVINSON, Burbank, Calif.

** *Engineering Vice-President:* D. E. HYNDMAN, 350 Madison Ave., New York, N. Y.

* *Editorial Vice-President:* J. I. CRABTREE, Kodak Park, Rochester, N. Y.

** *Financial Vice-President:* A. S. DICKINSON, 28 W. 44th St., New York, N. Y.

* *Convention Vice-President:* W. C. KUNZMANN, Box 6087, Cleveland, Ohio.

* *Secretary:* J. FRANK, JR., 356 W. 44th St., New York, N. Y.

* *Treasurer:* R. O. STROCK, 35—11 35th St., Astoria, Long Island, N. Y.

GOVERNORS

* M. C. BATSEL, Front and Market Sts., Camden, N. J.

* J. A. DUBRAY, 1801 Larchmont Ave., Chicago, Ill.

** A. N. GOLDSMITH, 580 Fifth Ave., New York, N. Y.

** H. GRIFFIN, 90 Gold St., New York, N. Y.

* P. J. LARSEN, 29 S. Munn Ave., East Orange, N. J.

* L. L. RYDER, 5451 Marathon St., Hollywood, Calif.

** A. C. HARDY, Massachusetts Institute of Technology, Cambridge, Mass.

* H. G. TASKER, 5451 Marathon St., Hollywood, Calif.

* Term expires December 31, 1940.

** Term expires December 31, 1941.