

## ABSTRACTS

**Undersea Photography with an Eyemo.** ALFRED L. GILKS. *Amer. Cinematographer*, 12, October, 1931, p. 9. A camera case has been developed for underwater cinematography which makes the practical advantages of the hand camera available in this special type of work. It allows all the usual adjustments such as focusing, winding, and sighting to be made under water. Reloading is the only operation for which the outfit must be taken to the surface, and even this may be done quickly, due to the construction of the casing. The fogging of exposure ports has been overcome by filling the case with chemically dried air. The refraction effect of the water requires specially calibrated focusing dials which are adjusted by tests under actual operating conditions. A submarine camera of this type accompanies the Vanderbilt Oceanographic Expedition.

A. A. C.

**Trans Lux Rear Stage Projection.** WILLIAM MAYER. *Mot. Pict. Projectionist*, IV, October, 1931, p. 13. A short description is given of the projection room arrangement used in Trans Lux houses. The projection distance is eight feet, and the picture eight and one-half feet wide. Two projectors are placed as close together as possible behind the center of the screen, inclined each at a  $22\frac{1}{2}$ -degree angle on opposite sides of the screen centerline. A reflector is used in the lens system for reversing the image, so that projectors and sound heads are threaded in the usual way. The loud speaker baffles are located below and close to the bottom of the screen, an arrangement which is said to produce good sound illusion. The chief advantages of rear projection claimed are: cheaper, more compact theater construction; lessened fire hazard, and the possibility of a comfortable level of illumination in the auditorium.

A. A. C.

**Sound Motion Pictures and Education.** GORDON S. MITCHELL. *Proj. Eng.*, 3, October, 1931, p. 7. The growing interest in the use of sound motion pictures in schools is emphasized in this article. It cites as evidence the attention paid to this method of instruction at the recent Los Angeles convention of the National Education Association and the report of Federal Commissioner Cooper on tests designed to determine the absolute value of the sound picture in educational work. There follows a discussion of the projection equipment necessary for showing the educational picture, concluding with the opinion that all branches of the motion picture industry should prepare for the opening of this new field of activity.

A. A. C.

**Study of a Pick-Up Arm.** A. LOVICKI. *Technique Cinemat.*, 2, August, 1931, p. 9. In the usual form of needle mounting on a sound record pick-up arm, the angle made by the needle with the tangent to the record groove at the point of contact varies considerably from start to finish of the record. It is proposed that the needle be mounted at an angle to the axis of the arm, and the length of the arm be changed so that the direction of the needle will be nearly tangent to the groove at all points throughout the playing of the record.

C. E. I.

**Ventilating of Rooms.** G. LYON. *Technique Cinemat.*, 2, August, 1931, p. 3. The author describes a number of experiments made with rabbits which indicate that the air in a confined space becomes poisonous due to accumulation of toxic substances given off in breathing. It is shown that the effects noticed are not due to increase in carbon dioxide content or diminution of oxygen. The toxic substances can be destroyed by the admixture of ozone to the air in a circulation system. The purified, filtered and humidified (or dehumidified) air from the recirculation system should be led into the room under the chairs and removed at the ceiling so as to effect a steady replacement with a minimum of mixing.

C. E. I.

**Askania Model "Z" and 4-Cassette Cameras Made for the Geyer Company in Berlin.** *Filmtechnik*, 7, August 22, 1931, p. 1. Several improvements in the mechanism have been made in the model "Z" to make it more silent running. The film channel and optical system have also been changed to minimize the danger of the film plane-to-lens distance becoming changed by mechanical injury.

The 4-cassette camera is, in principle, the same as the model "Z" but it has four cassettes, one on each side of the drive. Those on the right, looking forward, are the feeding cassettes, while those on the left are the take-up cassettes. In making pictures by the Dunning process, the back cassettes contain a yellow-dyed positive film which lies in the film window in front of the unexposed negative, which is contained in the front cassettes. In color photography, the negative film carrying the filter is placed in the back cassettes.

Askania has also a new device for making exposures at intervals varying from 20 seconds to 10 hours. The above pieces of apparatus were shown for the first time at the exhibition in connection with the Eighth International Congress of Photography at Dresden.

W. C.

**Development of Cinemicrography.** H. LINKE. *Filmtechnik*, 7, June 27, 1931, p. 1. The author surveys the best-known outfits for cinemicrography, and describes the Askania apparatus in detail. In this assembly, the microscope, the camera, and the light source are mounted on independent supports. A 55-ampere, self-regulating arc is used, and the appliances available render it possible to cover a range of exposure frequencies from 100 a second to one every 10 hours.

W. C.

**The Application of the Motion Picture to the Problem of the Rising Cost of Education.** B. A. AUGHINBAUGH. *Educat. Screen*, 10, September, 1931, p. 193. The greater masses of children attending school, the rising age limit before leaving school, and the better equipment and broader curricula of modern schools, all make the rising costs of education inevitable under the present system. The American public must either cease complaining and pay these costs or "find some way for imparting this mass education by mass production methods." Motion pictures represent a new system for imparting knowledge that is more efficient than words and reading. The cinema is both quicker and more accurate

R. P. L.

**The History of Motion Pictures.** E. LEHMANN. *Kinotechnik*, 13, July 5, 1931, p. 223. The early history of motion picture developments in America, England, France, and Germany is reviewed and the rival claims to the invention

of motion pictures are considered. It is concluded that the question of the time of the inventions is, of itself, superficial. It appears most important to the author to determine the ones to whom credit is due for the ideas and constructions in the forms which are decisive for the development of modern motion picture practice. These are, in his opinion: Marey, with the entire camera technic; Edison, with his perforated film; Demeny, with his intermittent movement and take-up spool; the Lumières, with the pull-down movement and their entire construction of apparatus; and Continsouza, with the tangential Maltese cross. It is thought impossible to credit any one person with the invention of motion pictures. M. W. S.

**The Breaking of Condenser Lenses.** K. MARTIN. *Kinotechnik*, 13, July 5, 1931, p. 228. The cause of breakage of large condenser lenses with sudden changes of temperature is thought to have been traced to minute chips on the ground edges of the lenses. It is claimed that the difficulty was largely overcome by polishing the edges as well as the surfaces of the lenses. M. W. S.

**New Light on Color Problems.** T. T. BAKER. *Kinemat. Weekly*, 176, October 1, 1931, p. 59. The author deals briefly with several aspects of natural color cinematography. Recent developments have shown that proper color rendering may be obtained with spectrum divisions other than the conventional three primaries, blue-violet, green, and orange, and that the filters may be lighter than theoretical provided the exposure is adjusted so that only the desired band is registered on the negative. Ordinarily, gradation varies with the wavelength of the exposing light, but experiments have shown that a suitable ratio of gelatin to silver in the emulsion can bring about an equality of gradation for all wavelengths, provided development is carried to completion. H. P.

**Camera Cover Reduces Bulk.** *Mot. Pict. Daily*, 30, September 15, 1931, p. 40. A cast duralumin sound camera housing which is evacuated when in use has been designed by a Hollywood technician. Microphones may be placed within two feet of the camera without recording any sounds from the movement. Such insulating materials as sponge rubber, fiber, asbestos wool, etc., are said to be unnecessary with this new type of camera "blimp." G. E. M.

**New Sound Printing Device from Bell and Howell.** *Mot. Pict. Herald*, 104, September 5, 1931, p. 42. Five apertures are cut in a 220-degree drum and indexed to facilitate quick operation by withdrawing a pin and moving a lever. The five apertures consist of one full opening, and one opening each for sound and picture printing, for either forward or reverse movement of film through the printer. G. E. M.

**New RCA Portable Projector.** *Mot. Pict. Herald*, 104, September 5, 1931, p. 47. The unit consists of a projector, amplifier, loud speaker, and a film-carrying case, having an aggregate weight of 200 pounds. The speaker is of the flat baffle type, and fits in a case, 8½ by 19 by 14½ inches in size. Adequate reproduction is possible for a room of 75,000-cu. ft. content with this 8-inch directional baffle. For smaller rooms, of not more than 12,000 cu. ft. capacity, a 6-inch dynamic cone speaker is supplied. An 8- by 10-ft. picture is obtained with a 75-ft. throw. The apparatus is operated on 105 to 125 volts a-c. A 1000-ft. standard reel is accommodated on the projector. G. E. M.

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