ABSTRACTS

The Editorial Office will welcome contributions of abstracts and book reviews from members and subscribers. Contributors to this section are urged to give correct and complete details regarding the reference. Items which should be included in abstracts are:

Title of article
Name of author as it appears on the article
Name of periodical and volume number
Date and number of issue
Page on which the reference is to be found

In book reviews, the following data should be given:

Title of book
Name of author as it appears on the title page
Name of publishing company
Date of publication
Edition
Number of pages and number of illustrations

The customary practice of initialing abstracts and reviews will be followed. Contributors to this issue are as follows: G. L. Chanier, E. M. Lowry, E. E. Richardson, Clifton Tuttle, and the Monthly Abstract Bulletin of the Kodak Research Laboratories.

Recording Sound on Disk. NUGENT H. SLAUGHTER. *Projection Eng.*, **2**, August, 1930, p. 7. A description is given of the various steps in the making of sound records: shaving of the wax disk, electrical recording of the sound, making of the matrix and finished disks. The electrical characteristics of the recorder and the reproducer are then considered, and there are a few words on the cutting of the picture. G. L. C.

Sound Recording Tubes. J. B. ZETKA. *Projection Eng.*, **2**, July, 1930, p. 7. A description of a new glow lamp for variable density recording of sound on film and a discussion of the electrical characteristics of the lamp. E. E. R.

Kahn Completes New Sixteen Millimeter Sound Camera Mechanism. *Mot. Pict. News*, **41**, June 28, 1930, Section 1, p. 45. Announcement is made of an amateur standard sound-on-film portable camera and projector. The device may also be used for slow motion photography at 100 pictures per second. It is planned to manufacture the camera and sell it with a small microphone and amplifier.—*Kodak Abstr. Bull.*

Tone Compensator. *Ex. Herald World*, **100**, July 5, 1930, Section 1, p. 26. An announcement is made of an invention for improvement in controlling the input in recording sound pictures. Certain frequencies may be cut down or built up and stray noises may be eliminated. No technical details are given. The invention is credited to J. Aceves, an engineer, assistant to Prof. M. I. Pupin of Columbia University.—*Kodak Abstr. Bull.*

Accurate Check for Recorder Lights. *Cinematography*, 1, July, 1930, p. 16. A photo-electric cell is so mounted that it can be adjusted easily on the side of the recorder in a position in line with a reflected image of the light valve. Readings of the reaction of the valve illumination on the cell are taken by means of a meter connected up with a tube amplifier. A microscope fitting permits the recorder to view the light valve after it is in place and make final adjustments if necessary. A similar apparatus has also been used in projection rooms for focusing light slits.—*Kodak Abstr. Bull.*

New Sound Head. *Ex. Herald World*, 99, April 12, 1930, Section 2, p. 62. The head amplifier is built on a chassis with all integral parts enclosed. The cradle support for the amplifier is designed to filter out mechanical vibration regardless of projection pitch. A pre-focused exciter lamp is a feature of the equipment.—*Kodak Abstr. Bull.*

RCA "Type G" Reproducing Equipment. *Mot. Pict. Projectionist*, 3, March, 1930, p. 16. "Type G" sound reproducing equipment was developed for the smaller theater and embodies many advances in the design of sound picture equipment. All power for the "Type G" equipment is provided by a three-unit motor generator set. The equipment has been supplied with sound heads for either Powers 6B projectors or Simplex projectors. A new type gate, known as the "impedance" gate, has been substituted and the viscous damping device has been removed. The optical system has been simplified while the disk mechanism differs considerably from that used in the standard Photophone disk attachment.—*Kodak Abstr. Bull.*

Modern Methods of Sound Reproduction in Kinematography. A. KOSSOWSKY. *Phot. J.*, 70, September, 1930, p. 420. The author begins with a review of the pioneering work in talking pictures from 1870 to date. This is followed by a mention of various types of microphones, and a short reference to amplifiers. All the other problems of sound pictures are then taken up from stage to screen: recording, variable area and variable density methods, emulsion characteristics, sound-proofing the camera, recording on disks, reproduction in the theaters, taking the pictures, scene design, acting technic, and difficulties due to musical instruments and the human voice. G. L. C.

Movie Camera as an Aid in Testing. *Sci. Amer.*, 143, August, 1930, p. 136. In engineering tests it is often necessary to take simultaneously the reading of a number of meters. Several men are employed making it often difficult to co-ordinate the results, especially if the tests extend over a period of hours with frequent readings. Mr. L. B. Woodworth, a mechanical and electrical engineer of South Africa, advocates the use of a motion picture camera to register the readings. G. L. C.

Optical Principles of the Bifocal Lens. B. ROSE. *Mot. Pict. Projectionist*, 3, March, 1930, p. 31. A diagram shows a cross-section of the lens with patent specifications. The basic principles of the optical system are discussed and the characteristics noted. It is claimed that this bifocal projection lens is of high speed and is critically sharp for both focal lengths. Its effective aperture is said to be $f/2.5$.—*Kodak Abstr. Bull.*

Limitations of Modern Lenses. *Cinematography*, 1, May, 1930, p. 9. A report is given of a paper by Warmisham, presented before the London Section of the Society of Motion Picture Engineers. Even with lenses brought to the

best state of chromatic correctness, a secondary spectrum exists as an inherent result of the use of glass. Large aperture lenses were designed and introduced before the trade demanded them. The speaker predicted that an optical system will be produced in the near future for sound-on-film reproduction which will allow the omission of one stage of amplification and reduce electrical distortion. Finders are expected to be worked out which will give continuous survey of the film during exposure in the camera.—*Kodak Abstr. Bull.*

H. & C. Wide Film High Intensity Lamp. T. HALL. *Mot. Pict. Projectionist,* **3,** April, 1930, p. 21. The author describes a new projection lamp developed for use on wide film installations. The lamp is rated at 120 to 225 amperes. In order to stand up under this high current with its attendant high temperatures, the design of the lamps departs somewhat from standard lamp designs. The increase in illumination over present systems is said to be 45 to 50 per cent.—*Kodak Abstr. Bull.*

Effect of Colored Motion Pictures on the Eyes. D. LEVINSON. *Mot. Pict. Projectionist,* **3,** June, 1930, p. 38. The effect of concentration upon the same colors, red, green, and their complements, for long periods of time tends to produce eye strain and make those colors monotonous. Another source of eye strain is the effort required to make out the details of the picture.—*Kodak Abstr. Bull.*

The Application of Photography in Explosives Research. W. PAYMAN. *Phot. J.,* **70,** September, 1930, p. 409. This is a résumé of a lecture on the taking of pictures of rapidly moving phenomena, very often invisible, as pressure waves through the air. The pictures are taken on a film wrapped around a drum rotating at a high speed. The source of illumination is a powerful mirror arc lamp. The photographs constitute really a "photographic time-distance graph." Mention is made of the method called Schlieren photography in which the illumination is given by a very actinic electric spark of extremely short duration.

G. L. C.