Technology." Crystals of silver bromide, the light-sensitive salt used in most photographic emulsions, are reproduced in two of the panels. Below the inscription is engraved the year of the award. Above it is a small rectangular panel upon which is engraved a sensitometric curve, representing the classical researches of Hurter and Driffield, who laid down much of the fundamental theory regarding numerical specification of photographic emulsion characteristics. Sine waves, symbolic of sound and light, are embossed upon two curved panels to the left and right of the central pyramid. In a slightly inclined panel surrounding almost the entire outer edge, the name of the Society appears in embossed letters.

Current Literature

IN RECENT ISSUES of the *Philips Technical Review*, there have appeared articles which should prove of great interest to the motion picture engineer. The summary of one of these papers is given below.—THE EDITOR

PROBLEMS IN PHOTOGRAPHIC REPRODUCTION, IN PARTICULAR OF SOUND FILMS

BY C. J. DIPPEL AND K. J. KEUNING

The resolving power of a film made by the usual photographic methods is limited by the circle of diffusion formed by the grains of the film. Consequently in order to get sharp pictures on the projection screen the images on the film must be of a certain minimum size. If the film carries a sound track and the speed of the projected film is fixed, then, in spite of a so-called cancellation method being applied when recording and copying, this limited resolving power results in a loss in the amplitude of high frequencies. In order to counteract the circle of diffusion it is desirable that the film should have a high gamma, of say 4 or 5. For picture reproduction, however, Goldberg's rule prescribes a gamma in the neighborhood of 1 or 2. The compromise that has to be reached when a picture film and a sound track have to be copied on a single film by the usual methods makes its influence felt throughout the whole of the present-day technique of cinematography.

A much simpler and less expensive solution of the problem of copying sound films is offered by a new method of photographic reproduction that was developed in the Philips laboratories during the war. This method is based on the use of a diazonium compound combined with a mercury salt. The most striking features of this method are the extremely high resolving power (1000 lines per millimeter) and the locally variable gamma (between, e. g., 1 and 8). A more detailed description of this method and its possibilities of application will be given in another article to be published in this journal shortly. (*From Volume 9, Number 3*)