

Obituary

Ervin R. Geib, nationally recognized authority on arc carbons, died December 7, 1961, at the age of 70. He had retired in February 1958 from his post as manager of carbon arc sales for National Carbon Company, Division of Union Carbide Corp. He had spent more than half a century with that same firm, his career beginning in 1907 when he obtained the job of office boy. A Fellow of the Society, he had been a member since 1927 and for many years took an active part in Society affairs. His professional publications include a number of papers in the *Journal* and earlier contributions to the *Transactions*. Following his retirement, a Biographical Note, describing his career and Society activities, was published in the *Journal* in the July 1958 issue (p. 500).

Abstracts

Abstracts from other Journals, chosen for importance and timeliness, are published in the *Journal* from time to time. The greater number of these abstracts are translations, chiefly from the U.S.S.R., and made available by the Research Laboratories of Eastman Kodak Company.

The subject areas are grouped below

- Cameras and Equipment (Except High-Speed)
- Color Photography and Color Development
- Film and Its Properties
- Film Processing (Apparatus and Chemicals)
- High-Speed Photography and Instrumentation

CAMERAS AND EQUIPMENT (Except High-Speed)

Optical Viewfinders for Motion-Picture Cameras (in Russian), F. S. Novik, *Tekh. Kino i Televideniya*, 5: 24-31, Dec. 1961.

Descriptions are given of the optical systems of a number of Soviet-designed viewfinders for motion-picture cameras for normal, wide-screen, panoramic and wide-film cinematography.

An Improvement in the Light-Splitting System of the TsKS Motion-Picture Camera (in Russian), Ya. L. Leibov, B. P. Dudov and L. I. Shalaev, *Tekh. Kino i Televideniya*, 5: 77-80, Oct. 1961.

The TsKS motion-picture camera, a Soviet beam-splitting camera for imbibition color systems and also used for traveling matte work, employs a cube made from two rectangular prisms as a beam-splitting device, the surface of contact of the prisms acting as a partial mirror. In order to overcome the light loss inherent in such a system, the block is replaced by a suitably chosen interference mirror inclined at an angle of 45° to the optical axis.—S.C.G.

An Equal-Scale Test Object in Depth (in Russian), I. M. Mogilevskii, *Tekh. Kino i Televideniya*, 5: 62-65, Nov. 1961.

For adjusting the focus of ciné cameras, a three-dimensional test object has been made which consists of a series of planar test objects with a grid of black and white lines, arranged one behind the other, the whole set being placed at an angle to the optical axis of the objective. The distance between the lines of the test object varies in each plane in such a way that all the line separations in the final image are equal. The geometry of the system is explained.—M.B.K.

Double-Film Camera, Bem Zigfrid, Skol'yaude Genrikh, Yurents Rol'f, Iemlikh Gerd, Avt. sv. SSSR, cl. 57a, 22/01, No. 130341, 15.07.60. *Referat. Zhur.*, Machine Construction, VII, Precision Mechanics and Optics.

Proposes of 2-film photographic camera in which the taking objective is used as an optical viewfinder and in which each film has its own focal plane shutter running perpendicular to the optical axis. The lens image field is established on the optical axis behind a reflecting mirror which diverts the light transmitted by the lens to the films. An uninverted magnified image from the taking objective is secured by mounting in the image space a reversing system consisting of a triple roof prism dividing the air spaces. A system of levers and curvilinear guides is used in the camera to cock and block alternately the shutters and interspace levers for blocking the uncoupling mechanism in order to preclude either skipping, or multiple-exposed, frames.



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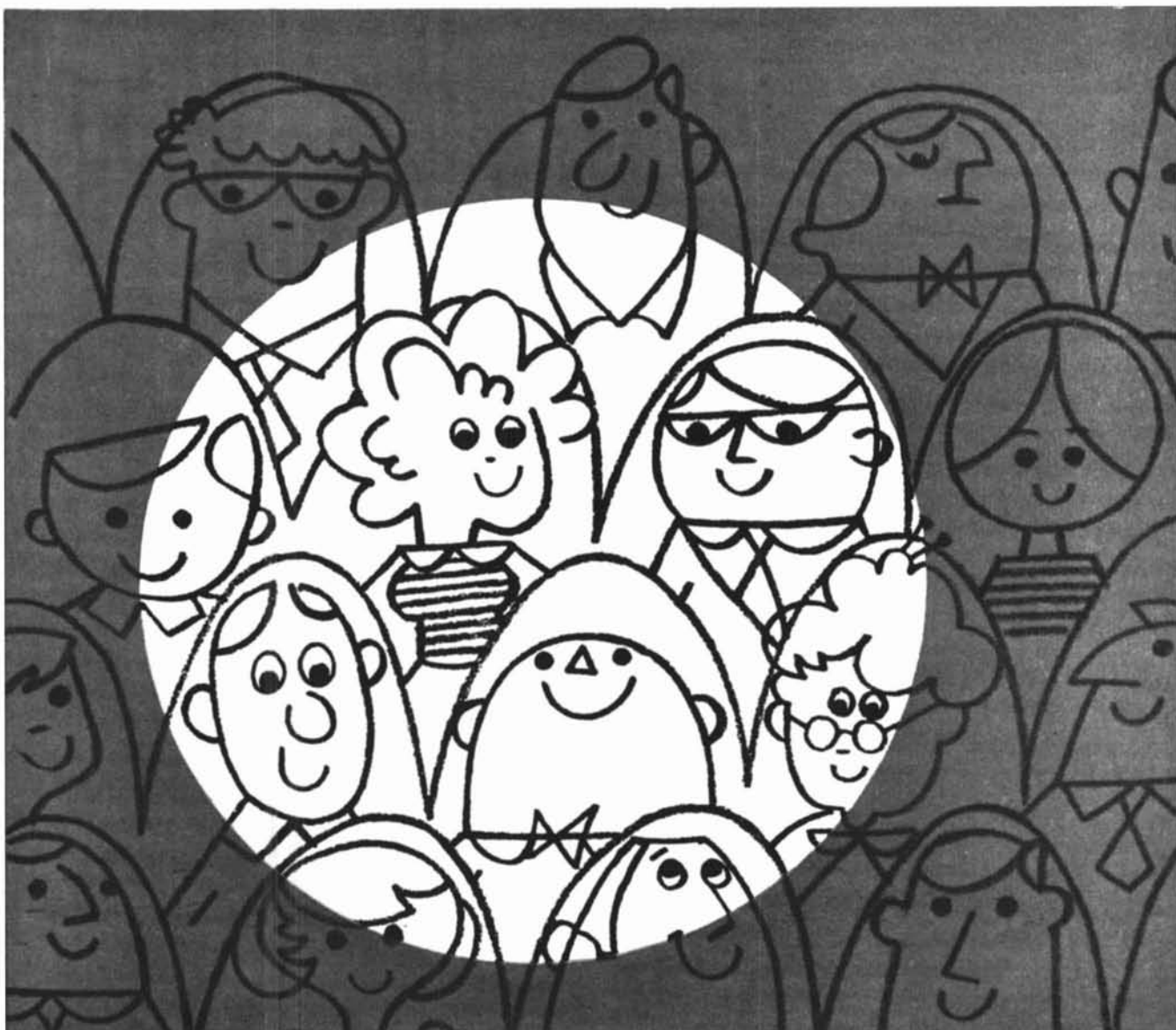
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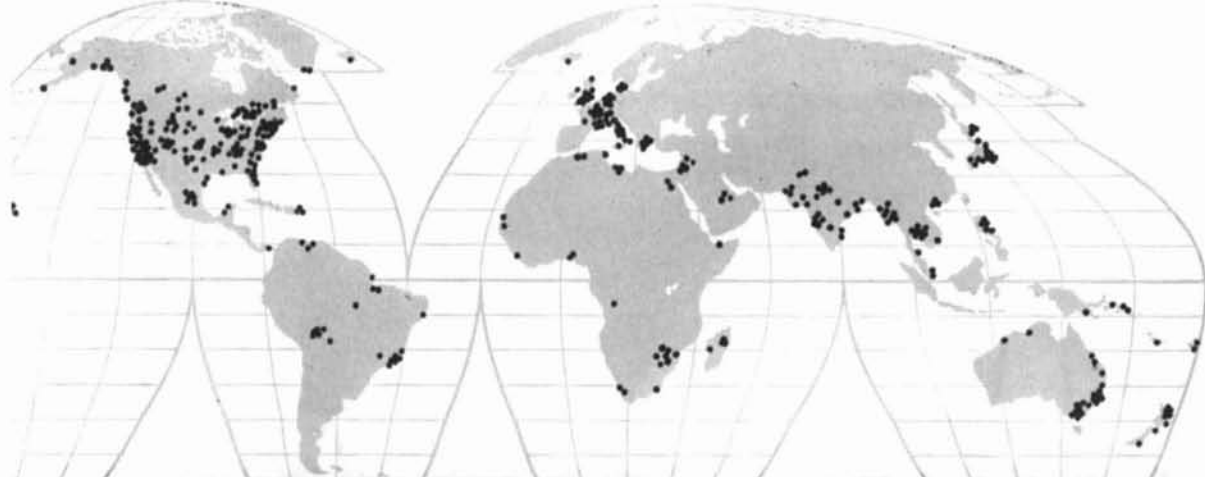
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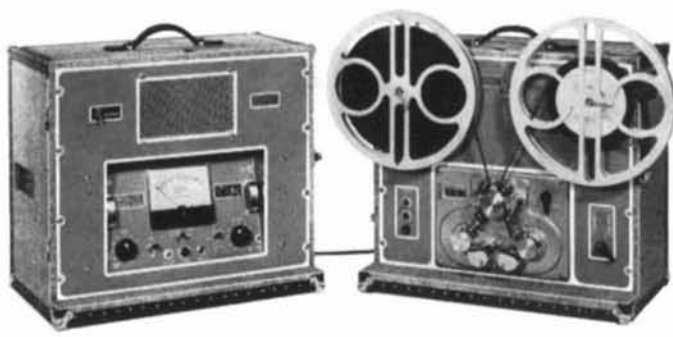
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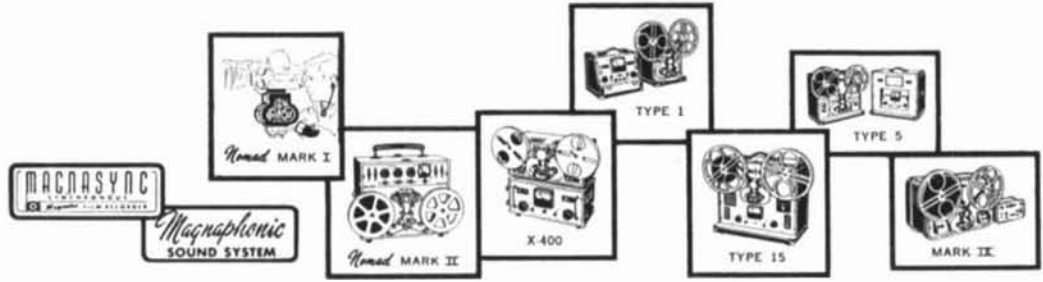
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Shutter for Ciné Equipment, S. I. Nikitin, Avt. sv. SSSR, cl. 57a, 44/01 No. 132067, 20.09.60, 20 Zh 113. Patent. *Referat. Zhur.*

Proposes a ciné shutter consisting of movable and immovable sectors and a gear train. The possibility of spontaneous change of exposing the aperture of the moving sector is excluded by the use of an immovable disc with diametrically disposed, rigidly reinforced gears.

COLOR PHOTOGRAPHY AND COLOR DEVELOPMENT

The Influence of Sulfite on the Activity of Color Couplers and Dye Yields in Color Development (in Russian), V. I. Uspenskiy, N. I. Rodionova and V. S. Chel'tsov, *Zhur. Nauch. i Priklad. Fot. i Kinemat.*, 6: 358-362, No. 5, Sept.-Oct. 1961.

Sulfite in color developers has a depressing influence on the yield of dye because it competes with the coupler for the oxidation products of the developer. Experiments have shown the influence of sulfite concentration on the dye yields of a number of couplers: pyrazole-*tert*-one derivatives as magenta couplers, 1 hydroxy-2-naphthoic acids as cyan couplers and a pyrazole-5-one derivative as a magenta masking coupler. These couplers were incorporated at 10 g/l of emulsion. After exposure in a sensitometer, the strips were developed for 6 min with a diethyl-*p*-phenylene-diamine developer containing additions of sodium

sulfite up to 100 g/l. The strips were cut in half; on one half the silver density was measured and on the other the print density of the dye image. Plotting the silver against the dye density gave straight lines, from the slope of which the effective yield of dye could be estimated. The ratio of silver to dye density was plotted against the log concentration of the sulfite in the developer. The slopes of these lines could be taken to represent the activity of the couplers, since they gave an indication of the ability of the coupler to compete with sulfite for the oxidation products of the developer. From the results it could be concluded that those couplers in which active hydrogen at condensation sites was replaced by sulfo- or an arylazo group were particularly sensitive to increase in sulfite content.

FILM AND ITS PROPERTIES

The Possibility of Using Cinematography for Examining Nuclear Emulsions (in Russian), M. M. Vargina, F. G. Lepekhnin and R. M. Raguzin, *Optiko-Mekh. Prom.*, No. 3, 17-20, 1961; *Tekh. Kino i Televizeniya*, 5: 92, Oct. 1961.

The advantages in using an intermediate filming of objects in thin layers of emulsion are pointed out. The basic variables determining the time of visual examination and the basic factors determining the general time of examination of the emulsion block by cinematography are dealt with. It is shown that the building of a special examining microscope on the basis of the

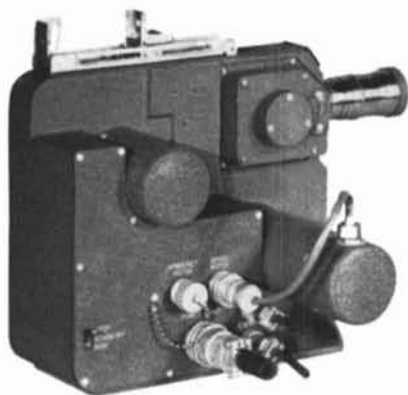
existing apparatus makes possible a considerable shortening of time in examining nuclear emulsions by cinemicrography.—S.C.G. (Translated from *Tekh. Kino i Televizeniya*.)

Film Analyzers in Research Cinematography (in Russian), O. V. Peschanskii, *Tekh. Kino i Televizeniya*, 5: 66-69, Oct. 1961.

An analyzer for research purposes is essentially a ciné-projector with a range of projection speeds, film transport in either direction, single-frame devices, counting devices and means of projecting measuring grids onto the screen. Two types available in the Soviet Union, the KD-3 and KDU, are for use with 35 and 16mm films. It also has facilities for printing frames from the films, with a range of enlargements.—S.C.G.

Studying the Wear of Release Prints During Film Runs (in Russian), F. S. Sherman and I. M. Fridman, *Trudy Vsesoyuz. Nauch.-Issled. Kinofotoinst.*, 3 (26): 17-26, 1958.

Wear of the surfaces of film prints heavier than the wear of perforation bridges was determined. This fact was the basis for changing the nature of evaluation of defects and the principle of determining the technical state of film prints. Analysis of dynamics of the mechanical wear of films lent by the Film Fund made it possible to determine the best methods for restoring and processing film prints for a longer life.



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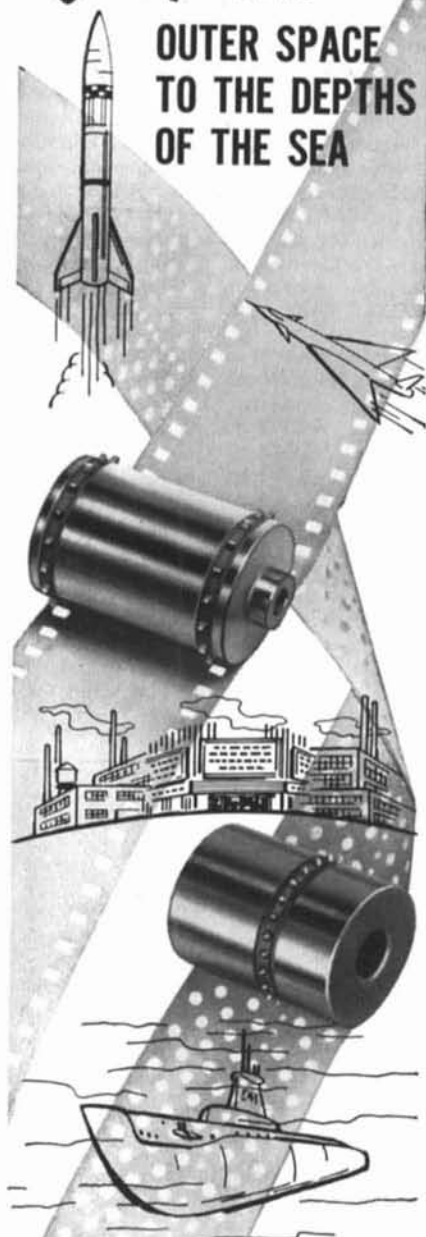
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FILM PROCESSING APPARATUS AND CHEMICALS

Synthetic Washing Materials Used for Restoring Films (in Russian), F. S. Sherman and M. D. Generalova, *Trudy Vsesoyuz. Nauch.-Issled. Kinofotoinst.*, 3(26): 37-42, 1958.

The products tested were: (1) soap flakes, (2) a mixture of sodium salts of sulfoesters of high molecular fatty acids, (3) propylene sulfanole, (4) wetting agent No. 104 and (5) preparation OP-10, which is a derivative of polyethyleneglycol esters with hydrophobic alkyl and hydrophelic polyethylene radicals. The best general quality of restoration of the surface of photographic emulsions was obtained with solutions of compounds (2), (5) and water. The concentration of these compounds in the solution is not important. Compounds (2) and (5) gave the best results in removal of grease spots. However, grease could not be removed completely from color films. Processing of films with synthetic washing agents (2) and (5) has no effect on the stability of dyes of the color image when motion-picture films are stored, and consequently these compounds can be used for washing both black-and-white and color films.—C.A.B.

Reduction of Shrinkage of a Film During Photographic Processing (in Russian), G. I. Belinskaya and M. S. Motova, *Zhur. Nauch. i Priklad. Fot. i Kinemat.*, 6: 448, No. 6, Nov.-Dec. 1961.

A method of shrink-proofing photographic film before exposure consists in twice swelling the film in water at 15 to 20°, with rapid drying in a vacuum or by means of alcohol. Tests of the method with a Soviet panchromatic film showed that apart from a rise in speed, it has little effect on the photographic properties of the emulsion.—S.C.G.

On the Development of Scientific Research Work in Motion-Picture Technique, Photographic Materials and Processes (in Russian; extensive English abstract), *Tekh. Kino i Televideniya*, No. 8, 1-7, 1960. EA VI, 3/62.

This article reviews the most important scientific research work carried out by Soviet establishments from June, 1959, to July, 1960, in motion-picture technique, photographic materials and processes. For this project, a new processing technique and a special equipment using a 35mm film were developed.

HIGH-SPEED PHOTOGRAPHY AND INSTRUMENTATION

Method of Optical Compensation of a Linear Displacement of the Image in Strip Photography (in Russian), I. I. Yukhin, *Izvest. Vysshikh. Ucheb. Zavedenii, Min. Vys. Sred. Spets. Obraz. SSSR, Razdel Geod. Aerofot.* No. 3, 127-138, 1961. (No. 5)

The theory of angular optical compensation of the linear displacement of the image in strip photography is examined, and a kinematic scheme of compensation with a mirror and some calculation of its kinematic elements, in principle, given for

one of the possible schemes of a panoramic aerial photographic camera.—C.A.B.

The Use of High-Speed Cinematography in Scientific Research (in Russian), A. A. Sakharov, *Tekh. Kino i Televideniya*, 5: 39-50, Dec. 1961.

The different types of high-speed camera available in the Soviet Union are described and their main features are tabulated. A number of individual researches in which high-speed cameras have been used with success are then reported, including problems in the production and working of metals, the operation of machines and mechanisms, hydrodynamics and fluid kinetics, aerodynamics, solid-state physics and electrical phenomena and processes.

The Determination of the Optimal Frame Frequency for High-Speed Cinematography (in Russian), V. I. Lavrent'ev and S. P. Podval'nyi, *Zhur. Nauch. i Priklad. Fot. i Kinemat.*, 6: No. 5, 349-352, Sept.-Oct. 1961.

A method of calculating frame frequency for high-speed cinematography of mechanical movements with cameras with optical compensation and rotating disk shutters have been worked out. The method of calculation gives optimum results since it satisfies the conditions of visual evaluation and measurement of the image.—S.C.G.

Breakdown of Very Strong Heat-Treated Glass (in Russian), V. M. Finkel' and I. A. Kutkin, *Doklady Akad. Nauk SSSR*, 142: No. 1, 75-76, 1962. (No. 94)

High-speed motion pictures were used for studying the kinetics of destruction of heat-treated glass. Five motion-picture frames, exposed with a rate of 120,000 frames/sec, show a sheet of stalinite, 6 mm in thickness, supported on two sharp edges along the length of the sheet, undergoing traumatic test.—C.A.B.

Camera for High-Speed Cinematography on 70mm Motion-Picture Film (in Russian), *Tekh. Kino i Televideniya*, 5: 34, Oct. 1961.

A brief description is given of the 70-KSK camera made in Moscow for cinematography at a frequency of 80 frames/sec. It is intended in the first place for cinematography of small-scale models. It embodies a pull-down mechanism of original design from the NIKFI Laboratories.—S.C.G.

Problems in the Theory of Mirror Scanning with Inclined Mirrors and Inclined Beams (in Russian), A. S. Dubovik, *Zhur. Nauch. i Priklad. Fot. i Kinemat.* 6: No. 5, 377-381, Sept.-Oct. 1961.

In the construction of a number of devices for high-speed cinematography with systems with mirror scanning, use is often made of inclined mirrors, the reflecting surfaces of which are not parallel to their axes of rotation, and the beams of light are similarly inclined. A mathematical analysis of this type of system is developed.—S.C.G.

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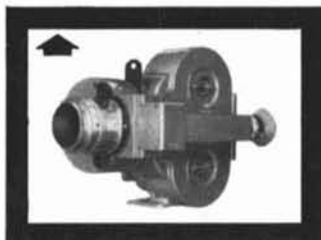
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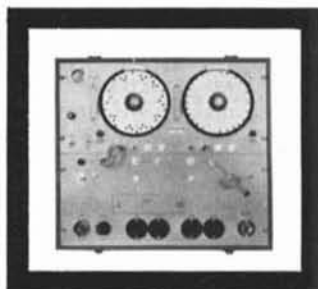
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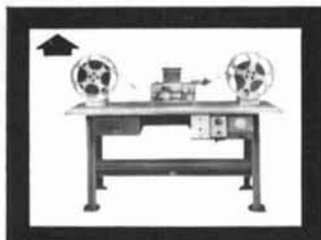
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