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JANUARY
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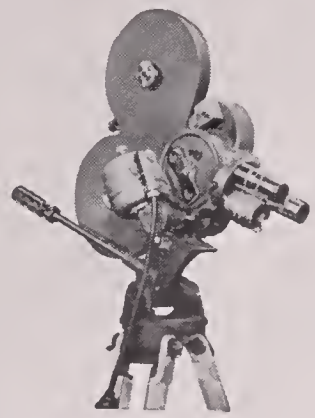

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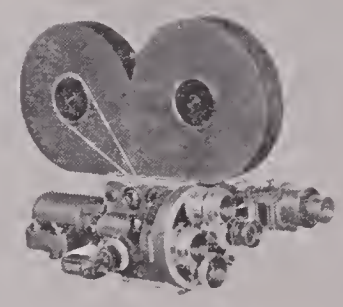

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ON THE COVER

DIRECTOR of photography James Wong Howe, A.S.C — in dark polo shirt, lower left — has set up his camera on a parallel in midst of pool of Long Beach (Calif.) Municipal Plunge for an important scene in Roberts Productions' "He Ran All The Way," starring John Garfield and Shelly Winters. As camera starts to roll, director John Berry explains action to Garfield. For another scene in pool, cameraman Howe donned swim trunks, shot underwater with a hand camera in a plastic bag.—*Photo by Hal McAlpin.*

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★

AMERICAN SOCIETY OF CINEMATOGRAPHERS

FOUNDED January 8, 1919, The American Society of Cinematographers is composed of the leading directors of photography in the Hollywood motion picture studios. Its membership also includes non-resident cinematographers and cinematographers in foreign lands. Membership is by invitation only.

The Society meets regularly once a month at its clubhouse at 1782 North Orange Drive, in the heart of Hollywood. On November 1, 1920, the Society established its monthly publication "American Cinematographer" which it continues to sponsor and which is now circulated in 62 countries throughout the world.

Dominant aims of the Society are to bring into close confederation and cooperation all leaders in the cinematographic art and science and to strive for pre-eminence in artistic perfection and scientific knowledge of the art.

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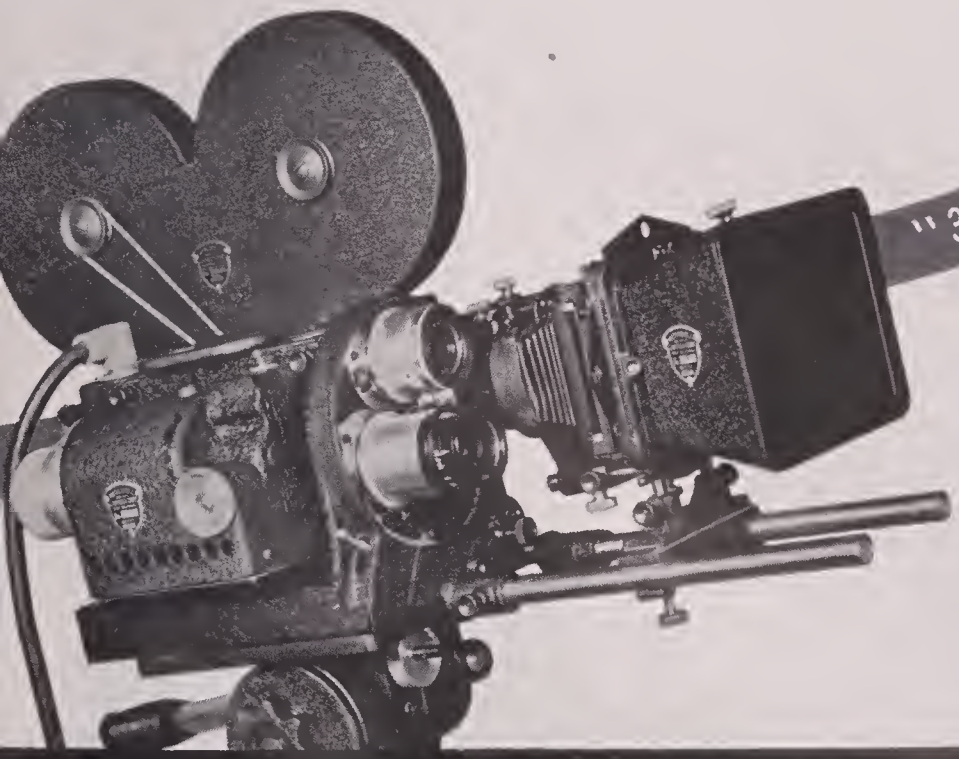

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Hollywood
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HARRY STRADLING, A. S. C., whose photography of Samuel Goldwyn's "Edge of Doom" has won for him the American Society of Cinematographer's Picture Of The Month award for October. "Edge of Doom" is Stradling's first picture for Goldwyn who early last year signed him for his exclusive services, to succeed the late Gregg Toland. Stradling moved to Goldwyn's from MGM where he had been one of that studio's top directors of photography since 1941.

Nomination ballots for voting on 1950 Academy Awards will be mailed January 18, with January 27th the date set by the Academy for closing the nomination polls. The awards nominations in all categories will be announced in the press February 13. Nominees in the Cinematography Division will be announced in the March issue of *American Cinematographer*. Screening of nominated pictures will be held from February 18 through March 11 at the Academy Award Theatre in Hollywood. Final award ballots will be mailed to all eligible Academy members February 27, with the polls closing March 13. The 23rd annual presentation of Oscars will be held March 22 at the Hollywood Pantages Theatre.

•

Cinematographer Robert Wise was among the forty-three new members admitted to the Academy of Motion Picture Arts and Sciences last month. Group was last to be admitted into the Academy ranks until the next regularly scheduled board of governors meeting to be held in April.

•

John Boyle, A.S.C., was sent to Folsom prison last month—by Warner Brothers, to direct second unit photography for studio's "The Story of Folsom." A grim chore, he reports.

•

Leo Tover, A.S.C., director of photography for Twentieth Century-Fox, had his contract renewed for another year by that studio.

•

Director George Sidney's hobby of making Rollei shots throughout the production of his films at MGM has attracted the Hermitage Press publishing house, which has announced acquisition for March publication of "Lens-Eye Views," comprising 300 of director's candid shots with text consisting of Sidney's personal notes on each picture.

•

J. Burgi Contner, A. S. C., New York cameraman, journeyed to Hollywood last month to photograph material for television spot announcements for the Billy Rose television show, sponsored by Hudson Motor Company and produced by Sarra, Inc. Program is released over east coast TV networks every Sunday evening.

•

Ted Phillips, photographer for Burton Holmes, has completed an assignment in Australia for the lecturer and embarked for New Zealand to film a new lecture subject there.

•

Vistascope, a new motion picture production technique of European origin, and said to utilize photographs as sets against which live-action is staged, has been acquired for use in the U. S. by Sol Lesser. Facilities of new method have been offered the Government by Lesser for the stepped-up production of training films.

•

Benjamin Kline, A. S. C., who has been directing the photography on the Bing Crosby Enterprises, series of television films at Hal Roach Studios, was presented with an Award of Merit last month by the video trade publication "TV" for having photographed the greatest number of television films in 1950—one hundred and twenty-five.

•

Sharp demand for cinematographers was made known by the Army Air Force in long distance talks with Hollywood last month. Accelerated war preparation is said to be opening up opportunities for both commissioned and non-commissioned men, and especially for those who served Government in like capacity in last war.

•

Albert S. Howell, inventor and founder and board chairman of the Bell & Howell Company, died January 3rd at the age of 71. He retired from active duty with B&H company in 1940 but maintained his association with the company to carry on a specialized engineering project.

In 1949 he was elected chairman of the board of the company.

Mr. Howell was an Honorary Member of the American Society of Cinematographers. His work on early day motion picture equipment led to the standardization of the industry's product on 35mm film. He is credited with taking the flicker out of motion pictures and being among the first to advance 16mm as the motion picture medium for amateurs.

•

Rudolph Mate, A.S.C., former cinematographer who later became one of the industry's ace directors ("Union Station" was a recent directorial chore of his), will function as producer in addition to directing the tentatively titled Benegoss Production, "The White Road," which starts shooting April 1 in France.

Mate currently is directing "When Worlds Collide" at Paramount Studios. This is George Pal's follow-up production of his successful "Destination Moon."

•

PETER MOLE, A. S. C. (left) president of the Mole-Richardson Company, assumes presidency of the Society of Motion Picture and Television Engineers on January 1st. Retiring president Earl Sponable is shown here congratulating Mole following his election last October at the Society's 68th Semi-Annual convention held at Lake Placid, N. Y.

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Keeping up with PHOTOGRAPHY

★ ★

ABILITY OF COLOR FILM to record fine detail is determined by the effects which occur at the moment of exposure, according to Karl H. Schadlich, Ansco research scientist. The relative importance of the various effects is somewhat different than those encountered with conventional black-and-white film. In Ansco Color film, the layer construction and physical characteristics of the required emulsions create the major influence upon resolving power. Because the emulsions are highly transparent, halation becomes a major factor. The emulsion turpidity is low and has less effect. Grain size is not a significant factor, but the density and color differentials of the original subjects are particularly important, Schadlich said.

•

PROBLEMS OF PHOTOGRAPHY in tropical areas where temperatures and relative humidity are high are being explored at the Panama laboratory of Eastman Kodak Company. Here research activity falls into two general categories: one is the investigation of the deterioration of films, plates and papers, cameras, lenses and similar photographic equipment. The aim here is to find means for preventing deterioration from the various tropical factors. The other main activity consists of research on photographic practice in the tropics, including the study of processing problems darkroom and studio operations etc.

•

CIVIL AERONAUTICS Administration authorities, faced with the problem of accurately measuring the takeoff and landing runs of aircraft under varying conditions, for later use by aircraft and airport engineers, have developed four highly specialized cameras for use in studying operational characteristics of aircraft and obstacles to safe landings.

They are: the Aircraft Takeoff and Landing Camera, the Transit Camera For Approach Zone Study, the Automatic Flight Data Camera, and the Cockpit Visibility Camera. All four cameras are illustrated and described in a recent issue of *Photographic Engineering,* a new magazine devoted to the science, and the official publication of the Society of Photographic Engineers.

The special cameras designed for recording takeoff and landing runs of aircraft photographs the plane on the runway, and on the same film includes all essential data, such as wind direction and velocity, lapsed time and all other information relevant to the site or ship.

This camera reportedly is a hybrid between a true motion picture camera and a still camera taking fast sequence pictures. To photograph data revealed by plane instruments in flight, the CAA sponsored development of a camera that mounts back of the pilot. Using infrared discharge lamps for interval illumination, rapid-sequence pictures are filmed without distracting the pilot.

Perhaps the most interesting camera in the group is that designed to study the range of vision possible from the cockpit of aircraft, particularly transport planes which encounter unusual hazards in operating into congested airfields. This camera is located at the pilot's eye-level, has an extreme wide-angle lens and incorporates a recording grid representing the angular values.

•

A HARDY IMPROVED motion picture film intended for picture taking at depths of more than three miles beneath the surface of the earth and at temperatures up to 113 degrees above the boiling point of water is now being produced for oil well drillers, the Eastman Kodak Company has announced.

This film, which is available in both 16mm and 35mm widths, is called Kodak Linagraph Drift Survey Film. Used in a standard clinometer or drift survey camera, the film is employed in well drilling operations to record instrument readings as drift meters, and other devices are lowered into the well to determine the angle and direction that drilling operations are taking.

The film, according to Kodak research technicians, has to be able to take far more than ordinary punishment from heat. This is because of the increasingly higher temperatures encountered as drift survey meters and other apparatus are lowered to even greater depths in well drilling operations. The improved film can be successfully used at depths down to 17,000 feet and temperatures up to 325°F.

From the photographic record made on the new film, technicians can quickly determine the angle and direction that a hole is "off vertical" at any specified depth, or, chart the course of the well from the moment it leaves the surface

(*Continued on Page 29*)

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TO INSURE AMPLE freedom of movement for Krasner's crane-mounted camera, when shooting scenes for "All About Eve" on location at San Francisco's old Curran Theatre, a lengthy platform was built at stage level and extended out over the orchestra seats.—Photos by Nolan.

The Filming Of "All About Eve"

Deft, subtle cinematography by Milton Krasner lends class and authenticity to Fox's leading 1950 Academy Award contender.

By LEIGH ALLEN

AMONG THE pictures of Academy-award calibre to come out of Hollywood during 1950, "All About Eve" is sure to be a leading contender for honors in several departments. Written for the screen and directed by Joseph L. Mankiewicz, "Eve" is his picture; still, deeper analysis will reveal the contributions of others who made this success possible—the acting, art direction and especially the photography by Milton Krasner, A.S.C. There is evidence throughout the picture that uncommon deep understanding and cooperation existed between Mankiewicz and his director of photography Krasner, which enabled Mankiewicz to imbue the picture with the vitality, warmth and sparkle that easily makes it one of the top pictures of the year.

Members of the distinguished cast give perhaps their best performances in many moons, due first to Mankiewicz's meticulously detailed script and his superb direction, and last but not least to the artful cinematography of Krasner which, even to many within the industry, may go relatively unnoticed because of its subtlety. Here is photography that never once calls attention to the artifices of the camera. All too often the vital part photography plays in a great picture goes unnoticed simply because the story and individual performances are so absorbing; the very subtlety of the camera work which has contributed to the story's compelling qualities makes them loom more brilliantly than might have resulted with less inspired cinematography.

"All About Eve" is Krasner's third picture in a row for Mankiewicz. Functioning as a team, once shooting preparations began, Krasner and Mankiewicz plotted the photography of "Eve" in a number of huddles that saw

them make location scouting trips together to San Francisco and later to New York to select theatre exteriors against which so much of the action takes place.

On March 15th, with the script virtually completed and the most pressing production problems settled, the two flew to New York. There, using doubles for Bette Davis and Celeste Holm, they shot the exterior of the New York theatre which would tie in with the scenes to be shot later in the Curran Theatre in San Francisco. The exteriors of the "21 Club" and Eve's Park Avenue apartment were also photographed as establishing shots for interior scenes and for background plates for scenes to be shot later at the studio. To light these scenes, Krasner used portable Colortran lighting units, and the footage was latensified at time of processing to bring it up to full value.

When shooting the night exteriors in front of the John Golden theatre, Krasner received unusual cooperation from New York City police. In one instance, when the company was shooting after midnight, an officer displaying knowledge of photography, suggested to Krasner: "You haven't much depth in the background, here. How would you like to have those neon signs in the distance lighted up?" And when Krasner agreed, the officer dispatched another to the task of inducing store and cafe owners a block away to light up their signs.

Because the story has a New York locale, it was necessary to find a theatre there whose lobby closely resembled in detail that of the Curran in San Francisco where most of the picture's vital shooting was to take place. The John Golden Theatre was selected, and here scenes and background plates were shot which later were to match up with similar shots made in the Curran theatre lobby.

Shooting at the Curran theatre began on April 11, as scheduled. The theatre echoed with activity as Krasner and his camera crew prepared it for shooting. Electricians were everywhere rigging lamps and laying cables, but long before this, Krasner, his gaffer and Mankiewicz had paid a visit to the theatre to scout the power source. It was desired to shoot scenes in the theatre without having to bring up from Hollywood a generator to supply power for illumination. Krasner and his gaffer found the power lines running into the Curran inadequate to supply the needed voltage, and it became necessary to find a means of getting additional current. Together they checked adjoining buildings and happily found they could bring additional lines into the Curran from an adjoining theatre, but not before considerable time had been spent lifting manhole covers in the street and checking underground power cables, transformer capacities, etc., to make sure that no power failure would result in the midst of shooting.

The next important step was to lay a sturdy platform over a section of the theatre's orchestra seats at stage level to provide unhampered working space for Krasner's camera and the Junior Crane on which it was mounted. An interesting point is Mankiewicz's preference for this crane as a camera mount, regardless of size of the sets. As a result, practically every scene in the picture—location shots as well as interiors—was shot with the camera mounted on a Junior Crane. All the necessary camera movements for the theatre interiors had been carefully planned and charted by Krasner and Mankiewicz when earlier they had scouted the location. Now as shooting began, it was merely a matter of referring to these carefully laid plans and following them to the letter.

MILTON KRASNER, A.S.C., who directed the photography of "All About Eve," studies Marilyn Monroe for proper lighting, using a contrast viewing glass.

Before shooting the important scenes in the lobby of the Curran, it was necessary to erect special scaffolding to hold the lights, a matter that presented no small problem because the crew was not permitted to drive nails into the lobby

(*Continued on Page 27*)

KRASNER'S careful attention to lighting detail, which characterizes the entire picture, is exemplified in this scene from "All About Eve." Throughout the scene the lighting is natural—no "arty" highlights or shadows. The illumination actually seems to come from the lights visible in the scene.

ONE OF SEVERAL scenes in which background projection was employed. The New York street scene, shot earlier, served as background plate for rear-projection setup, while Anne Baxter and George Sanders walk on treadmill in foreground.

ABOVE — Field equipment for making Cinerama movies consists of Cinerama camera and portable magnetic sound recording outfit. Latter uses six standard microphones spotted at strategic pickup locations. AT RIGHT: Put these four films together and you have a Cinerama movie. First three form left-hand, center and right-hand parts of picture, when projected side by side on theatre screen. Dark film at right carries six sound tracks that actuate theatre's multiple loudspeakers for binaural sound. Picture frames are one-half again standard height — camera advances standard 35mm film 6 perforations at a time instead of usual 4. — Photos courtesy Popular Science.

Cinerama--Super Movies of the Future

Newest approach to practical three-dimension motion pictures is system that puts image on three films which are screened by multiple projectors on a curved, segmented screen.

Courtesy International Projectionist

CINERAMA pictures are expected to make their first public bow early this year, with arrangements for permanent installations in theatres sometime about mid-1951.

Cinerama is the brainchild of Fred Waller, formerly with Paramount Pictures, and designer of the famous Waller Gunnery Trainer which utilized a five-lens camera and five projectors to show airplanes realistically on a curved screen. The Cinerama three-lens system is a simplified modification of the earlier setup. The sound recording and reproduction system was engineered by Harold Reeves, of Reeves Sound Studios (N.Y. City) who compiled an impressive record for electronic tricks during World War II.

Cinerama's sponsors do not claim that their pictures are stereoscopic or three-dimensional movies, that is, in the strict technical interpretation of these terms. Such films require either a special screen that only a *limited portion* of an audience can view from a precise rigid-necked angle, or the use of analyzers or special spectacles. No such extraneous gadgets are needed by Cinerama audiences, who view the screen images in wholly normal fashion.

Normal binocular (two-eyed) vision, while playing an important role in the viewing of motion pictures, is only part of the over-all reason why such images seem real. Cinerama starts from this basis and, by skillfully combining other elements of human vision and intricate compensatory optical and mechanical equipment, produces what is substantially a stereoscopic effect.

In real life one can look all around as well as straight ahead; and the Cinerama big "wrap-around" screen of 8 times standard size and 4 times as wide forms a great curving arc across one's field of view that surrounds the onlooker with the action and gives one the feeling of being right in the midst, not outside, of things. Images in closeups appear so near and so real that one feels he could reach right out and touch them. This impression is achieved by the picture-taking lenses that match the human eye in focal length and give exactly the same perspective.

Nor is the eye alone subjected to this amazing simulation of reality. Truly stereophonic sound positions the sound at exactly on the point of the screen from whence the sound emanates, even from behind the viewer.

The filming and projection of Cinerama movies represents a prodigous feat of planning and execution—everything is on a grand scale. The eye-filling picture covers a field of vision about 146° wide and 55½° high—which compares with the extreme limit of human eyes of 160° by 75°. Even the most satisfactory wide-angle lens couldn't possibly accommodate more than a fraction of this sweep, thus the reason for Cinerama's three-cameras-in-one.

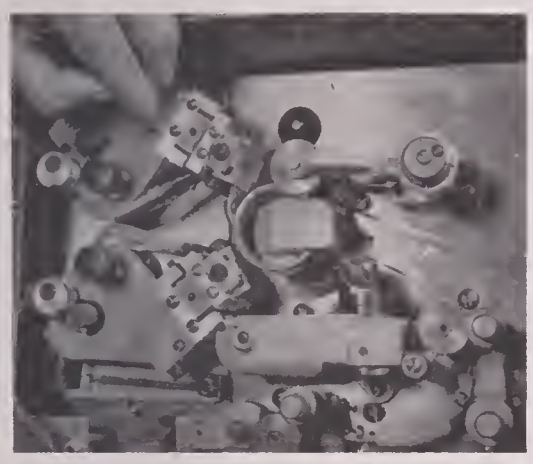
The eyes of this 150-pound camera are three matched lenses of 27-mm focal length set at angles 48° apart. Each lens records one-third of the total width of the scene upon one of three standard 35mm films carried in as many film magazines. Otherwise, the three sections operate as one.

The lines of sight of the three lenses converge and cross at a point 11/16 inch in front of them, where a single revolving-disc shutter serves them all, thus assuring synchronization of exposures. Simultaneous focusing of all three lenses is accomplished by a single knob; while another knob controls the diaphragm settings in unison.

Individual Cinerama film frames are one-half again standard height; and since

(*Continued on Page 28*)

CINERAMA camera system puts scene on 3 films, each making up 1/3 of the picture. Closeup above shows nearly actual size of camera's 3 lenses positioned 48° apart. Line of sight of each lens crosses at a point 11/16 in. in front of them, where single revolving-disc (left) serves as a shutter for all lenses.



SOUND HEADS of the Cinerama magnetic sound recording system. Mechanism has recording heads arranged in 2 banks of 3 each to record the pickup of six microphones which supply stereophonic sound for films.

CURVED SCREEN for Cinerama system has end sections of vertical ribbons, arranged like slats of Venetian blind. This eliminates reflection of light from ends to center of the concave screen, which detracts from clarity of picture there when ordinary screen material is used.

Modern Laboratory Stimulates So. American Film Production

By JOHN FORBES

MOTION PICTURE production ventures in South America are destined to make accelerated progress in the next few years, thanks to the foresight and imagination of Carlos Connio Santini who years ago cut his cinematic teeth in the hobby of amateur movie making, and ultimately gave Latin America one of the finest motion picture laboratories in the world — Laboratorios Alex, S. A., in Buenos Aires, Argentina.

Recently Laboratorios Alex celebrated its first anniversary, the culmination of a dream that began when on May 1, 1928, Santini's father, Alex Connio, opened one of the first 16mm film laboratories in South America at 456 Maipu Street in Buenos Aires. When Alex Connio passed away in October 1937, Carlos Santini assumed control and began to lay the plans for the present Laboratorios Alex, S. A. Meantime, Santini had visited most of the large film laboratories in the United States and Europe, and from observations gathered on these visits he designed the plant which he now heads as president. Construction of the new building began in 1948, and the plant started full time operation late in 1949.

The slick, modern plant, with a payroll of more than 200 employees, features some of the most advanced methods and film laboratory equipment, much of it the design of Santini and his engineers. The single story structure which covers an area of 20,000 square feet, houses a developing room, printing room, seven projection rooms, twelve editing and cutting rooms, a complete title department, and a modern optical printing department. Editing, cutting and projection room facilities are available on rental to local film studios and to individual producers.

Some idea of the plant's potential business may be had from a survey of Argentina's motion picture industry, which reveals eight major film producing studios comprising thirty-two sound stages—mostly in Buenos Aires and its suburbs—facts which give Buenos Aires undisputable claim to the title, "The Hollywood of South America."

Developing room equipment consists of four 35mm positive developers,

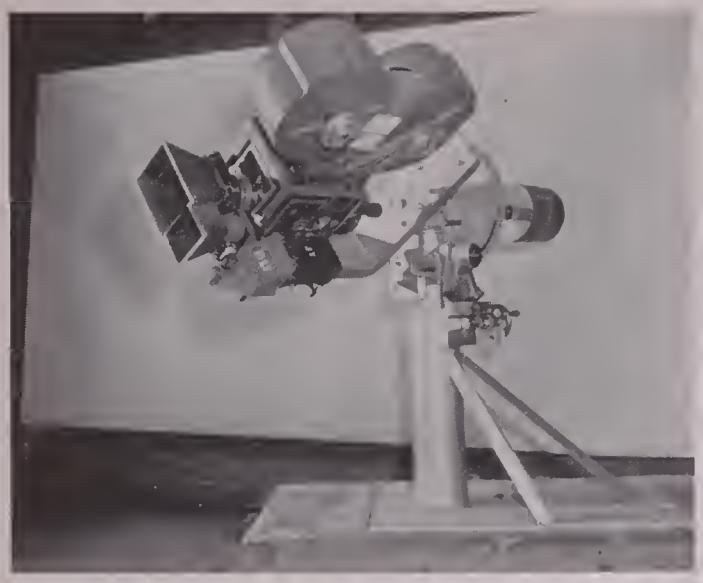
(*Continued on Page 35*)

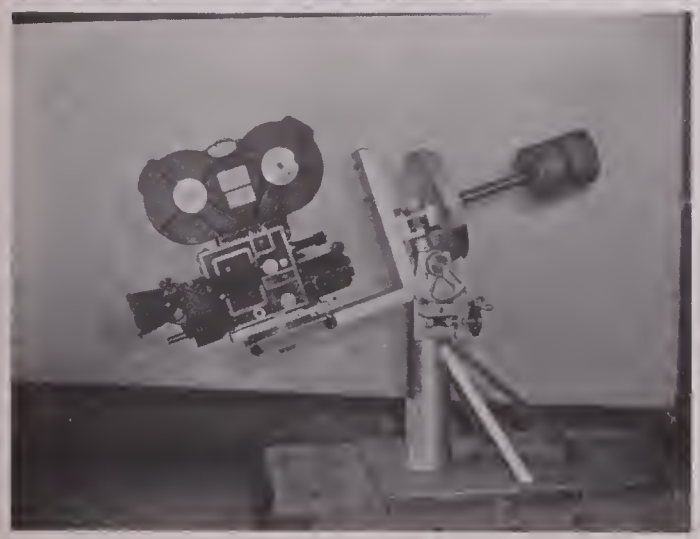
LABORATORIOS, ALEX, S. A., South America's newest complete film processing plant, located in Buenos Aires, Argentina, serves the growing Latin American film industry. Insert is photo of the company's president, Carlos Connio Santini, who designed the plant and supervised its construction.

A New Revolving Camera Mount

New M-G-M development makes possible trick shots involving rotation of the camera.

By FREDERICK FOSTER





NOT ALL TRICK SHOTS are the work of the special effects department. A great many still originate in the camera, and for this there is frequently need for some new and novel camera gadget or accessory. One such gadget was recently completed at Metro-Goldwyn-Mayer studios under the direction of John Arnold, A.S.C., the studio's executive director of photography and designer of the gadget.

Known as the Revolving Camera Mount, the device provides a balanced rotatable mount for either Mitchell or Technicolor cameras, permitting camera to be rotated on its lens axis while it records the scene. The only other piece of equipment of note which has been designed to achieve similar effects is the "squirrel cage" built by Warner Brothers' camera department several years ago. This has seen frequent use in other studios and it made possible many of the spectacular effects seen in George Pal's *Destination Moon*, released earlier this year.

The new MGM mount also makes possible shooting with the camera tilted on its side at various degrees or in upside down position. It may be used in conjunction with any of the large camera cranes, although it is most commonly used mounted on a dolly or camera parallel.

When either a Mitchell or Technicolor camera is mounted in place, the lens axis is always centered with that of the rotor. The slight displacement between centers of the Mitchell and Technicolor cameras is taken care of by a shim inserted between camera and the base.

The accompanying photos show the camera mount in various positions of a complete 360° rotation as well as a full 360° pan, for which action the mounting also provides. This operates on a friction head principle, with a lock screw at the side that provides varying degrees of drag on the head or completely locks it in any position. The rotating action is controlled by a sturdy hand crank which drives a large master gear attached to the rotor. Another geared crank provides for tilting action up and down within a range of approximately 65°. This action is perfectly balanced so that the camera remains in position without locking.

Sliding weights mounted on a tubular shaft extending from the rear afford accurate balance of the camera and simplify its manueverability. The hollow shaft also functions as a channel for the electric cable which connects with the camera

(*Continued on Page 28*)

WITH a standard Technicolor camera mounted on the new MGM Revolving Camera Mount, device is rotated to show some of the unusual positions in which camera may be locked in place for trick shots. Camera may also be rotated on its lens axis while shot is being made, tilted up or down 65 degrees, or panned. Counterweights insure smooth action, easy maneuverability.

Better Pictures
In 1951
Will Be
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In Black and White
And In Color
With a Wide Range Of
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NEGATIVES

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EASTMAN
Always The Best

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Distributors
Fort Lee Chicago Hollywood

New Technique For "Sync" Sound On Quarter-inch Magnetic Tape

PART I

By WENTWORTH D. FLING

Vice President and General Manager
Fairchild Recording Equipment Corporation

PRACTICABLE magnetic tape recording may well be considered the greatest single advance in the sound field in the past ten years. By now, it has been integrated into practically every phase of

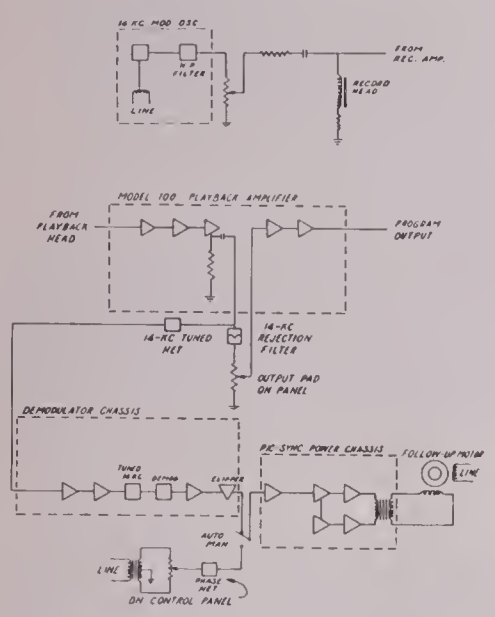


FIG. 1—Block diagram of phase control system, showing how control track generator takes sample of the a.c. voltage driving camera motor and uses it to modulate the synchronizing tone.

sound recording and reproduction, and new applications are being developed almost daily.

The advantages of magnetic tape are numerous. It is a recording medium which may be reused almost indefinitely with no loss in sound quality. Delayed broadcasts from tape are common, and the fidelity is such that, except for the required announcement, listeners might never know they were hearing recorded programs. The time saved in recording sessions for phonograph records is almost beyond calculation. As a production "tool" providing editability and final make-up for "printing," sound-on-tape equipment is universally recognized as the right hand, arm and shoulder of the production department. It is only natural to find uses for the new medium in motion picture work where economy without sacrifice of quality is keynoted.

The Fairchild Recording Equipment Corporation of Whitestone, New York, studied the question of applying ¼-inch magnetic tape to professional synchronous sound track recording because of its great economy, superior fidelity, excellent motion and ease in handling. The need, as they saw it, was for recording and playback equipment which would maintain synchronism with a picture film—either 35, 16 or 8 millimeter. The problem was turned over to the D. G. C. Hare Company of New Canaan, Connecticut, which does a large part of the research work in the field of magnetic tape recording for the Fairchild Corporation. The project of the D. G. C. Hare Company was to modify the Fairchild Professional Tape Recorder so that it could record and playback in synchronism with cameras, kinescope and projection equipment. The project was completed and activated as the Fairchild Professional Recorder Unit 125 with Pic-Sync Attachment Unit 130. (See Fig. 3.) For simplicity's sake, it is now called *Pic-Sync*—a contraction of "picture" and "synchronism." The Fairchild Pic-Sync Tape Recorder employs ¼ inch magnetic tape and, with only the frequency of the line as the synchronizing reference, and with no electrical inter-connections, can maintain synchronism indefinitely with cameras or projectors.

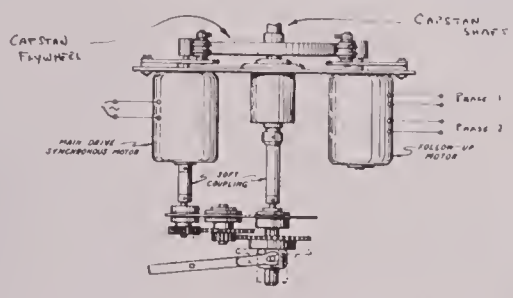


FIG. 2—Elements of the motor drive. The follow-up motor at right controls speed and consistency of capstan shaft to maintain synchronism.

A further development known as the Automatic Framing Control may be added to the Pic-Sync so that, using a single master switch, the tape recorder can start simultaneously with cameras, kinescope and projection equipment, and fall into locked synchronism automatically.

Basically, the method by which the Pic-Sync system maintains synchronism is not at all complicated. It is only necessary to record on the tape a "sample" of the a.c. voltage that is driving the camera motor while the original recording is being made. This is done by automatically mixing the signal from a built-in *Control Track Generator* with the program in the recording amplifier of the tape recorder being used. Once this is done, the tape may thereafter be played back on the Pic-Sync Recorder in exact synchronism with the picture. During playback, the Pic-Sync compares the phases of the recorded sample and of the voltage driving the projector, translates the phase difference into torque, which in turn causes the speed of the tape to keep in step with the projector.

Since the a.c. voltage which drives the camera or projector is at a frequency (usually 60 cps) which is audible to the human ear, this voltage is not recorded directly on the tape, but is used to modulate a 14,000 cps tone produced in the Control Track Generator. It is this 14,000 cps tone modulated with the 60 cps line frequency which is recorded. On playback, this high frequency signal is automatically separated from the sound track. The high frequency control track signal is demodulated, leaving the 60 cps signal. It makes no difference whether the frequency of the a.c. line voltage was exactly 60 cps at the time the original recording was made, nor whether it is exactly 60 cps at the time of play-

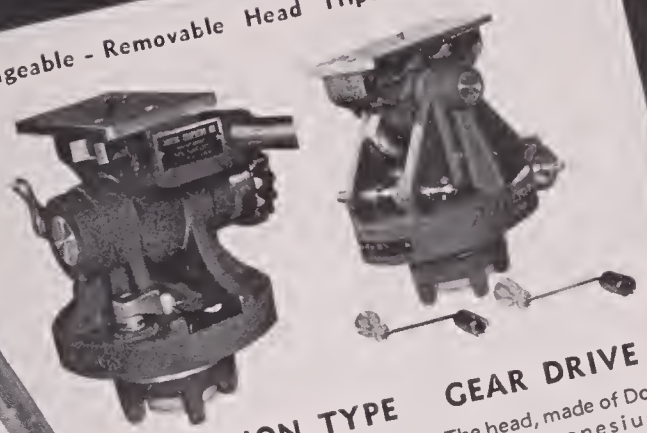
(Continued on Page 26)

FIG. 3—The Fairchild Professional Recorder complete with the "Pic-Sync" unit which records magnetically on quarter-inch tape in synchronism with cameras, kinescopes, or projectors.

PROFESSIONAL JUNIOR"
Camera Equipment...

... the most versatile and dependable camera accessories available for those who prefer the finest.

Interchangeable - Removable Head Tripods



Friction Type Head on Standard Tripod Base and Collapsible Adjustable Metal Triangle

FRICTION TYPE

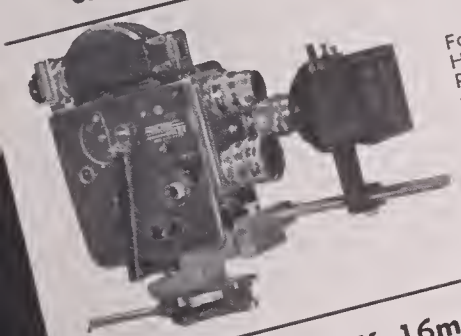
Handles 16mm. EK Cine Special with or without motor; 35mm. DeVry; B&H Eyemo with motor and 400' magazines and all 16mm. hand-held cameras. Head is interchangeable with the Gear Drive head. Both types fit "Professional Junior" standard tripod base, "Hi-Hat" and "Baby" all-metal tripod base.

GEAR DRIVE

The head, made of Dow Metal magnesium, weighs but 5½ lbs. and is interchangeable with the Friction type head. It handles all types of cameras. Snap-on metal cranks control pan and tilt action from both sides. Worm - driven gears are Gov't spec. bronze.

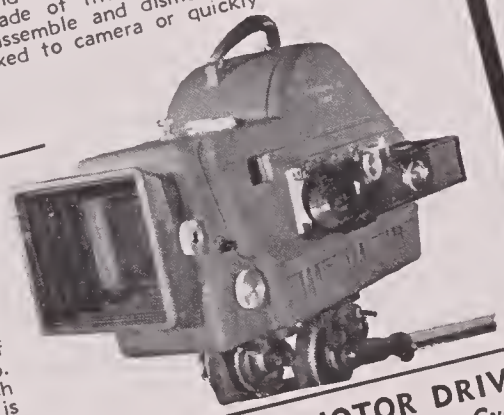
SUNSHADE & FILTER HOLDER COMBINATION

For use with Bolex and Cine Special 16mm. cameras. Holds two 2" sq. glass filters and 2½" round Pola Screen with handle which can be rotated for polarization. Covers all lenses from 15mm. to 6" telephoto and eliminates need of various filters. Precision made of the finest materials. Compact, simple to assemble and dismount. May be permanently affixed to camera or quickly detached.



BLIMP for EK 16mm. CINE SPECIAL

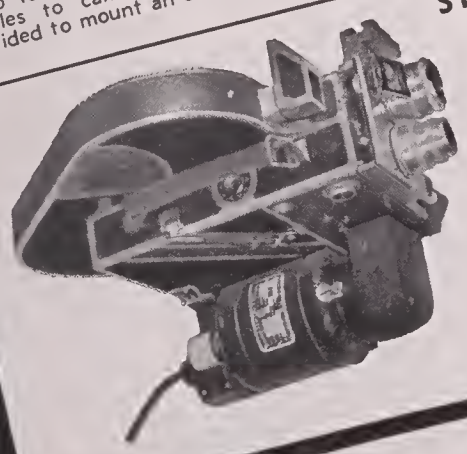
This Blimp constructed of Dow Metal magnesium, is thoroughly insulated to afford absolute silent operation. Exclusive features: Follow focus mechanism permits change of lens focus while camera is operating in blimp. Blimp takes synchronous motor drive which couples to camera. A dovetail bracket is provided to mount an erect image viewfinder.

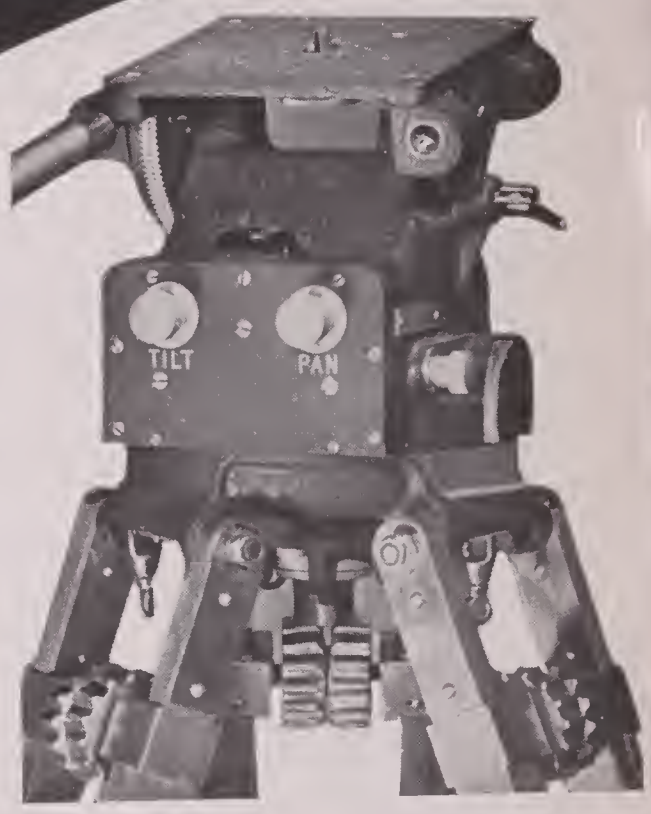


SYNCHRONOUS MOTOR DRIVE

110 Volt A. C., Single Phase, 60 Cycle

This motor will run in synchronization with either 16mm. or 35mm. sound recorders. It is provided with mounting platform which permits removal of magazine while camera remains mounted on motor. Drive coupling attaches to single-frame shaft of camera and is mated to spring-steel drive arm of motor gear box. This assures that camera mechanism cannot be damaged if a film jam occurs as the spring steel arm drive will shear. This is easily replaced. A knurled knob on motor armature permits rotating for threading. "On-Off" switch built into base. Platform base threaded for ¼" and ⅜" camera tie-down screws. Rubber covered cable with plugs included.





Small GYRO Tripod

This light weight GYRO Tripod performs with all the efficiency of larger, heavier and costlier tripods now in use.

New, small size GYRO tripod handles all 16mm. professional type cameras: Mitchell 16mm.; Auricon single system; Maurer 16mm.; motor-driven Cine Special; also 35mm. motor-driven Eyemo with 400' magazine. It features Super Smooth Pan & Tilt Action.

Positive pan-locking knob. Tilt locking lever. Quick wrist action locking knob for leg height adjustments. Pan handle can be inserted at 3 different positions on tripod head for operator's convenience or extreme tilt work. Legs are hard maple specially treated and warp resistant. Tripod head is Dow Metal magnesium and aluminum. Built-in spirit level. Swivel tie-down rings. Platform can be equipped for either ⅜ or ¼ inch camera screw.

— ALSO AVAILABLE —

Baby Tripods • 3 Wheel Portable Dollys • Changing Bags • "Hi-Hats"

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NOTICE
TO CONTESTANTS

•

AMERICAN CINEMATOGRAPHER'S 1951 INTERNATIONAL AMATEUR MOTION PICTURE COMPETITION

You must file an entry blank with the contest chairman prior to submitting your film. Use coupon below to secure your entry blank.

TEN American Cinematographer Trophy Awards are the prizes that await the makers of the TEN TOP films entered in our 1951 competition, which closes March 1st. Judging and classification of films begins December 1st, 1950. Six leading Hollywood directors of photography will make up the judges panel.

RULES

- Each entry must be wholly amateur produced, except for any titles and film laboratory work. Any sound accompaniment must be recorded exclusively by the entrant and/or his amateur associates.
- Film length limited as follows: 8mm., 400 feet; 16mm., 800 feet.
- Each film reel and its container must be plainly and securely labeled with owner's name and address.
- Films originating outside the continental United States should be securely wrapped or boxed, preferably in carriers which may be used for their return. Also, necessary arrangements should be made that will insure films passing all necessary customs and export-import regulations on their return.
- All films must be shipped on reels and in cans to contest headquarters in Hollywood, *fully prepaid*. Entry blank should be mailed to contest chairman in advance of sending films. *There is no entry fee* for contest films.
- Upon close of competition, all films received will be returned via Express collect and insured (in the United States). Contestants residing outside the United States should make the necessary arrangements in advance for the return of their films in keeping with their country's postal and import regulations.
- Fees for return postage and insurance for *foreign films* should be sent contest chairman with entry blank. In most instances an International Postal Money Order will be the simplest way to handle this.

DEADLINE FOR ENTRIES — MARCH 1ST!

MAIL COUPON TODAY FOR YOUR ENTRY BLANK

Contest Chairman,
AMERICAN CINEMATOGRAPHER,
1782 No. Orange Drive,
Hollywood 28, Calif.

Sir: Kindly send me official entry blank for AMERICAN CINEMATOGRAPHER'S 1951 Amateur Motion Picture Competition. I plan to enter an 8mm.____/16mm.____ film, length_____ft.

Name_____

Address_____

City_____ Zone_____ State_____

Country_____

A TYPICAL montage sequence that sets the stage for a travel film —passengers boarding plane, plane preparing to take off, and finally a shot from a cabin window of the engines roaring in flight. Note attention given to dramatic composition in each shot.—Photos courtesy Trans World Airline.

MONTAGES are most effective where scenes dissolve smoothly into one another—a simple procedure with the Cine Special camera shown here, which features variable shutter adjustment and means for quickly winding back film.

The Role Of The Montage In Amateur Movies

An important professional cinematic effect, montage lends style to amateur films, compresses time or effectively condenses action through a series of quick cuts joined by fades or dissolves.

By CHARLES L. ANDERSON

A DISTURBING quality of amateur film-making is that no matter how far we progress, there is always a new technique or a new artistic goal before us. We attain a proficiency in composing scenes, and we discover that our editing is weak. No sooner do we edit competently, then we become disatisfied with our continuity. And now I'm setting before you a new challenge that may leave you unrestful until you can say in truth, "My montages are the equal of those in other 16mm. productions today."

Incidentally, if you have filed your copies of *American Cinematographer,* you may wish to refer to Herb A. Lightman's article, "The Magic of Montage," in the October, 1949, issue. Mr. Lightman discusses the use of montages in professional theatrical films, and much of his information is adaptable to amateur and documentary films.

Your vacation movies offer perhaps the best field for incorporating montages. Properly, you must omit filming hundreds of miles of any journey for lack of film and time, but there is no reason why highlights of the lesser parts of a vacation cannot be well presented in quick cuts. The real "feel" of a trip can be better expressed if the audience sees flashes of places on the way or of the means of transportation. However, these short shots can become irritating if they are inserted haphazardly. A montage should have coherence and rhythm. Coherence is gained by giving the montage well-defined limits. It can begin with a big close-up or an angle shot that definitely sets it apart from the rest of the picture. When it has ended, a leisurely long-shot will inform the audience that they are back to the main theme of the picture. Of course, if you produce your montages with dissolves and

(*Continued on Page 22*)

TAKE TIME to experiment with new and different camera angles, unusual compositions; then use them subtley to give your film a classical note—an occasional point of emphasis.

Developing "Style" In Cine Photography

How to add those cinematic touches that make your movies win contests and influence people.

By CHARLES LORING

ONE OF THE MOST important elements which distinguishes the cinematography of the amateur cameraman from that of the professional is the abstract quality known as *style*. The term becomes less abstract when we realize that style is nothing more than the cameraman's own original technique translated into technical terms. In the case of the professional cameraman, this is usually the result of many years of trial-and-error experiments, plus a desire to produce a result that he can consider uniquely his own.

Once the novelty of merely getting a motion picture onto film has worn off, the cine-amateur will naturally want to experiment in developing a style that is individually his. This is not as difficult as it may seem, nor is the approach to style merely a collection of abstract theories that leave the cameraman bewildered as to course of action. On the contrary, there are certain very concrete approaches, some of which we shall analyze here.

First of all, admitting that a cameraman has developed individual style, we do not mean that he approaches every subject in the very same way. If he did all his films would have a "sameness" that would soon get tiresome, both to himself and to his audiences. Every top-notch Hollywood cameraman displays in his work certain evidences of style which are typical—such as wide angle shots, moving-camera shots, unbalanced lighting, etc.—but these men are at the top of their profession because they are able to modify their trademarks of style to perfectly complement whatever assignment they are handed.

If you wish to specialize in one certain type of motion-picture work, it is advisable then to study that type as executed by professionals. For this purpose, your neighborhood movie theater becomes a fine classroom, since here may be seen and studied not only dramatic photoplays but documentaries and newsreels as well. If you would be interested in developing a style suitable for the making of commercial films, you will

(*Continued on Page 32*)

EXAMPLE (below) of a composition that is strikingly different. It required imagination and patience to stage this scene so that it became an effective silhouette shot on the screen.

TOO OFTEN movie amateurs film a scene like the above fully lit by a number of photofloods. How much more effectively has the sinister mood been accented in this shot through use of a single photoflood in overhead fixture, plus a small spot playing faintly on faces of players at right.

What? A "blue" sky in black-and-white movies?

No, not quite. But Ansco Hypan Film has the knack for catching nature in her most wonderful, *natural* best.

Water looks wetter. Old fence posts look older. You can almost hear your baby's gurgle . . . and a summer sky really *is* a summer sky.

Why? Because Hypan has the extremely fine grain and sparkling contrast—*plus splendid panchromatic color balance*—that gives nothing but superb results all the time. And when your neighbors applaud the way your screen images stand out with snap and brilliance—well, you can be sure you're on the road toward having that "professional" touch in your home movies.

Next time, load your camera with Ansco Hypan (available in 8 or 16mm), and give yourself a pat on the back at your first screening! **Ansco, Binghamton, New York.** A Division of General Aniline & Film Corporation. *"From Research to Reality."*

ASK FOR *Ansco* 8 and 16mm HYPAN FILM

Don't Talk Too Much!

. . . when giving a running commentary on your films.

By DOUGLAS GOODLAD

Condensed from Amateur Cine World

ONE OF THE SECRETS of an effective commentary is knowing when to shut up. Most amateur commentaries are too talkative, and many—far too many—are full of twice-boiled cabbage. It is not just a question of mere verbiage.

There is another common form of repetition which is perhaps worse—commentaries which only echo verbally what is conveyed visually — and adequately. The commentator points out the obvious. He can spoil a lovely shot by trying to describe what makes it lovely. Every picture tells a story—but he wants to tell it all himself. And so he holds forth at length about scenes which require little explanation. Watching his film is like watching a play with someone reading aloud the stage directions.

Commentary should add something to your film, instead of merely repeating parrot-fashion what the camera has put there already. Certainly it should never make your picture boring. It should enhance it. And it should increase enormously the advantage of movie making, as well as the individuality of your picture.

You need go to some trouble. The commentary must be planned. It's not so easy as this quotation from the instructions for use of a well-known tape recorder would have you believe:

"It is preferable to show the silent film several times and decide on the prologue, etc., you propose adding and where musical accompaniment would be suitable. In general, 'script' the film."

The advice about scripting is added as an afterthought! To make the best job, the visual and vocal sides of your film should, of course, be scripted together. True, there are those who wish to add commentary to existing films. Whichever way it is, avoid repetition and excess detail like the plague.

But the indicating of the salient features of your shots with a nicely turned phrase or two is a different matter. Let the commentary act as a foil to your pictures. Make it the pinch of salt which brings out the flavor. As an example, here is a quotation from the light-hearted verbal accompaniment E. V. H. Emmett supplies for *The Sunny Tribe*, a delightful two-reeler on the life of a wild bee. Emmett has christened the heroine "Gladys." He says: "She makes her way into the nest, pushing on into the warm scented air. She's rather short-sighted; but as she moves deep into this fairy cavern the shape of shimmering wax pinnacles gradually comes clean. They are honeycombs. Gladys isn't interested in fairyland; somewhere among a hundred thousand bees she has to find a housekeeper bee to take the honey she's brought home."

How have those four sentences enhenced the visuals? Emmett has described the hollow tree where the wild bees live as a fairy cavern. It's a simple, but pretty, idea. He talks of shimmering wax pinnacles. Pinnacles they are, to a bee, and the phrase reminds us that we are getting a bee's eye view. He talks of the "warm, scented air." That's something the visuals could not convey. It adds atmosphere in both senses.

And an example from a film of my own. I'm just completing a Kodachrome film on wild flowers, with commentary on tape. A preamble includes shots of garden flowers. One of them is a glowing, against-the-light shot of huge cultivated poppies. I remark: "And here's the brightest flame of flaming June."

There's nothing clever about that, but the words spotlight those poppies. They enhance the shot in the same way that a caption written by a newspicture editor gives a photograph a little extra something, or the title of a picture in a photographic exhibition helps to put the picture across to the visitor.

Sometimes it is better to let a shot speak for itself. Some examples of what I might have been tempted to do with a fragment from the flower film will help to show why. One of my biggest problems in making the film has been to introduce movement (other than that of flowers nodding in the breeze). So I grabbed the opportunity of photographing my blossom against a waterfall. The white foam matches the white of the blossom, and the May sunshine is reflected in the water — particularly in shots filmed actually through the waterfall.

I could have pointed out the comparison of blossom and foam. I could have talked about the sunlight glinting like diamonds. But my pictures convey all this adequately. A fillip to the observer is unnecessary. I could have committed the terrible offense of wandering from the subject at hand by explaining that the through-the-waterfall shot was pho-

(*Continued on Page 38*)

MONTAGE IN AMATEUR MOVIES

(*Continued from Page 19*)

overlaps, the appearance and disappearance of double-exposure footage will signify their limits.

The rhythm of a montage should definitely be different from that of the picture as a whole. It presents a refreshing change of pace, and our eyes are more willing to watch the slower sequences when they have had their fill of stacatto movement. Some editors claim they judge the rhythm of the film they are cutting by the physical length of the shots and the appearance of the frames as viewed over a ground glass, while others prefer to re-run the film in a projector several times and develop a rhythm by trial- and-error. Editing requirements for amateur films are not so exacting as for the professional, and you may be quite capable of making suitable montages entirely in the camera.

If the trip you're filming is by plane, you might communicate some of the thrill of the take-off in a short montage. The airport setting could be established with shots of the control tower, field, and passengers boarding the plane. Then your silent footage seems to reproduce even the roar of the engines as details of the take-off appear on the screen.

An effective shot sequence could follow like this:

1. Door of plane being closed. (Taken from outside. The audience assumes from the cutting later that you are inside the plane.)
2. The control tower.
3. Close-up of propeller starting. (Taken with telephoto.)
4. Bystanders at gate watching plane.
5. All four engines turning over.
6. View of tail as plane begins to move.
7. Plane taxiing on runway.
8. The take-off.

To film a sequence like this, you might have to be on hand for the take-offs of two or three planes, but the time spent on a good montage may indirectly improve the entire film.

Probably the most common montage in amateur productions, and one the professionals have made repeatedly, too, is the sequence showing the night lights in a big city. The neon-Mazda kaleidoscope that cities become at night is easily captured in montage form. Lights flash on and off and change into other lights through the editor's skill. They can shine from every corner of the screen or become a mere glow on the horizon. A clever choice of camera angles and lenses can cause an ordinary business district at night to seemingly out-dazzle Times

Square. This is one montage that has become a synonym for "cliche" in the film world but which manages to amuse audiences again and again with its luminescent display.

Mood can be presented in a montage, too. A quiet, pastoral mood would seem to descend upon a film opened with a series of slow dissolves from one static scene to another. Dissolves smoothly weld the shots together, avoiding a quick change for the eye to assimilate. The film-maker's impression of a rainy day may be given as accurately as if he spoke it himself. If the impression be one of light-heartedness amidst the downpour, quick shots of droplets splashing in pools of water intercut with gay reflections of the lights on the wet streets will convey the idea. But if the cameraman wishes to tell of the gloom he feels in the rain, somber compositions of black clouds and empty streets will convey his thoughts.

Perhaps you might discover in your editing that the montage may be added as a type of footnote. An extra idea, a bit of information or narrative that adds to the film's meaning will be helpful at times but also distracting. By placing this extra material in a short montage, you present it in digest form without interfering too greatly with the main body of the picture. As an example, one amateur filmer made a 200-foot color picture of his fine flower garden. He was justifiably proud of his handiwork and enjoyed showing his film to friends during the winter when they couldn't see the garden in full bloom. But he also wanted to remind them of all the work that went into such a project, and he therefore made a clever montage sequence of himself spading, planting, pruning, and spraying. The essential theme of the film was the beauty of the garden but this other footage, inserted in about the middle, added the thought that these flowers don't grow by themselves but are carefully nutured. The photographer had his wife shoot about thirty feet of 16mm of him which he and I later cut to a tight twenty feet. In addition, this special footage became a welcome change of pace from the slow cutting of the pictorial scenes.

Commercial films have one burden placed upon them that is not usually met with in entertainment pictures. This is the need for making the audience remember the picture's message. Motion pictures are not seen all at once like a diagram on the printed page, but are seen in a time continuum. Each new scene attracts the observer's attention to itself away from the preceeding scene, and the message being presented may thereby be overlooked by an audience. A summary montage at the end of a picture may seem

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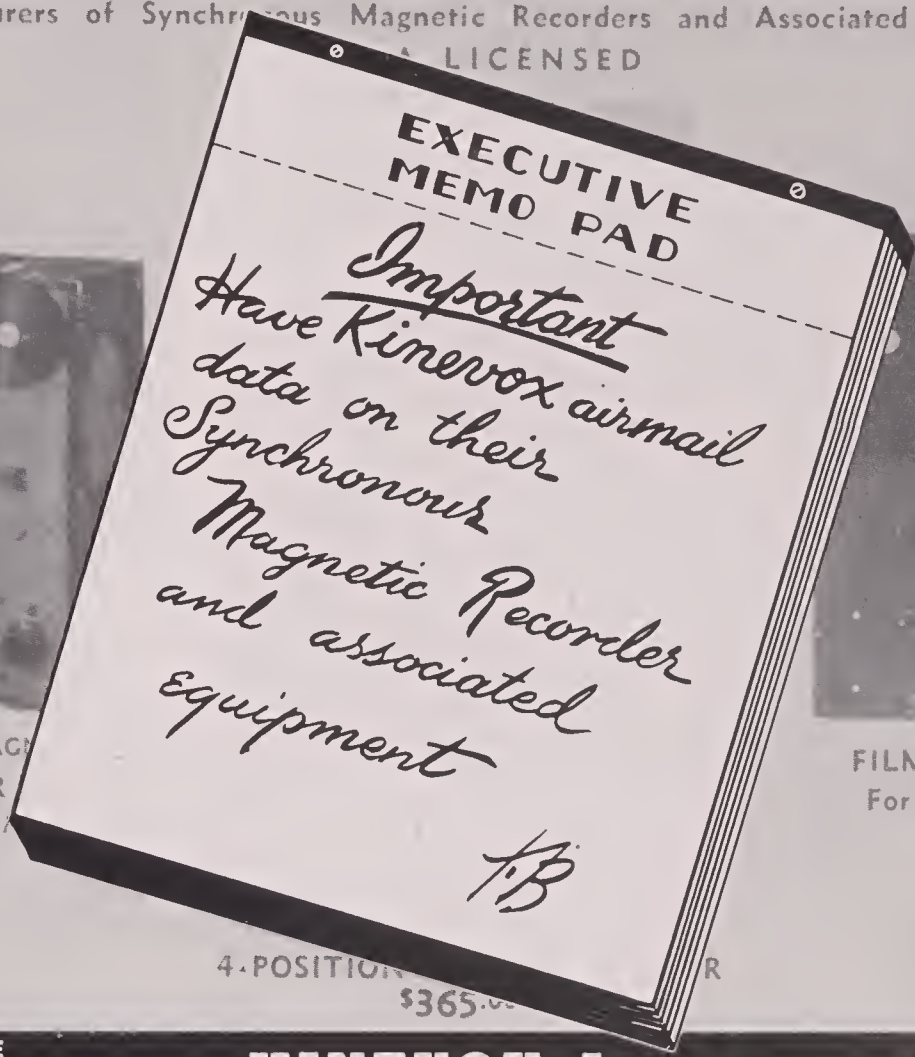

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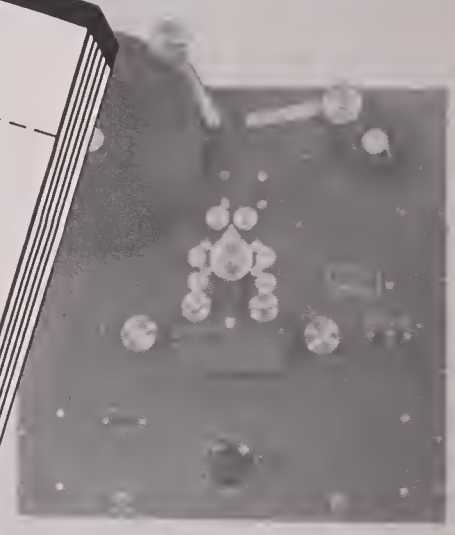

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repetitious, but it *does* remind the audience of the film's content. A Red Cross film on lifesaving concluded with a summary of the vital steps in rescuing a drowning person. The screen portion contained dupe-negative clips from earlier sections while the narrator distinctly explained each step. A single running of the picture gave audiences an excellent perspective of lifesaving before their actual training in the water.

Cameramen occasionally discover a subject that intrigues an audience by the effectiveness of its inherent movement alone. Skiing scenes are exciting even after the beauty of the landscape has worn thin, and the movements in skiing can be exploited to the utmost through clever montage cutting. Fast downhill runs, sharp turns, quick falls may be cut together to present a view of the sport one is unable to see at the actual ski resorts.

Pare Lorentz produced a thrilling minor climax in his film, "The River," by dramatizing the felling of trees. Gigantic trees were photographed toppling

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over and then cut together one after the other without a fall until a dozen had been seen coming down. Here, an important idea—the felling of entire forests—was presented forcefully with only a few trees actually seen being cut down.

The montage is a challenge to any cinematographer who has never tried it before. The pitfalls are many in this exacting branch of film-making, but the pride of accomplishment in an exciting, meaningful montage is worth the task to the adventurous cameraman.

"SYNC" SOUND ON QUARTER-INCH MAGNETIC TAPE

(*Continued from Page 16*)

back. The important fact is that the control signal is a measure of the actual speed of the camera during the recording, and on playback the speed of the recorder is either increased or decreased to keep step with the speed of the projector at that particular time.

Referring to Fig. 1, it will be seen diagramatically that the microphone picks up the audio signal, which passes through the amplifier and the Control Track Generator to the recording head. The generator takes a sample of the a.c. voltage driving the camera motor and uses it to modulate the locally-generated 14,000 cps tone. Thus the tape has recorded on it a composite signal consisting of the desired audio signal along with the modulated 14,000 cps tone.

During the "record" process, the tape speed is held synchronous by a unique tape drive mechanism, the *Syncroll*. For simplicity, let it be said that if the load caused by the tape—which is not large enough to affect the speed of the main drive motor—applies a drag (a change of speed) to the capstan shaft, the syncroll mechanism follows up immediately and speeds the capstan just enough to restore the tape to synchronism. Conversely, if the tape load tends to diminish and thus speed up the movement of the capstan shaft, the syncroll mechanism follows up and the capstan is slowed. The syncroll effects a dynamic equilibrium of tape load versus capstan speed, maintaining synchronous recording speed.

If the tape is recorded synchronously, why then special equipment and a control track? Tape is affected by temperature and humidity conditions. It stretches and shrinks, even though it may be lying idle in storage. Recording a control track on the ¼ inch magnetic tape provides a reference as to the original geometry of the tape so that automatic compensation can be effected during playback.

Magnetic, sprocketed film is subject to the same dimensional changes from the same causes. However, correction for synchronism is applied by the drive tooth engaging the film sprocket and literally compressing the stretched frames, and stretching the frames that have shrunk. The recognized evils inherent in a sprocket driven sound track, whether it is on an optical or magnetic film medium, are severe instantaneous sound flutter as the sprocket engages the sprocket hole, and an actual tearing and rapid deterioration of the synchronizer, the sprocket hole.

In Pic-Sync playback, the syncroll mechanism is de-activated. The composite signal is picked up off the tape, amplified, and fed into the filter circuit which separates the desired audio signal from the modulated 14,000 cps tone. This tone is demodulated in the control unit, amplified, and fed to one winding of a two-phase induction type follow-up motor which is mechanically coupled to the capstan flywheel. (See Fig. 2.) The second phase-winding is energized by the voltage driving the projector. If there is a difference or change in phase between the two voltages applied to its windings, the follow-up motor either helps or hinders the movement of the capstan shaft.

The syncroll drive mechanism of the Fairchild recorder is capable of maintaining a constant speed of the tape past the recording heads because (1) the wrap of the tape around the relatively large capstan is sufficient to eliminate slippage entirely, and (2) the capstan shaft is maintained at synchronous speed by the unique syncroll drive mechanism. Thus, of all the recorders now available, the Fairchild maintains the most accurate tape speed with respect to either long or short time intervals.

The advantages of the Pic-Sync system are particularly attractive to 16mm motion picture work. The reproduction of the 16mm recorded sound track from available projectors leaves something to be desired with respect to frequency response, flutter, and wow, even though synchronism is readily maintained. With ¼ inch magnetic tape, it is possible to provide sound quality for 16mm pictures which is even better than 35mm optical recording. Because of the low signal-to-noise ratios of optical recorders, 40-45 db is the usual, dubbing of sound tracks using the optical medium is quite restricted. In fact, where it is desired to maintain low distortion factors, dubbing must be virtually avoided. However, the Fairchild Pic-Sync has a dynamic recording range of 62 db, using the NAB standard as reference. It can be seen that if the limited dynamic range of 45-45 db encountered in optical recorders were to be applied to the Fairchild Magnetic Tape Recorder, an extraordinary number of dubbings could be taken before distortion and noise factors become restrictive.

For professional motion picture recording, no optical sound track "workprint" need ever be made until the assembly of the picture into sequences, at which time the final dubbing is done on to a master optical track. After this film is processed, all of the magnetic tape on which production recordings had been made is then released to be used over and over again. This results in an 80 to 90 per cent reduction in sound film cost alone, an appreciable part of the cost of sound recording in motion pictures. Since entirely separate media are employed for picture and sound track, it is obvious that no compromises are ever necessary between picture and sound quality.

Picture production with magnetic sound recording is in no way complicated. A single switch starts both camera and recorder, and "clap sticks" are used to establish a sync mark at the beginning of each take, a practice long used in professional production.

The cost of ¼ inch magnetic tape is so low that the initial investment for the sound track recording stock for any one production is ridiculously small—and, because of the re-usability of the magnetic medium, this small initial investment can be amortized over a number of productions. Further, ¼ inch magnetic tape is light in weight and requires fractional storage space.

It is therefore claimed that Fairchild's Pic-Sync System advances the state of the art of film making with respect to sound track recording and it does so with unusual economies.

In this brief description of the Pic-Sync system of recording, the "Control Track Generator" has been mentioned. This compact unit, roughly 8x9½x19½ inches in size and weighing only 20 pounds can be connected to most professional quality tape recorders—without the addition of extra heads—enabling them to be used for synchronous sound track recording. The Control Track Generator will be discussed next month.

THE FILMING OF "ALL ABOUT EVE"

(*Continued from Page 11*)

walls. The problem was solved by securing two-by-sixes between the walls near the ceiling using wedges protected by felt. Small illumination units—baby kegs, small spots, etc.—were then suspended from the beams, which supplied the predominance of light from overhead. There were few if any light units on the floor. These interiors were the scenes that had to match those made earlier in the Golden theatre in New York. Obviously this called for careful matching of lighting, and camera angle by Krasner so that any small difference in the architectural detail of the two locations would be minimized if not obscured.

The important early scenes in the picture in which Anne Baxter meets Celeste Holm in the alley outside the theatre, were actually shot in the alley behind the Curran Theatre. In order to film these night scenes in daytime, Krasner arranged to have the whole area covered with tarpaulins to keep daylight from the scene. Afterward, appropriate lighting was set up to create the low key illumination necessary to the illusion of night time. Here Miss Baxter set the tempo and timbre of her performance which thereafter holds the spectator spellbound — a performance which is given added lustre on the screen thanks to masterly lighting and skilled camera technique.

Anne Baxter, of course is not *the* star of the picture—there are five—including Bette Davis whose personality and charm is also seen in a new light through the lens of Krasner's camera.

With the San Francisco location shooting wrapped up, the company returned to the studio where it settled down for more than a month of solid work. Here the studio had reproduced in infinite detail interiors of New York's famous Stork Club and Club 21. While the flawless detail is the result of both producer Zanuck's and Mankiewicz's unrelenting pursuit of perfection, a big measure of credit is due art director George Davis, whom Krasner rates as one of the very few art directors who always keeps the cameraman's problems in mind when designing sets. It was Davis' understanding of photographic and lighting problems that eased the way for Krasner in all of the "Eve" in-interiors, because Davis had provided the unobtrusive openings through which Krasner's set illumination was to play so effectively—all this, of course, the re-

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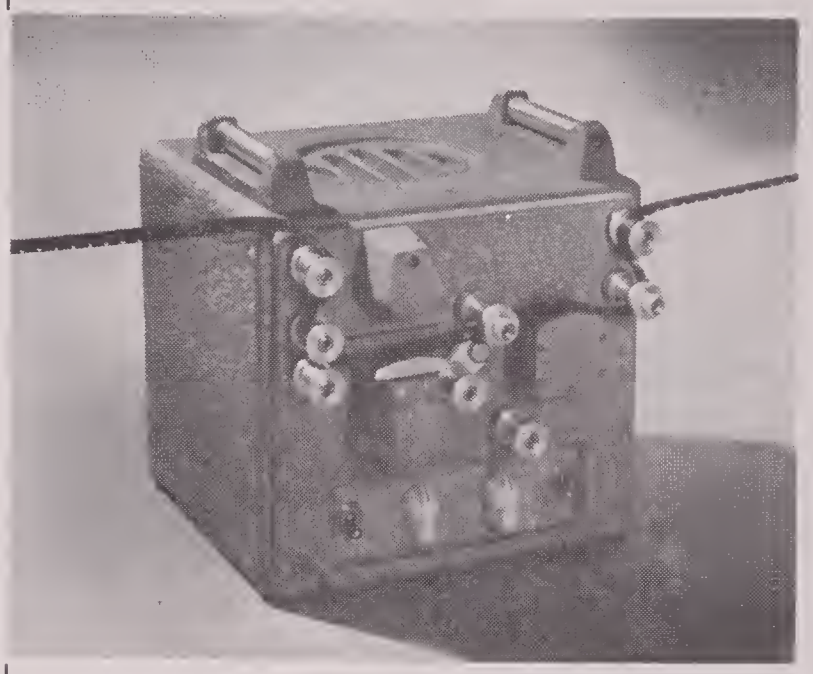

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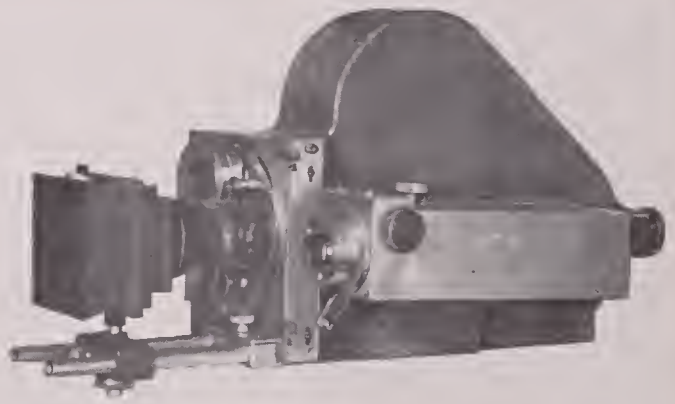

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sult of cooperative huddles at the time the set was being planned.

As related earlier, Krasner previously had shot background plates for five scenes which now were ready to be photographed on the sound stage. Background plates are scenes filmed at locations remote from the studio, then projected on a background screen in the studio with the players performing before them. The camera is synchronized with the background projector so that the shutters of both machines open and close simultaneously.

One of these background projection scenes had to do with Anne Baxter and George Sanders walking down a New York street toward the camera. In front of the BG screen a treadmill was placed and the two "walked" on this as the street scene unfolded on the screen at the rear. The final screen result is highly effective, thanks to the careful matching of the set lighting and camera angle by Krasner.

After a year in preparation—the last six months on a full production scale—the picture was finished. Over a hundred thousand feet of negative film had passed through Krasner's camera and more than double that amount of positive film and sound track printed to get the fourteen thousand feet in which the story of Eve is told.

Krasner's solid cinematographic technique first attracted the attention of Mankiewicz when he was assigned to film the latter's "House of Strangers" for Twentieth Century - Fox. So effectively did these two artists work together that they were teamed again on Fox's "No Way Out." "All About Eve" makes the third Mankiewicz-directed picture to which Krasner has lent his camera artistry and he is currently awaiting the start on a fourth. Krasner set his first award-winning stride when earlier he photographed "Three Came Home" for Fox, for which he has received the American Society of Cinematographers' "Picture Of The Month" award for the month of April. Come next April, he may also have won an Oscar for "All About Eve."

A NEW REVOLVING CAMERA MOUNT

(*Continued from Page 14*)

and furnishes power for its motor, preventing the cable from twisting while the camera is rotated.

The Revolving Camera Mount is constructed of steel and dural. The base consists of a length of eight-inch steel tubing mounted on a steel base plate. This is braced by three angle-iron members also welded to the base. The "L" camera mounting has been especially engineered to insure absolute safety of the camera and to withstand the fluctating stress generated as the camera rotates. Generous use of ball bearings insure velvet-smooth action so necessary to any camera manipulation.

The rotation movement can be driven by electric motor whenever necessary, through the addition of a pulley, belt and suitable motor. But in most cases manual operation is adequate for the effects desired.

Initial use was given this new camera mount at MGM when director of photography Robert Planck, A.S.C., employed it in shooting a trick dance routine in *Royal Wedding,* featuring Fred Astair. The sequence called for Astair to appear dancing on the walls and ceiling of a room—beginning first on the floor, then upon a wall at one side, thence on the ceiling, and down the opposite wall. The Revolving Camera Mount made it possible for Planck's assistants to quickly set the camera on its side, and later upside down, in order to photograph the action with Astair actually dancing on sets turned on their side or upside down.

Experienced cinematographers will recognize the many other photographic innovations for which this piece of equipment may be employed, and it is certain that this new MGM creation will find wide use in that studio if not in the entire industry, should MGM decide to make it available.

The Revolving Camera Mount is just another of the many cinematographic gadgets which Arnold is constantly dreaming up and putting into execution. Last month, you may remember, we described the Tripod Easi-Lift which he recently designed and put into production at MGM, which makes it easier for grips and camera assistants to lift and transport tripod-mounted cameras on sets and locations.

NEXT MONTH

The February issue will carry two unusual stories of films made by 16mm cinematographers: "Beaver Valley," Walt Disney's sensational short subject, and "Artery For Oil," documentary on laying pipeline in Western Canada.

Be sure you get the February *American Cinematogrpher.*

CINERAMA—SUPER MOVIES OF TOMORROW

(*Continued from Page 12*)

three film strips are used, this means that the total amount of film used is 4½ times as much as for a standard 35mm motion picture.

After the camera has dissected the scene into three parts, it remains for the theatre's projection system to put the parts together again. This requires three projectors instead of the customary single one. Installation of these booths and of the large curved screen will adapt existing theatres to show Cinerama films.

From angles like those of the camera lenses, the projectors throw the three sections of the picture side by side on the screen. The center section of the screen is curved, usually on a 25-foot radius, and two flat wings are tangential to this curve. The depth of focus of the projecting lenses is great enough so that the curvature of the screen presents no problem.

An innovation in each projector is a mechanical device nicknamed a "gigolo," because it jiggles up and down. Just as a photographer makes a vignette, this mask with a saw-tooth edge moves along the border of a film, so that the picture gradually fades from view at its edge. Thus adjoining films blend together on the screen without a conspicuous dividing line.

For realistic sound effects, 6 microphones in the field make individual tracks on a single 35mm soundfilm used for this purpose alone. Theatre speakers arranged in the same pattern as the microphones, are individually operated by the sound tracks. This produces the striking "sound-perspective" illusion that makes voices and music come from the right directions. A favored technique places 5 microphones and speakers, respectively, in a row across the full width of the movie set and the theatre screen. The sixth microphone is put some distance behind the camera and picks up "off-stage" sounds, reproduced in theatres by a speaker at the rear of the audience.

Recent strides in magnetic recording have led to the choice of magnetic-type sound film, which needs no laboratory processing and can be played back at once.

Like conventional movies in their infancy, the preview films are not entirely free of technical faults: for example, straight lines are distorted by certain camera angles, which must be avoided. As the sponsors point out, these are experimental films, which will be bettered as the possibilities and limitations of the

novel technique are more fully explored.

Estimates as to the cost of Cinerama equipment installed in a theatre range from $15,000 to $50,000 per set-up, and although no figure has yet been named by Cinerama sponsors pending further development work, it is likely that the established price will lie somewhere between these extremes.

Typical of the non-technical person's reaction to the Cinerama system are the following excerpts from a column by Robert Ruark, widely syndicated Scripps-Howard writer:

"I have just looked at the movies' answer to television, whether the movies know it or not. . . . Its introduction into the average movie theatre is as inevitable as the adoption of sound pictures. . . .

"As many fusty movie moguls hated the idea of the switch-over to sound, so are they cold to this new type of projection. But today many theatres are also installing massive TV equipment, with an eye to buying rights to big special events, for which they will block free showing on normal TV channels and for which they will charge admission. They are already frantic about TV inroads and figure to become more so. This is when you will get the modern miracle of the movies."

Ruark may be right.

KEEPING UP WITH PHOTOGRAPHY

(*Continued from Page 8*)

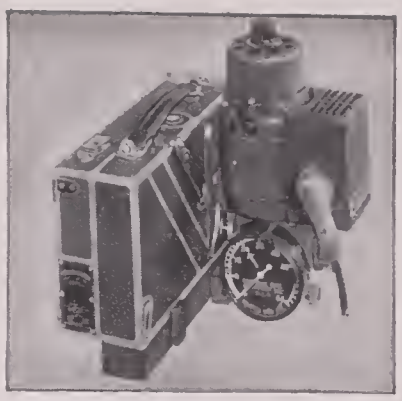
until it reaches its bottom in oil bearing sands.

Since the performance of all film is directly related to the humidity conditions under which it is stored, the new Kodak Linagraph Drift Survey Film is packed in vacuum-sealed packages which are not opened until the film is about to be loaded into the camera and the camera lowered into the well. This simple precaution brings to the technicians conducting the survey, film which is sure to be in "factory condition" when it is loaded into the camera.

In use the film is also further protected by the addition of a desiccating agent in the camera to keep the film as dry as possible during exposure.

•

ONE OF THE NEWEST developments of magnetic recording, as applied to the production of sound tracks for motion picture films, is a method of laminating a magnetic sound track over the regular optical track to provide simple, inexpensive "foreign versions" of business and industrial films.



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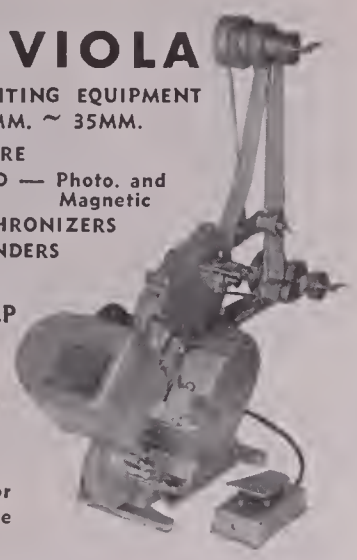

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Page 37 of this issue.

Television Filming Activities

By LEIGH ALLEN

The Government's stepped up war preparation program has put in mothballs for an indefinite period all TV film producers' plans for color films for television. Accelerated defense preparation has shut off several vital materials necessary for color television receivers, and has greatly lessened the supply of 16mm color film. Most producers, if not actually already doing so, were planning their TV film shooting on 16mm Kodachrome so films would also be available for telecasting when and if color television arrives.

•

Fred Jackman, Jr., shooting on film the TV version of Ralph Edwards' "Truth or Consequences" show, finds the assignment full of surprises. Last month he flew to Alaska to shoot the efforts of one of Edward's contestants trying to sell bathtubs to Eskimos.

•

The production of motion pictures slanted directly for showing on large theatre TV screens may get an unexpected shot in the arm because of a new Television process, which Spyros Skouras of 20th Century-Fox reportedly has secured from Swiss interests exclusively for his company.

The system, known as the Eidophor, which was recently developed for large screen use, reportedly has an external light source which provides greater image clarity than any system yet developed in this country.

•

Walt Disney's "One Hour In Wonderland," hour-long filmed TV show televised Christmas day under sponsorship of Coca-Cola Company, reportedly had a nation-wide audience of several hundred thousand video viewers — among them scores of mighty interested television film producers.

Said the *Hollywood Reporter's* reviewer of the picture:

"If Walt Disney's 'One Hour In Wonderland' can be taken as a sample of what TV entertainment will be like when the making of such pictures is taken over by major producers, you can lay your chips on TV as a medium to keep the folks at home.

"The show is a sort of Walt Disney cartoon revue punctuated with the live appearances of Disney himself as host; Edgar Bergen with Charlie McCarthy and Mortimer Snerd; Kathryn Beaumond, the voice of Alice in the forthcoming 'Alice In Wonderland'; Bobby Driscoll; Hans Conreid, as the grotesque face of the slave in the mirror who causes the various acts to materialize, and scores of others.

"Among the delightful specialties and story sequences are an elaborate production number performed by the Seven Dwarfs and Snow White; Mickey Mouse, and Donald Duck tangled in a clock-works; an Uncle Remus story, the Mad Tea Party scene from 'Alice In Wonderland,' caricatures of Ed Wynn and Jerry Colona with their own voices, some jazzy music by the Disney studio's own Firehouse Five Plus Two, and other choice tidbits, including a couple of brief chats by Mortimer Snerd with the snoozing Pluto that could have been developed hilariously in the best Kukla, Fran and Ollie tradition if time had permitted.

"Above all, the show had a freshness and newness about it that must have been welcomed with open arms as a relief from the mess of mouldy movies that have been filling the TV screen."

The live-action sequences were photographed by Lucien Andriot, A.S.C., whose technical skill in lighting and camera work contributed greatly to the program's success — especially from the video viewer's point of view.

•

Charles DeSoria, five months in Korea filming newsreel material for KTTV, returned to Los Angeles latter part of December after suffering a cracked rib in an accident in the war zone. DeSoria was one of first television newsreel cameramen on the scene, and has done a remarkable job supplying KTTV with action footage of the war, which he photographed, using two 16mm Filmos and an Auricon Cine-Voice 16mm sound camera.

•

Replacing DeSoria, is 16mm cinematographer Red Humphreys, for 20 years one of Los Angeles Times' crack news photographers. Several months ago Humphreys was transferred to KTTV's newsreel department, headed by Benjamin Berg. He arrived in Tokyo New Year's

Day—in time to shoot unusually interesting Japanese New Year's festivities—then headed for war zone in Korea.

•

Only cloud marring otherwise bright outlook of the television film industry is abrupt revelation last month that 16mm. film stock will be sharply curtailed. Preparing to allocate film supplies, the National Production Authority has asked all laboratories to furnish figures on the amount of footage used by all customers during 1949-50. Very few TV film users have any considerable record of film use during this period. Some already have been notified by Eastman Kodak Company there is no recording stock available. During World War II, allocations were based on records of previous requirements.

•

Third Annual Awards dinner of the Academy of Television Arts and Sciences, Inc., will be held Tuesday evening, January 23, at the Ambassador Hotel in Los Angeles. Emmys, the TV Academy's equivalent of the motion picture industry's Oscars, will be awarded for best performances and accomplishments in the various fields of TV endeavor, including cinematography of video films.

•

An increasing number of A. S. C. directors of photography saw activity in the television field during 1950. At least 26 members of the Society contributed their talents to the new medium either in photographing or lighting television shows, or photographing TV films. These included Lucien Audriot, Joseph Biroc, Norbert Brodine, Floyd Crosby, Clyde DeVinna, Ray Fernstrom, Henry Freulich, Paul Ivano, Fred Jackman, Jr., Benjamin Kline, Lionel Lindon, William Mellor, Harry Newman, William O'Connell, Gus Peterson, Robert Pittack, Guy Roe, Jackson Rose, James Van Trees, Mack Stengler, Walter Strenge, Karl Struss, Stuart Thompson, Gilbert Warrenton and Rex Wimpy.

•

"Movies For TV," written by John H. Battison, associate editor of *Tele-Tech Magazine* came off the press last month. Publisher is The Macmillan Company. Tome covers all phases of video film production problems, discusses the details of program planning and production, and gives specific examples of successful and unsuccessful film commercials.

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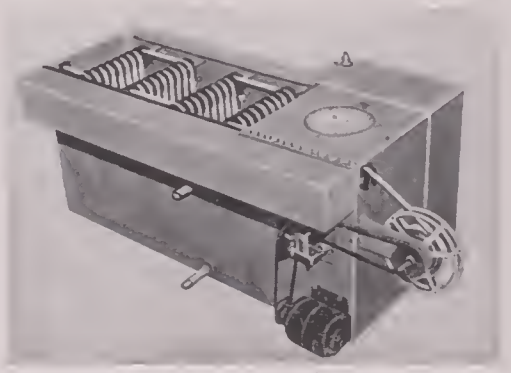

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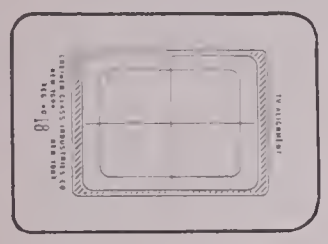

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DEVELOPING "STYLE" IN CINE PHOTOGRAPHY

(*Continued from Page 20*)

find that many such films are available for screening and study through various companies in your town, as well as through public relations offices of the larger oil companies, the railroads and the airlines.

Now let us study the actual step-by-step routine of developing style. Using a basic example, let us say that you are about to film a family camping trip. You should decide in advance whether your film story will have more audience interest if you and your camera are merely spectators or whether it will be more entertaining if you become actual participants in the excursion.

If you are convinced that a straightforward approach is the best way to handle your camping trip picture, then it is unnecessary to point up the fact that the cameraman is a member of the party. Similarly, the angles you would adopt would simulate the straightforward point of view of a spectator standing more or less apart from the action of the group, and recording various activities as they occur. This does not mean that you will avoid the use of closeups or shoot everything from a spectator's distance, however, but the camera (and you as the cameraman) will not become involved in the pictured action itself.

On the other hand, if you decide to enter into the spirit of the thing as a participant, your camera will assume a more subjective point of view. You will show the various activities as they look to you, actually in the big middle of it all. For example, if there is food being passed around, someone might offer a filled plate to the camera, and your free hand might come out from under the lens to accept it. If you are lying on your stomach or sitting in a tree to watch some of the goings-on, your camera would similarly assume these angles. From time to time during the course of the trip, you might hand the camera to someone else so that he can make shots of you in these various attitudes to tie in with the footage you yourself film.

This latter style of filming is less formal than the other, and more interesting for the family type of picture. All too often, we see reel upon reel of personal movies without ever catching a glimpse of the cameraman, who is or should be very much a part of the group engaged in the activity shown. Also, this subjective point of view can add a certain humor and personality to the entire film.

Broadening our scope, let us see how style can be adapted to fit the various types of cine photography which you are likely to want to do. In filming the family participating in occupations and activities which you will want to fondly review at a later date by means of motion pictures, it is a good idea to keep the whole thing very personal and informal, as we have already pointed out. In addition, however, it is nice to have the participants look as well as possible in the resulting film, so that later screenings will be a source of pleasure rather than embarrassment to the people pictured. With this in mind, there are certain adaptations of style and technique which will help you to get a flattering result.

Coupled with proper makeup of your female subjects, good lighting is much to be desired. In the case of interior sequences, good basic lighting need not be complicated. For color, a ratio of two to one between the key light and the fill light will give a nicely balanced effect, but the finishing touch will be provided by a back light placed above and behind the subject, slightly favoring the shadow side of the head. Such a light not only separates the subject from the background, but produces a modeling and a luster to the hair that is quite flattering.

Applying similar techniques to exterior filming, we find that the same flattering effects can be achieved through the use of reflectors. Close-ups of people shot in bright sunlight are often unflattering because of deep shadows around the eyes and one side of the face. Simple reflectors constructed of crumpled silver foil affixed to plywood panels will do away with with these shadows and provide a nicely-modelled lighting. The highlight effect from the back can be achieved by placing a reflector up high behind the subject in the same way as a back light.

Carrying the idea even further, study your subject to see whether he or she will look better in profile, full face, or from a high or low angle. Careful attention to framing and composition will give your movies a technical style that will lift them above the level of haphazard home movies.

If you develop an interest in a particular type of motion picture subject matter, you should strive to evolve a style that will compliment it. For example: in filming a local news event, your camera is definitely a spectator; therefore avoid the subjective treatment already described above. The reason for this is that it is the subject and not the cameraman that is important to the

audience, which would prefer not to be conscious either of the equipment or the individual who was doing the filming. Therefore a straightforward, uncomplicated approach that clearly and forcefully shows the details of the situation is much to be desired. Where the action pictured is starkly realistic, avoid the use of reflectors or other technical aids which, by making the photography too glossy, would detract from the force of the action. The so-called "documentary" quality, which has been applauded in photoplays and featurettes and based on actual happenings, is usually nothing more than straightforward photography, filming the subject as it actually looks without benefit of mechanical glamor.

The next logical step for the amateur or semi-professional cameraman interested in developing a style is an experiment in filming a dramatic or "story" type of picture. Far from being a Hollywood production, this may be based on a simple little script written to utilize family and friends as actors. By "dramatic" we do not necessarily mean a serious theme; on the contrary, a comedy type of script may prove very entertaining from the standpoint of filming and viewing. The trick here, after a simple script has been written, is to go over each sequence carefully and decide what type of camera and lighting treatment would best do justice to the action as written.

In a light comedy sequence, for example, high key lighting which is bright and sparkling will help convey the proper mood. A serious dramatic sequence, on the other hand, will usually benefit from low key lighting with many shadows subduing the background and that which is not the most important part of the action. If you wish the audience to feel superior to the situation or a certain character, a high camera angle will usually produce the effect. Similarly, if you wish a character to dominate the screen, place your camera at a low angle so that he will seem to loom importantly into the frame. The use of a wide-angle lens will exaggerate both of these effects.

The wide angle lens can be used in another way to add style to your dramatic film. By framing an action sequence with either an object or person tightly framed in the foreground, you create not only a more forceful composition, but also a certain dramatic relationship between the two ideas represented. For example, if you adopt a wide angle composition showing a telephone in the foreground filling half the screen, while a character paces nervously up and down in the background, the audience will immediately assume that he is anxiously expecting a phone call. Learning to tie such ideas together photographically is one of the

(*Continued on next page*)

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Current Assignments of A.S.C. Members

Major film productions on which members of the American Society of Cinematographers were engaged as directors of photography during the past month.

Columbia

• BURNETT GUFFY, "Sirocco," with Humphrey Bogart, Lee J. Cobb, Marta Toren and Everett Sloane. Curtis Bernhardt, director.

• HENRY FREULICH, "My Story," with Willard Parker, Helen Walker, Elizabeth Risdon, Emory Parnell and Aldo Da Ray. Mickey Rooney, director.

• PHILIP TANNURA, "Criminal Lawyer," with Pat O'Brien, Jane Wyatt, Mike Mazurki and Mary Castle. Seymour Friedman, director.

• ELLIS CARTER, "Magic Carpet," (Technicolor) with Lucille Ball, John Agar, Patricia Medina and George Tobias. Lew Landers, director.

• ALLAN SIEGLER, "No Help From Heaven," with Dane Clark, Cathy O'Donnell, Tom Drake and Rhys Wiliams. Ralph Murphy, director.

Independent

• JAMES WONG HOWE, "He Ran All The Way" (Roberts Prod.), with John Garfield, Shelly Winters, Wallace Ford, Gladys George. John Berry, director.

• ERNEST LASZLO, "When I Grow Up" Horizon Prod.), with Robert Preston, Martha Scott, Bobby Driscoll, and Charles Grapewin. Michael Kanin, director.

• PAUL IVANO, "The Bridge," with Hugo Haas, Beverly Michaels, Robert Dane, Anthony Jochim. Hugo Haas, producer-director.

• ERNEST MILLER, "Frontier Phantom," (Western Adventures Prod.) with Peggy Stewart, Ray Bennett, Clark Steven and Byron Keith. Ron Ormond, director.

• MARCEL LEPICARD, "A Wonderful Life," (Protestant Film Comm. Prod.) with Arthur Shields, Andrew Toombes, John Hamilton and Dorothy Vaughn. William Beaudine, director.

M-G-M

• ALFRED GILKS, "Excuse My Dust" (Technicolor), with Red Skelton, Sally Forrest, MacDonald Carey, William Demarest and Monica Lewis.

• ROBERT PLANCK, "Rich, Young And Pretty" (Technicolor), with Jane Powell, Vic Damone, Wendell Corey, Danielle Darrieux and Una Merkel. Norman Taurog, director.

• CHARLES ROSHER, "Showboat" (Technicolor), with Kathryn Grayson, Ava Gardner, Howard Keel, Joe E. Brown, Agnes Moorhead. George Sidney, director.

• JOSEPH RUTTENRERG, "Kind Lady," with Ethel Barrymore, Maurice Evans, Angela Lansbury, Keenan Wynn, Doris Lloyd and Betsy Blair. John Sturges, director.

• GEORGE FOLSEY, "People In Love," with Ray Milland, John Hodiak, Nancy Davis, Jean Hagen, Lewis Stone and Gordon Gebert. Fletcher Markle, director.

• HAROLD ROSSON, "Love Is Better Than Ever," with Elizabeth Taylor, Larry Parks, Josephine Hutchinson and Tom Tully. Stanley Donen, director.

• HAROLD LIPSTEIN, "No Questions Asked," with Barry Sullivan, Arlene Dahl, George Murphy, Jean Hagen, Richard Anderson and Dick Simmons. H. F. Kress, director.

Monogram

• WILLIAM SICKNER, "Rythm Inn," (Lindsley Parsons Prod.) with Jane Frazee, Kirby Grant and Lois Collier. Paul Landres, director.

Paramount

• CHARLES LANG, "Quantrell's Raiders" (Hal Wallis Prod.), with Alan Ladd, Wendell Corey, Arthur Kennedy. William Dieterle, director.

• DANIEL FAPP, "Rendezvous," with Joan Fontaine, John Lund, Mona Freeman and Peter Hanson. Mitchell Leisen, director.

• RAY RENNAHAN, "Fort Savage" (Formerly titled "Devil's Canyon) (Nat Holt Prod.), with Sterling Hayden, Barbara Rush, Forrest Tucker, Arleen Whelan, Richard Arlen, Victor Jory, Edgar Buchanan, Carl Thurston. Ray Enright, director.

• GEORGE BARNES, "Here Comes The Groom," with Bing Crosby, Jane Wyman, Franchot Tone, Robert Keith and Jacky Gencel. Frank Capra, producer-director.

• LEE GARMES, "That's My Boy," (Hal Wallis Prod.) with Dean Martin, Jerry Lewis, Ruth Hussey, Eddie Mayehoffe and Polly Bergen. Hal Walker, director.

• JOHN SEITZ, "When Worlds Collide," (Technicolor) with Richard Derr, Peter Hanson and Larry Keating. Rudolph Mate, director.

R.K.O.

• KARL STRUSS, "Tarzan's Peril" (Sol Lesser Prod.), with Lex Barker, Virginia Huston, George Macready, Glenn Anders and Douglas Fowley. Byron Haskin, director.

• RUSSELL HARLAN, "The Thing" (Winchester Pictures), with Kenneth Tobey, Margaret Sheridan, James Young. Christian Nyby, director.

• EDWARD CRONJAGER, "Two Tickets To Broadway" (Technicolor), with Janet Leigh, Tony Martin, and Smith & Dale. James V. Kern, director.

• WILLIAM SNYDER, "Flying Leathernecks" (Technicolor), with John Wayne, Robert Ryan, Don Taylor, Jay C. Flippen. Nicholas Ray, director.

20th Century Fox

• LEON SHAMROY, "On The Riviera" (Technicolor) with Danny Kaye, Gene Tierney, Corinne Calvet, Marcel Dalio, and Ann Codee. Walter Lang, director.

• FRANK PLANER, "Legion Of The Damned" (Shooting In Germany), with Gary Merrill, Richard Basehart and Oscar Werner. Anatol Litvak, director.

• JOE MACDONALD, "U.S.S. Teakettle," with Gary Cooper, Eddie Albert, Jane Greer, and Millard Mitchell. Henry Hathaway, director.

• CHARLES G. CLARKE, "Kangaroo" (Technicolor) (Shooting In Australia), with Maureen O'Hara, Peter Lawford, Finlay Currie and Richard Boone. Lewis Milestone, director.

• LEON SHAMROY, "David And Bathsheba" (Technicolor), with Gregory Peck and Susan Hayward. Henry King, director.

• JOSEPH LASHELLE, "The Guy Who Sank The Navy," with Paul Douglas, Joan Bennett, Linda Darnell, Don DeFore and Zero Mostel. Joseph Newan, director.

• JOE MACDONALD, "Will You Love Me In December," with Monty Wooley, Jean Peters, Constance Bennett, Marilyn Monroe and David Wayne. Harmon Jones, director.

• NORBERT BRODINE, "The Frog Men," with Richard Widmark, Dana Andrews, Gary Merrill, Jeffrey Hunter, Robert Wagner and Warren Stevens. Lloyd Bacon, director.

Universal-International

• CLIFFORD STINE, "Air Cadet," with Stephen McNally, Gail Russell, Richard Long, Alex Nicol, Charles Drake, James Best, Rock Hudson, and Russell Dennis. Joseph Pevney, director.

• CHARLES BOYLE, "Don Renegade" (Technicolor), with Ricardo Montalban, Cyd Charisse, Andrea King, Gilbert Roland, J. Carrol Naish, George Tobias, Antonio Moreno and Bridget Carr. Hugo Fregonese, director.

• WILLIAM DANIELS, "Bonaventure," with Claudette Colbert, Ann Blyth, Robert Douglas, Anne Crawford. Douglas Sirk, director.

• RUSSELL METTY, "Little Egypt" (Technicolor), with Mark Stevens, Rhonda Fleming, Nancy Guild, Charles Drake, Jerome Cowan, Leon Belasco, Minor Watson. Frederick de Cordova, director.

• IRVING GLASSBERG, "Francis Goes To The Races," with Donald O'Connor, Piper Lauri, Jesse White and Cecil Kellaway. Arthur Lubin, director.

• MAURY GERTSMAN, "Cattle Drive" (Technicolor), with Joel McCrea, Dean Stockwell, Chill Wills. Kurt Neumann, director.

• CARL GUTHRIE, "Hollywood Story," with Richard Conte, Julia Adams, Henry Hull and Housley Stevens. William Castle, director.

Warner Brothers

• ROBERT BURKES, "Strangers On A Train," with Robert Walker, Ruth Roman, Farley Grainger, and Pat Hitchcock. Alfred Hitchcock, director.

• EDWIN DUPAR, "The Story Of Folsom," with David Brian, Steve Cochran, Dick Wesson, Ted de Corsia. Crane Wilbur, director.

• SID HICKCOX, "Fort Worth," with Randolph Scott, David Brian, Phyllis Thaxter, Helena Carter, and Henry Hull. Edwin L. Marin, director.

DEVELOPING "STYLE" IN CINE PHOTOGRAPHY

(Continued from Page 33)

elements which will give your photography professional style.

One of the most valuable devices used in professional filming is the moving camera shot, in which the camera approaches or withdraws from the subject as the action demands. While in Hollywood this is accomplished by means of elaborate camera cranes, booms, and dollies, it is possible for the amateur cameraman to improvise simple methods of achieving a similar effect. Wagons, loading carts, and automobiles smoothly pushed by willing hands, can help the amateur cameraman to achieve a fluid

effect. Thus he can move in to a close-up or pull away to a long shot as the action develops, combining in one "take" several angles which otherwise would have to be achieved through a series of individual shots cut together.

Study the techniques of professional cameramen as shown in the professional films at your theater, then apply and adapt these techniques in your cinematography. Starting with this imitative approach, you will find that more and more you will be improvising and adding techniques of your own, until at last you will have developed a style which is not only uniquely your own but also effective from the audience's point of view.

SOUTH AMERICAN FILM LABORATORY

(Continued from Page 35)

two 35mm sound developers, two 35mm picture negative developers, and one 35mm-16mm color Monopack developer. For 16mm, there is one positive and two picture negative developers. All of this equipment was designed and built by the laboratory's engineering department. The twelve developing machines give the laboratory a total daily capacity of 550,000 feet of film.

Range of equipment in the printing room is impressive. Here will be found six Bell & Howard 35mm picture negative printers, four B&H 35mm sound negative printers and one RCA. For color printing there is one Cinema Arts 35mm bi-pack color printer and one Duplex Step Printer for 35mm Monopack color.

For 16mm reduction printing there are two Depue optical reduction printers and one Shusteck optical printer; and for 16mm sound reduction prints, there are one Depue and one Alex printer. For 16mm positive contact printing, there are one Depue, one Fried and one Bell & Howell continuous printers. Other equipment affords production of 35mm registration prints and 35mm dupe negatives. In all, the 24 machines in this department provide a daily capacity of 550,000 feet of film.

The seven projection rooms are equipped with both 16mm and 35mm sound projectors. In the cutting and editing rooms are twelve Moviolas for positive film and twelve for negative. Nine cameras of various makes comprise the title department photographing equipment, and in the optical department, one Debrie "Truca" optical printer satisfies the laboratory's present requirements.

A special section of the laboratory is devoted to the processing of the company's own Bi-Pack color process, "Alex-Color." Here a step-printer built by the Cinema Arts & Crafts Co., Hollywood, is used for the copying of both negatives in one operation. Color work on prints is done by a combined process of coloring and tinting in a specially constructed machine designed by the company's engineering department.

The meticulous attention given all processes by the laboratory's Control Department is facilitated by such items of equipment as Eastman processing control potentiometers, Western Electric photocell densitometers, Eastman Nr. 1 color densitometers, Eastman "Capstaff & Purdy" densitometers, Leeds & Northrup potentiometers, and two Bausch & Lomb precision microscopes.

The preparation of developing solutions is a large scale operation. For this a special room is provided which houses a battery of fifteen developer circulating tanks. These have a total capacity of 4,000 gallons for positive and 5,000 gallons for negative developer. The solutions are piped directly to the developing room under pressure supplied by motor-driven pumps.

A complete chemical laboratory adjoins the Technical Office. This is equipped with three large stainless steel tanks, each having a capacity of 1,000 liters; also centrifugal "stirring units" for the preparation of negative, positive and sound film developers. A separate room, 45 by 15 feet in size, is set apart for the storage of chemicals, and has a direct exit to a side street.

The laboratory building is constructed on a solid foundation of pylons which rise nine feet above the ground level. At no point is the structure in direct contact with the earth. Since all rooms are artificially illuminated and air-conditioned there are no outside openings to the laboratory proper, thus safeguarding the interior of the building from external light and temperature changes.

Wholly planned and designed by Santini, Laboratorios Alex, S. A. is a tremendous achievement for a man who, only twenty-two years ago, took up the hobby of amateur movie making and gradually progressed in the science of motion picture production in a country that admittedly offered a very limited field of opportunity as compared to Hollywood and other large motion picture production centers. Now, Santini and his Laboratorios Alex, S. A., is destined to create greater opportunities for film production in South America, both for the producers of that continent and those of American and other countries who may find occasion to produce there. His laboratories not only have the capacity to serve such film makers, but the technically trained men to assure top quality work in all departments. END.

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- A new six element high quality lens for the 16 and 35mm. film camera. Corrected for all aberration at full opening, giving highest definition in black-&-white and color. Made by skilled technicians with many years of optical training.
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- This lens comes in C mount for 16mm. cameras. Fitting to other cameras upon special order.
- Sizes available now: 35 and 50mm. uncoated and 75mm. coated.

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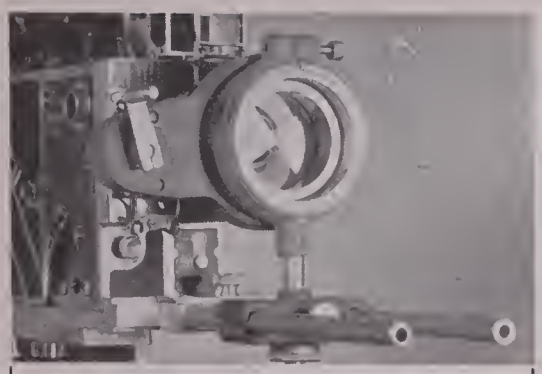

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Complete Film Editorial Facilities for Motion Picture & Television Production
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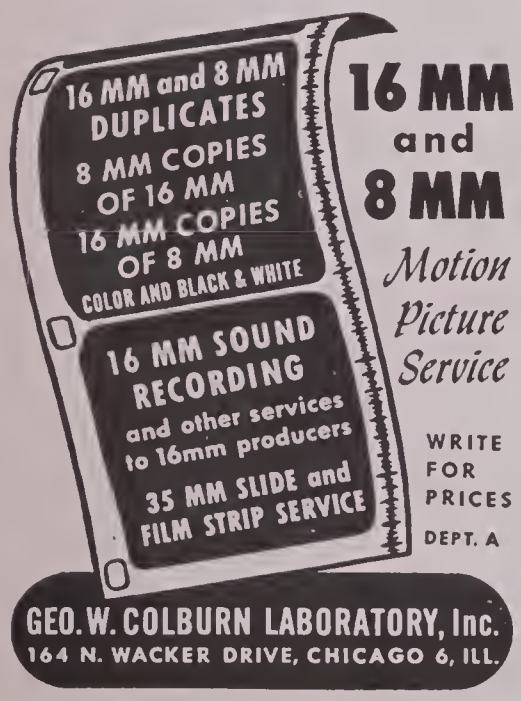

WHAT'S NEW

in equipment, accessories, service

Film and Tape Sound Reader

Schoen Products Co., 519 East 31st St., Los Angeles, manufacturers of motion picture and photographic equipment, announce a new combination sound reader for use with either optically or magnetic recorded sound tracks. The unit accommodates both 16mm and 35mm film, also 8mm, 16mm and 17½mm magnetic tape or film.

Tradenamed the "Studio Sound Reader," it includes such features as 115-v AC-DC (50-60 cycle) amplifier having a response from 50 to 7500 cycles; magnetic head with low hum level; oversize P.M. speaker; standard 927 photocell, tone control; separate controls for exciter lamp and tape head and polished handle rollers for bypass of picture original in editing.

Roller guides are easily changed with provided Allen wrench, affording adjustment for use with above specified film and tape sizes. For 35mm sound film, a complete set of rollers and head track is provided with each machine. These may be easily installed by user.

Price is $139.50, f.o.b. Los Angeles.

Gordon Enterprises Moves

Gordon Enterprises, formerly the Coogan Company located at 3719-3729 North Cahuenga Blvd., North Hollywood, has moved to new and larger quarters at 5362 North Cehuenga Blvd. In addition, company has acquired a new warehouse at 10615 Chandler Blvd., in the same city.

Expanded facilities now permit company to offer services in overhauling and servicing of motion picture equipment. New building features a large machine shop with latest precision tools and an air-conditioned instrument repair shop. A new and enlarged parts department enables company to render more efficient and expedited service.

Among Gordon Enterprises' inventory of new and re-conditioned motion picture equipment in their salesroom are 16mm and 35mm motion picture cameras, Mitchell- and Bell & Howell-mounted lenses, 16mm and 35mm projection equipment, reels, cans and cases, screens, animation stands, tripods, automatic 16mm and 35mm film processing machines and dryers, editing and cutting equipment, continuous and step printers, studio lights, Moviolas, and Mitchell camera equipment of all types.

Booklet On Editing

"Tips On Editing And Titling" is title of new booklet just issued by Bell & Howell Company, Chicago, and available to amateur movie makers at camera stores and Bell & Howell equipment dealers. Step-by-step instructions show the amateur how to make and photograph titles, how to edit his films to make interesting continuities. Price of booklet is five cents.

Finder Glasses

Following initial announcement last month of their new TV Alignment Ground Glass for viewfinders of 35mm cameras used in production of motion pictures for television, Greiner Glass Industries Co., 781 East 142nd St., New York, announce three new ground glasses for 35mm Mitchell cameras: (1) Standard ground glass scribed for a camera aperture of .868" x .631", projection aperture, 16mm reduction (cut off) line, horizontal and vertical center lines and sound center line whenever desired; (2) special camera effects ground glass scribed for same camera and projection aperture, screen gridpattern dividing and sub-dividing the field in equal squares, and horizontal and vertical center lines indicated; (3) animation ground glass scribed for silent (full) aperture (.970" x .720"), camera aperture, home receiver picture area aperture, horizontal and vertical center lines, and sound center line.

Finder ground glasses are available for other makes of 35mm motion picture cameras including Bell & Howell, B&H Eyemo, and Wall.

(Continued on Page 38)

CLASSIFIED ADVERTISING

RATES: ten cents per word — minimum ad $1.00. Ads set in capital letters, 60c per agate line.

FOR SALE

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WALL SINGLE SYSTEM CAMERA, 35mm, 50mm, 75mm, 100mm F2.3 Coated and "T" scaled lenses 2 1000' Magazines, Berndt V.A. Galvo, 2 position amplifier with noise reduction, W.E. Microphone, cables, battery, cases, etc. EXCELLENT Condition. Guaranteed $7,200.00

NCL, 12 Volt D. C. Motor for Mitchell or B&H complete with tachometer, cable and case. Like new 235.00

Synchronous 220 Volt, 3 phase, 60 cycle synchronous motor complete with cables, case, transformer and adapter for DeBrie Camera 275.00

"NEW EQUIPMENT"

Kodak Model 1 Color Densitometer, Demonstration Model 50.00
Animation motor for Cine Special.....$425.00
Animation motor for Maurer $455.00

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35MM. INTERMITTENTS—now only $75.00 each —precision machining, excellent design. Perfect for Printers, Animation Cameras, Slide Film Cameras, and for silencing and modernizing motion picture cameras. Double pull-down claws and double registration pins, at aperture. Entire unit in light-tight metal case to accommodate 200-foot roll, complete with take-up. Light trap at aperture. Original cost $1,000.00.

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RCA 35MM. SOUND RECORDER, THOROUGHLY tested like new condition Model P.R. 18, license not necessary. Buyer owns equipment.

W. E. 35MM. 200 Mil Push Pull Sound Truck complete "licensed."

MOLE-RICHARDSON "170" Hi-intensity Arcs and "B90" Hi-intensity arcs, also type "40" **DU-ARCS, Box 1103, AMERICAN CINEMATOGRAPHER.**

WALL 35MM. single system sound camera, refinished, like new, guaranteed. Complete with 40, 50, 75 and 100mm. F2.3 coated lenses; Modulite galvonometer; Auricon amplifier, complete with microphone, necessary cables, mike tripod; camera tripod; erect image viewfinder; two 1000 ft. magazines. $7000.00

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WE BUY, SELL AND RENT PROFESSIONAL AND 16mm. EQUIPMENT, NEW AND USED. WE ARE DISTRIBUTORS FOR ALL LEADING MANUFACTURERS. RUBY CAMERA EXCHANGE, 729 Seventh Ave., New York City. Established since 1910.

WE Buy, Sell, Trade Cameras, Projectors, Laboratory and Cutting Room Equipment, 8-16-35-mm. We pay highest prices. Carry one of the most diversified stocks in America. Mogull's Camera & Film Exchange, 112-114 W. 48th St., New York 19, N. Y.

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F & B FOR EVERYTHING IN MOVIE EQUIPMENT

Arriflex camera, 3 lenses $725. Eyemo turret, 3 lenses, $575. Cine-Special, 2 lenses, $395. De Vry 35mm, 2 lenses, extras, $165. Eastman Hi-Speed camera, $1100. De Vry 16mm sound camera, $1100. Maurer Model D recorder, complete, used—Auricon outfit, complete, used —Colortran lights, used—Spot kit, $165. Grover kit, $100. Prof. Jr. tripod, $110., also Moviolas, viewers, editing equipment, and supplies. Trades always welcome. Write for complete price lists. FLORMAN & BABB, 723 Seventh Ave., New York 19, N. Y.

MOLE-RICHARDSON — 24" Sunspots. BROWN-ASHCRAFT Rotary Spots. Some converted to 100 Amp. H. I., F.O.B. New York. Box 1106. AMERICAN CINEMATOGRAPHER.

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Auricon CM-71 camera .like new $1275.00
Auricon recorder and amplifier, A&B wind, excellent $450.00
B&H Utility sound projector $125.00
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Auricon blimp and sync motor for Cine-Special $350.00; less motor $275.00
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Arriflex 35mm camera, three lenses, two 200' magazines, case $895.00

Buy, sell, trade all 16-35mm production equipment. We want Mitchells, Maurers, Moviolas, Cine-Specials.

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BELL & HOWELL RACKOVER Equip. with Fearless shuttle, 12-volt motor. Tachometer, 4 lenses. Has cutout slot for Galvanometer or Glow lamp. Carl Zeiss binocular microscope with camera "Zeiss" and holders. Box 1102, AMERICAN CINEMATOGRAPHER.

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Bass puts thru a special call
To camera-owners, big and small
Who want a new one on a trade,
And know with Bass a deal is made.

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Bass buys 'em, sells 'em, and trades 'em. BASS CAMERA COMPANY, Dept. AC, 179 W. Madison St., Chicago 2, Ill.

FAST, Film-Strong Hot Splices on your Griswold with Ariel splicer heater. 115-V. Guaranteed, $8.95 prepaid. No C.O.D. ARIEL, Box 2088, Hollywood 28, Calif.

CARL ZEISS BINOCULAR microscope with camera "Zeiss" and Holders. BELL & HOWELL RACKOVER Equip. with Fearless shuttle, 12-volt motor. Tachometer, 4 lenses. Has cutout slot for Galvanometer or Glow lamp. Box 1104, AMERICAN CINEMATOGRAPHER.

ONE ARRIFLEX CAMERA. One 16mm. Sound Printer. One way tilt head for dolly gear heads. One B & H 35MM. PROFESSIONAL camera completely rebuilt & guaranteed. One DUPLEX 35mm. double frame printer. ASSORTED LENSES in Mitchell mounts. MITCHELL TRIPOD, friction heads. Gear head, finders, matte box. AKELEY Gyro Tripod. For complete details write to BOX 1105 AMERICAN CINEMATOGRAPHER.

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Bell & Howell 35mm. Standard Perforator tools; some new, some slightly used:

6 — Punches
15 — Pilots
8 — Dies Complete

Current Value: $8,213.08
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TOP QUALITY CINE LENSES—The world's largest selection of fine cine lenses (Zeiss, Cooke, Astro, Bausch & Lomb, Goerz and many others) available on 15 day trial - High Speed, Wide Angle, Telephoto - In focusing mounts coated to fit - Eyemo, Bell & Howell Professional, Mitchell 35 and 16, Maurer.

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AVAILABLE for assignments in Hawaii. Professionally equipped with 35mm. and 16mm. cameras. TOM MATSUMOTO, 140 So. Beretania St., Honolulu, Hawaii.

CRACK MOTION PICTURE cameraman available—25 years experience. Will go anywhere. Box 1108, AMERICAN CINEMATOGRAPHER.

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EASTMAN Processing Control Sensitometer..$795.00
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CABLE: CINEQUIP

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National organization seeking professional quality color footage. Particularly interested in Panama, Peru and Glacier Park, but will consider other material of educational value. Give complete description and details in first letter. Box 1107, AMERICAN CINEMATOGRAPHER.

I AM interested in buying the following equipment: AURICON Model RT-80 Recorder; AURICON Model DPT-10 Dual Phono-Turntable; AURICON Model PS 21 Portable Power Supply Unit; AURICON Tripod also geared head tripod. All letters will be answered. Box 1101, AMERICAN CINEMATOGRAPHER,

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F & B BUYS EVERYTHING in 16mm and 35mm movie equipment. Highest cash prices paid. It will pay you to get our offer first. FLORMAN & BABB, 723 Seventh Ave., New York 19, N. Y.

MISCELLANEOUS

BACK ISSUES

of The American Cinematographer are available for most months of 1948 and 1949. Many earlier issues also available. All contain valuable technical articles and information relative to contemporary motion picture photography. The December issues contain an annual index as a guide to content of each year's 12 issues. Price of back issues: In U. S., 30c; Foreign, 40c.

THE AMERICAN CINEMATOGRAPHER
1782 N. Orange Dr., Hollywood 28, Calif.

(Continued on next page)

Classified Ads

(Continued from Page 37)

LABORATORY & SOUND

SOUND RECORDING at a reasonable cost. High Fidelity 16 or 35. Quality guaranteed. Complete studio and laboratory services. Color printing and lacquer coating. ESCAR MOTION PICTURE SERVICE, INC., 7315 Carnegie Avenue, Cleveland 3, Ohio. Phone ENdicott 2707-8.

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WE EXPOSE—you develop pin-up studies on 620 rolls. Eight exposures $3.00 per roll. Four different $10.00. No c.o.d.'s JAMES ELLARD, 2925½ North Main St, Los Angeles 31, California

PATENTS

INVENTORS: The usual first step is to have a search of the U.S. Patents conducted, so I can report on patentability. Write, without obligation, PATRICK D. BEAVERS, Registered Patent Atty., 1021 Columbian Bldg., Washington 1, D.C.

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New York 14, New York

— Established 1914 —

Designers and manufacturers of silent and sound motion picture cameras with 225° shutter opening, (288° shutter opening for television use), gyro tripods and precision instruments. Complete engineering and machine shop facilities for experimental work, model and production runs.

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Continuous and Reduction

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WHAT'S NEW

In Equipment, Accessories, Service

Leica Lens Adapter

The entire assortment of Leica camera lenses, which couple to the Leica range-finder, may now be adapted for use on the Cine Kodak Special I camera, using the new Tenplus Adapter.

Adapter permits use of the regular reflex finder of the Cine Special camera for focusing, as well as the Tenplus Adapter's eye-level finder. This is masked for 50mm, 90mm, and 135mm, Leica lenses. Other size masks are also available on special order.

The Tenplus adapter is custom-made and fully guaranteed. Leica lenses screw directly into the Adapter which in turn is securely locked in place on the lens turret of the Cine Special. Except for the larger Leica telephoto lenses, the Tenplus Adapter permits use of all Leica lenses, Leica Microscope Adapter and Leica Extension Tubes on the Cine Special I.

Priced at $46.50, the Tenplus Adapter is available from the Tenplus Company, 43-E Garden Drive, Roselle, New Jersey.

East Coast Equipment Center

Aiming for greatly expanded activities during 1951 in the business of buying, selling and trading 16mm and 35mm motion picture equipment is the firm of Florman & Babb, 723 Seventh Ave., New York City, right in the heart of New York's film production center. Both Babb and Florman are professional cameramen, know production problems and equipment from A to Z.

Reflex-Image Magnifier

Owners of Cine Kodak Special cameras will be interested in announcement of a new reflex-image magnifier by Pictorial Enterprises, 258 Clara St., San Francisco, Calif. Available for either the model I or model II Cine Special with 100 ft. film magazines, magnifier features a very sharp field, 7X-8X magnification of full ground glass field and a 13X-14X power on approximately 25% of center area for highly critical focusing.

Instrument attaches to camera with a single mounting screw at top-center of film magazine, and swivels away when top-of-magazine viewfinder is to be used. It involves no interference with side mounted finders or magazine exchanges. List price is $75.00.

Film Protection Service

Rapid Film Technique, Inc., 21 West 46th St., New York City, announces increased facilities for offering to the motion picture industry its film renovation and lacquering service. This consists of renovating used 35mm and 16mm negatives and originals, prints and duplicates, color and black and white; and the lacquering of the emulsion side of new 35mm and 16mm prints.

The renovation process is said to remove scratches and abrasions on both sides of the film, restoring its flexibility. A coating of lacquer applied to emulsion side of film protects against recurrence of scratches. In the lacquer process, a thin, transparent film of lacquer is applied to emulsion side to give protection to new films.

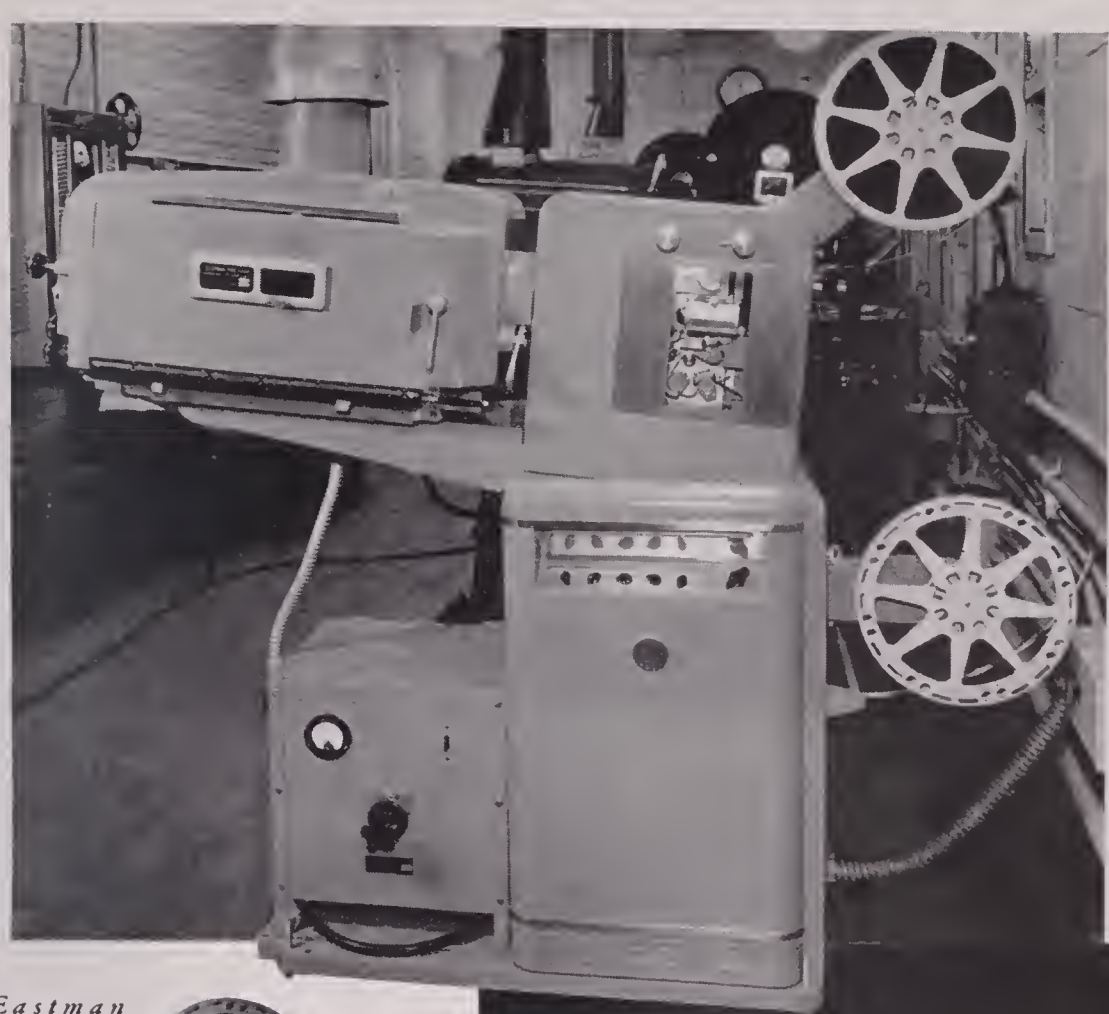
The company offers to service a sample reel of film to demonstrate effectiveness and economy of its processes.

DON'T TALK TOO MUCH!

(Continued from Page 22)

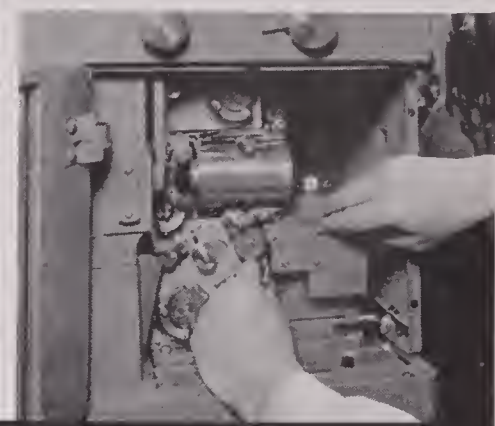
tographed from the ledge behind Thornton Force, Ingleton. But this digression would have got me nowhere. So I left well enough alone and shut up. Instead of my voice, there's a snatch of light-hearted music to match the sparkling gaiety of the scene.

In supplying information, picture and commentary should go hand in hand. Remember the use of commentary for continuity links. A sentence will often save a great deal of footage. Commentary can, for instance, be used to indicate a time lapse. No need to invent variations on the theme of the spinning clock hands, or the growing heap of cigarette ends in an ash tray. Even a fade may be unnecessary. A word or two will do the trick. The sound record can assist transitions of all kinds, but beware of taking too much advantage of this, or your film may jerk like a grasshopper with St. Vitus dance. Develop a happy medium and a more professional result will follow.

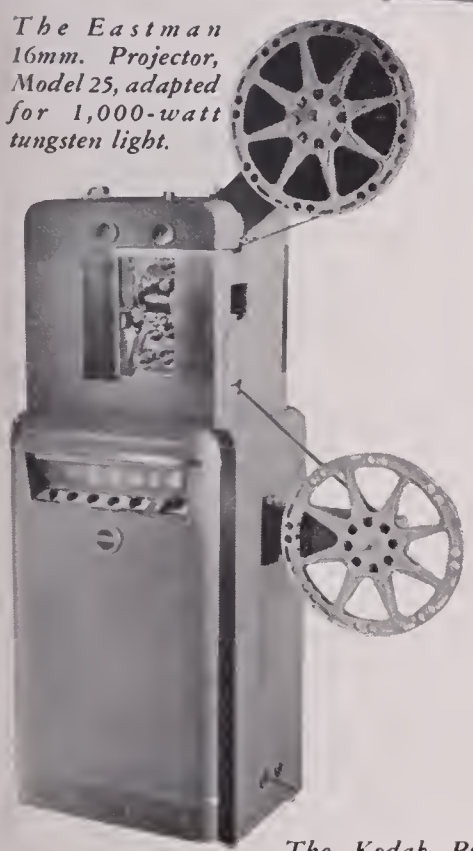


Left, the Eastman 16mm. Projector, Model 25, brings 16mm. projection to the professional level. Shown here, adapted for arc illumination, permanently installed alongside 35mm. equipment.

Below, working parts of the film movement mechanism are in constant view of the operator . . . readily accessible for threading and cleaning.



The Eastman 16mm. Projector, Model 25, adapted for 1,000-watt tungsten light.



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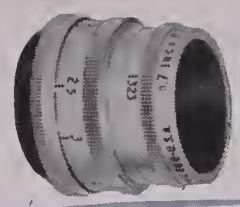

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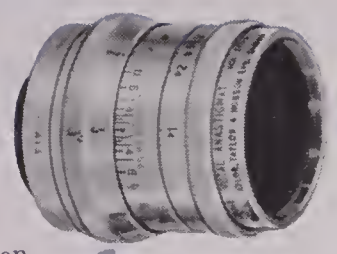

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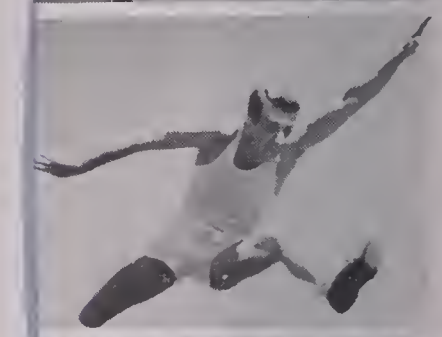

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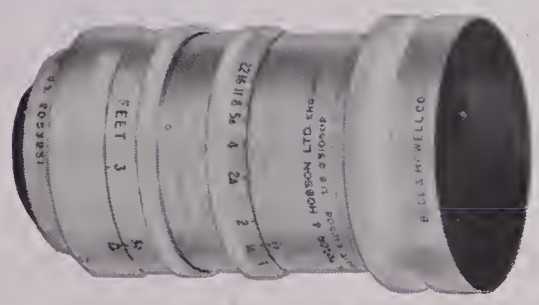

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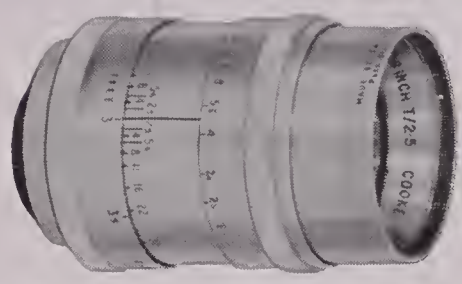

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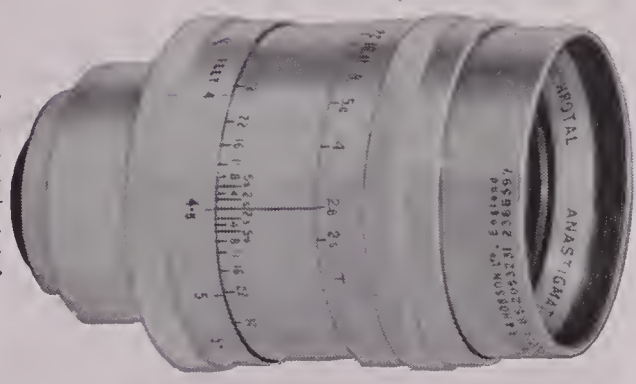

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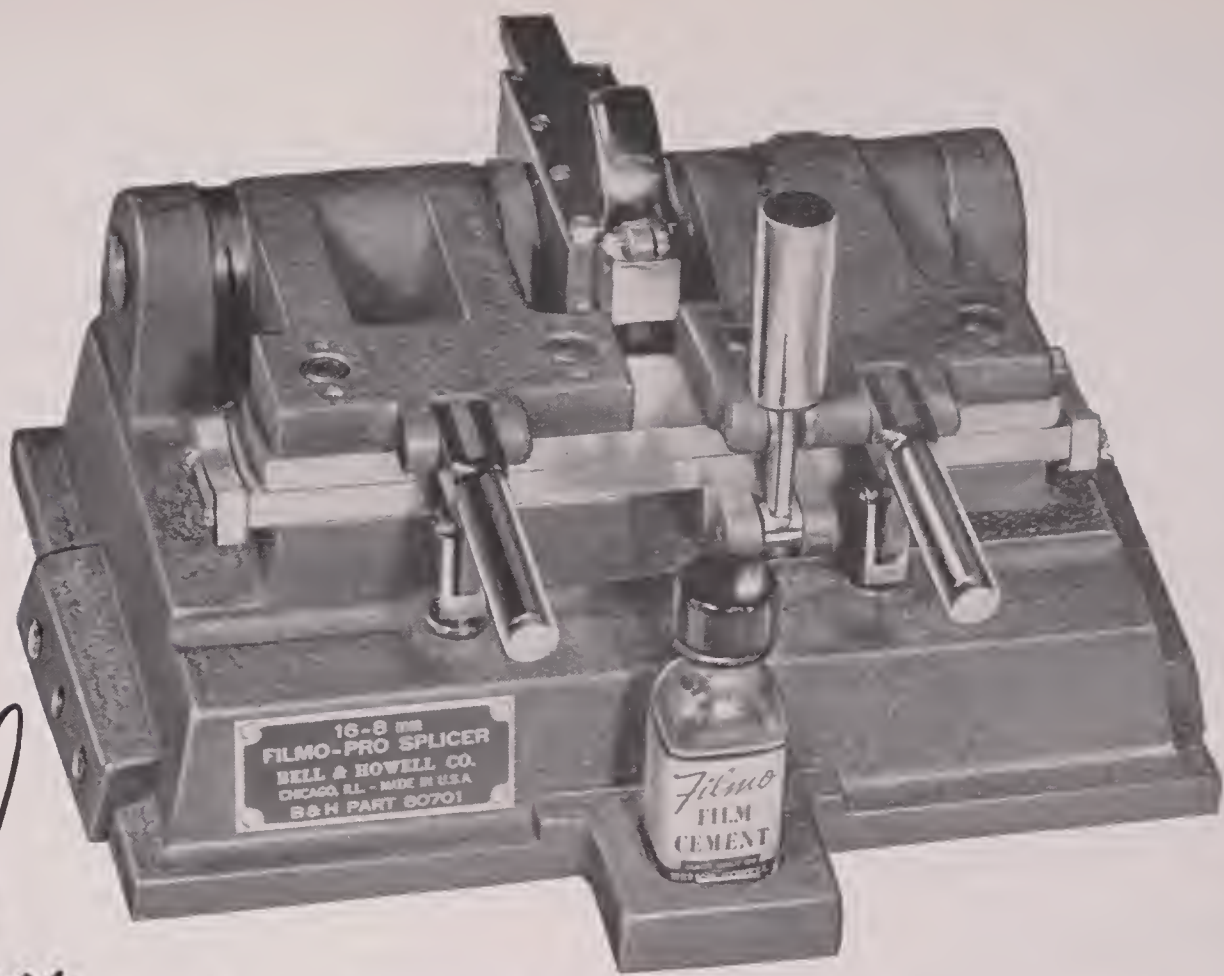

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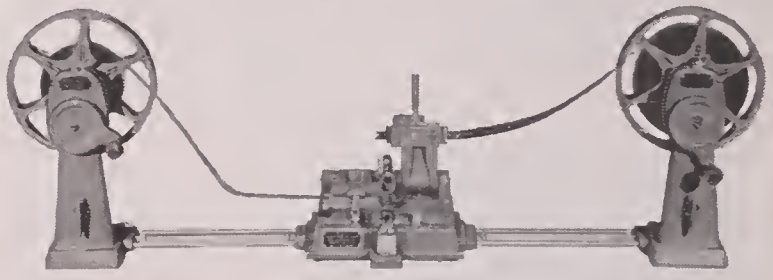

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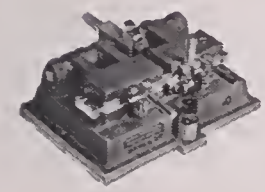

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ON THE COVER

READY FOR LOVE SCENE — On the set of MGM's "Quo Vadis," Director of Photography Robert Surtees, A.S.C., wearing hat, and Director Mervin LeRoy (left) check a camera angle for scene in which Leo Genn and petite Italian cinemactress Marina Berti make love. Heading cast of this MGM Technicolor epic production are Robert Taylor and Deborah Kerr.—*Photo by Dave Bolton.*

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★

AMERICAN SOCIETY OF CINEMATOGRAPHERS

FOUNDED January 8, 1919, The American Society of Cinematographers is composed of the leading directors of photography in the Hollywood motion picture studios. Its membership also includes non-resident cinematographers and cinematographers in foreign lands. Membership is by invitation only.

The Society meets regularly once a month at its clubhouse at 1782 North Orange Drive, in the heart of Hollywood. On November 1, 1920, the Society established its monthly publication "American Cinematographer" which it continues to sponsor and which is now circulated in 62 countries throughout the world.

Dominant aims of the Society are to bring into close confederation and cooperation all leaders in the cinematographic art and science and to strive for pre-eminence in artistic perfection and scientific knowledge of the art.

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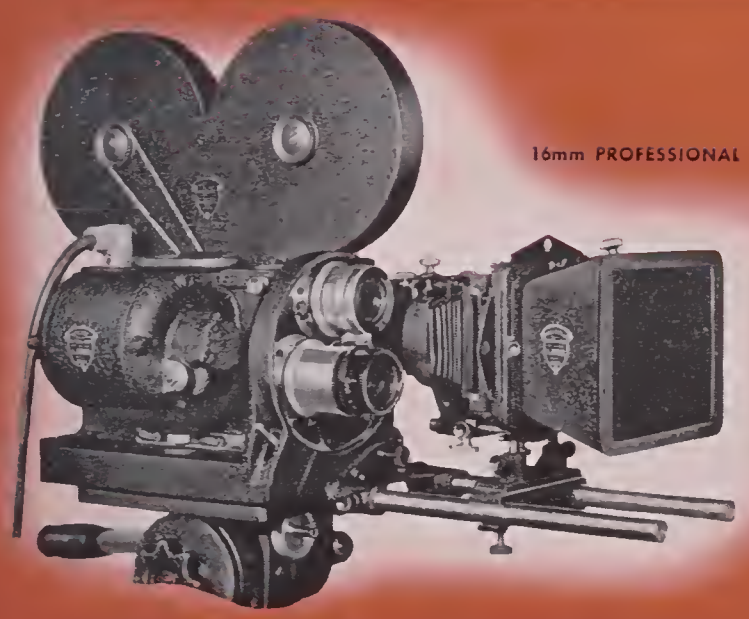

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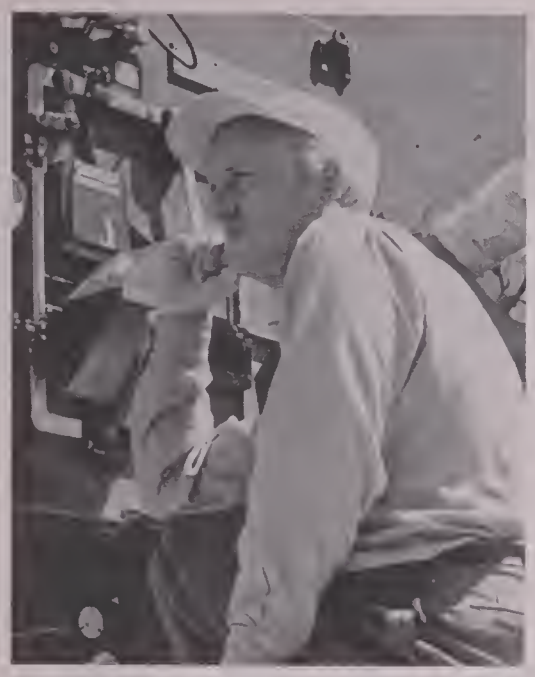


ROBERT SURTEES, A.S.C., was voted winner of the American Society of Cinematographers' "Picture Of The Month" award for November, 1950, for his photography of MGM's "King Solomon's Mines," photographed in Technicolor in Africa. Award is eleventh handed out for 1950 by Society to Hollywood Directors of Photography for outstanding achievement in cinematography.

Nominating ballots were mailed January 27th, addressed to all Directors of Photography in the Hollywood motion picture studios, following the special screening of the last of the twenty films selected as candidates for Academy Award nominations.

Titles of more than seventy-five black-and-white and color films released for showing in theatres in Los Angeles during 1950 were submitted to the Academy for consideration. This list was narrowed down to the customary ten black-and-white and ten color films.

The twenty films and the Directors of Photography who photographed them are as follows:

Black-and-White Productions:

"Adam's Rib," by George Folsey, A.S.C. (MGM)

"All About Eve," by Milton Krasner, A.S.C. (Fox)

"The Asphalt Jungle," by Harold Rosson, A.S.C. (MGM)

"The Big Lift," by Charles G. Clarke, A.S.C. (Fox)

"Cyrano de Bergerac," by Frank Planer, A.S.C. (Stanley Kramer)

"The Furies," by Victor Milner, A.S.C. (Paramount)

"The Glass Menagerie," by Robert Burkes, A.S.C. (Warner Bros.)

"Sunset Boulevard," by John Seitz, A.S.C. (Paramount)

"The Third Man," by Robert Krasker (Alex Korda)

"Two Flags West," by Leon Shamroy, A.S.C. (Fox)

Color Productions:

"Annie Get Your Gun," by Charles Rosher, A.S.C. (MGM)

"Broken Arrow," by Ernest Palmer, A.S.C. (Fox)

"Destination Moon," by Lionel Lindon, A.S.C. (Eagle-Lion)

"The Flame and The Arrow," by Erfnest Haller, A.S.C. (Warner Bros.)

"King Solomon's Mines," by Robert Surtees, A.S.C. (MGM)

"Samson and Delilah," by George Barnes, A.S.C. (Paramount)

"That Forsyte Woman," by Joseph Ruttenberg, A.S.C. (MGM)

"The Toast of New Orleans," by William Snyder, A.S.C. (MGM)

"Wabash Avenue," by Arthur Arling, A.S.C. (Fox)

"The White Tower," by Ray Rennahan, A.S.C. (R.K.O.)

This year, Twentieth Century-Fox, which has consistently led all other studios in the past in the number of candidate films, has been nosed out by Metro-Goldwyn-Mayer. The latter leads the list with a total of six candidates. Fox has five; Paramount has three; Warner Brothers, two; and R.K.O., one. Three independent films round out the total.

Result of voting on the ballots now in the mail will narrow the above list down to five black-and-white and five color productions. These become the official awards nominees, and will be announced publicly on February 13.

Members of the Academy will subsequently vote on the best film in each classification and prepare gold "Oscars" for presentation to the men who filmed them. On the evening of March 22nd, presentation of Academy Awards will be made at the Pantages Theatre in Hollywood.

•

Milton Krasner, A.S.C., whose photography of Darryl Zanuck's "All About Eve" is being acclaimed in the industry, has been placed under long-term contract by 20th Century-Fox. Having completed three picture assignments in a row directed by Joseph L. Mankiewicz, Krasner starts his fourth with Mankiewicz the first of February, a picture tentatively titled "The Doctor's Diary."

•

James Wong Howe, A.S.C., who became a first cameraman in 1921, observes his 30th anniversary as a director of photography with the shooting of the Frank Ross-John Stillman, Jr., production, "The Lady Says No!" First feature filmed by Howe was "Drums of Fate," starring Mary Miles Minter.

•

American Society of Cinematographers admitted six new members to its organization last month. New resident director of photography member is Kenneth Peach, currently photographing a series of television films for Jerry Fairbanks Productions.

Associate members are: Herbert Aller, business representative for International Photographers, Local 659, I.A.T.S.E.; Randall Terreneau, former technical lab man in England; John DuVall, technical consultant, television film division, DuPont Photo Products Division, Hollywood; Emil Oster, Camera department head at Columbia Pictures studios; and John Swain, laboratory technician, Consolidated Film Industries, Hollywood.

(Continued on Page 78)

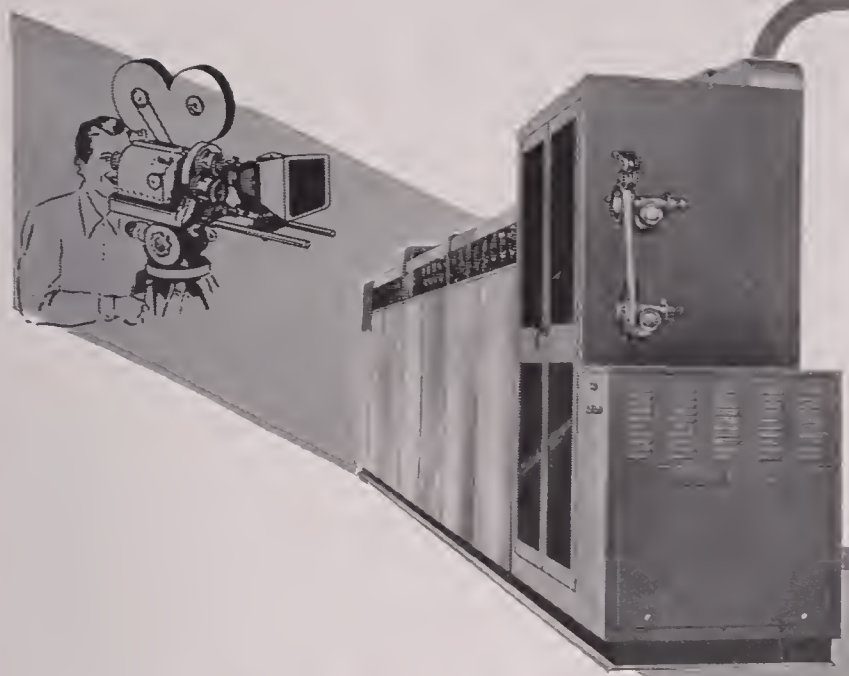
CHARLES SCHOENBAUM

Members of the American Society of Cinematographers, and actors, directors and technicians in the Hollywood motion picture industry were saddened by the passing on January 23 of Charles E. Schoenbaum, A.S.C., veteran director of photography for more than 30 years. Schoenbaum died at his home following a lingering illness.

Charles Schoenbaum had been a member of the A.S.C. since 1927. He began his career as first cameraman in 1917. In 1914 he gave up his profession of photo engraver to ente the old Lasky laboratory. Shortly thereafter he became an assistant cameraman, and in 1920 he began a career as director of photography with the Lasky studios which lasted until 1932.

At the time of his death, he was one of MGM's stable of top cinematographers. His last assignment was that studio's "The Duchess of Idaho."

He is survived by his widow, a daughter, a brother and his mother.



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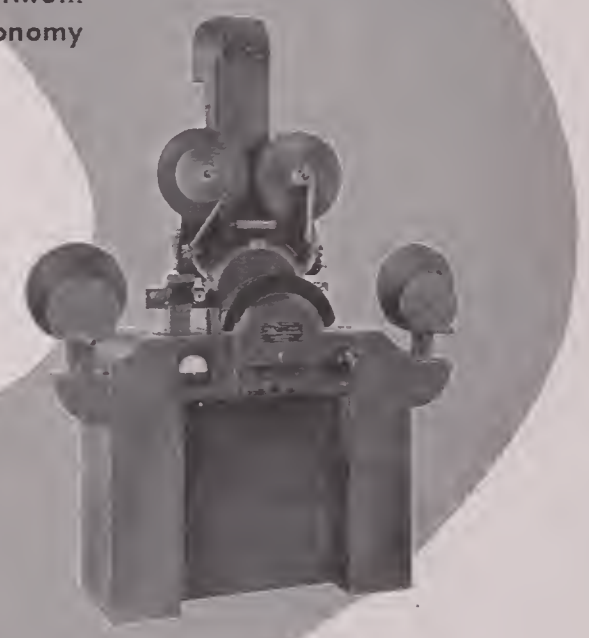

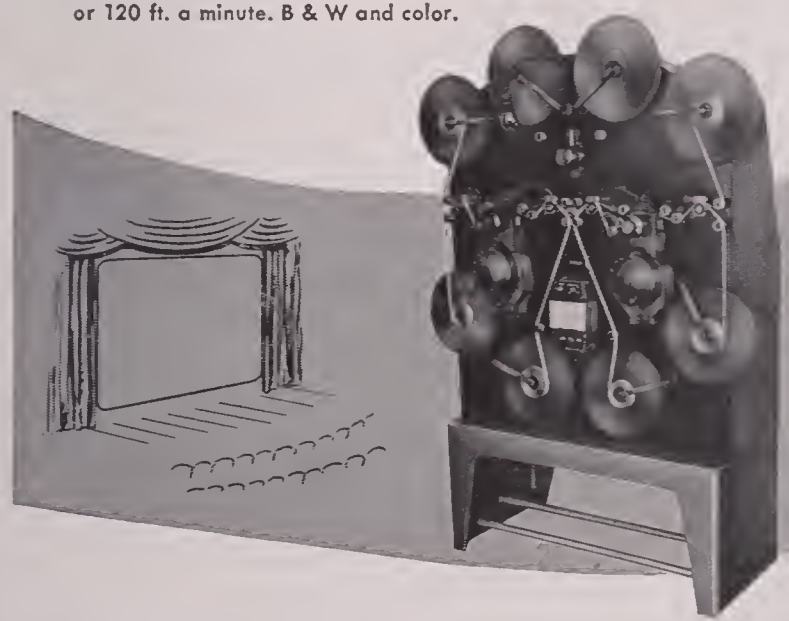

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Keeping up with PHOTOGRAPHY

★ ★

A NEW FORMULA, said to provide a complete solution for image errors in lens systems, has been announced by Dr. Max Herzberger, scientist at the Kodak Research Laboratories in Rochester, N. Y.

Basically, the theory reduces the various possible errors for each light ray passing through a lens system to two errors which can be computed exactly. When one of these errors is eliminated, a symmetrical image is formed. Removal of both errors gives a sharp image.

The theory is a generalization of the Seidel image error theory. It will be valuable in the design and evaluation of camera and projection lenses because it will allow a lens designer to learn the limitations of a new lens system while it is still on the drawing board.

•

A HIGH SPEED CAMERA for photographing the tell-tale interior of the eye is now in production.

Developed after two years' research by Bausch & Lomb Optical Company, it photographs—in color or black and white — the retina, nerve fibers and other structural elements of microscopic size within the eye.

The only camera of its kind in production today, it was designed at the request of the U. S. Public Health Service for studies showing the relationship between enlarged retinal blood vessels and vascular diseases.

The camera has also been used extensively by Dr. Walter Kempner of Duke University Hospital in his "rice diet" research and treatment of these diseases. Photographs taken periodically of the interior of the eye are superimposed so that the blood vessels may be compared at various stages of treatment.

•

A SPROCKETLESS developing machine for motion picture film has been developed in Europe in which the film in a flattened helical path is carried on racks whose single upper and lower rollers have neither flanges nor sprocket teeth.

Overlapping of adjacent strands of film is prevented by fixed separator fingers at the sides of the rack where the film approaches the rollers.

Swelling and shrinkage of the film are accommodated by a change in effective roller diameter in response to tension in the film strands.

It is said this machine can be converted from 35mm to 16mm film merely by changing the strand-spacing fingers, with a corresponding increase in film capacity. Alternatively, 16mm film can be spliced to 35mm and permitted to follow it through the machine with mechanical adjustment.

•

THE LENTICULAR color film process employing a lenticular positive has been revived in France under the name "Opticolor" by the Société Civile de Recherches Scientifiques B.L.V.

The problem of printing from a lenticular negative is avoided by making three color-separation negatives simultaneously in a beam-splitting camera provided with a prism block and three lenses working at an aperture of f/2, and of variable focus from 30 to 68 millimeters. A special printer has been developed in which the three separation images are printed on a lenticular positive film having 30 minute lenses to the millimeter in the picture area only.

•

MOTION PICTURES of the expansion and contraction of explosion bubbles, taken at a depth as great as two miles under the surface of the ocean at a rate of 20,000 frames per second, are helping U. S. Navy scientists to gain new knowledge of the behavior, effectiveness and design requirements of underwater explosive weapons.

The explosion bubble is a gas globe formed by the hot, expanded gaseous products of detonation. The cameras used in a recent Navy project were an Eastman Hi-Speed, a 35mm Fastax, and a rotating mirror frame camera best described as a modified Bowen. Each was shock-mounted in a heavy, water-tight case. The latter camera, used for making studies at greater depths, was enclosed in a spherical case with an inside diameter of 22 inches and walls 1¼-inch thick. In this camera, the image is formed on a spinning mirror which has the focal axis of the taking lens system for its axis of rotation.

The plane of reflection of the mirror is 45 degrees to this axis. The image is thus reflected through the framing lens to the stationary film. With the mirror revolving at the rate of 18,000 rpm, 100 pictures can be taken at the rate of 30,000 frames per second. The light source most commonly used consisted of a number of focal plane flashbulbs having a flash duration of about 75 milliseconds.

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FOR CARRYING POWER, carbon arc lamps are unexcelled for lighting large scale sets. And even on smaller sets, they provide an abundance of penetrating light so essential for quality modeling. Here, Fred Jackman, Jr., checks the light level of a set illuminated with M-R Brutes, one of the most powerful carbon arc lighting units now in use.

Will There Always Be A Need For Carbon Arcs?

Yes, believes the industry's leading maker of studio lighting equipment, who traces the history of carbon arc lighting and points to its steady advance as an important light source in the production of movies.

By PETER MOLE, A.S.C.

President, Mole-Richardson Company

THE ANNOUNCEMENT by Technicolor of a change in the color balance of its three-trip taking films to 3350° Kelvin for interiors has brought a wave of questions as to what this revolutionary move will do to the motion picture studio lighting equipment field. Will the various manufacturers of lighting equipment and kindred accessories and parts find that the business has become so small due to lower light levels as to make it impractical to continue? Will these suppliers who are dependent upon the motion picture industry for support immediately attempt to liquidate their stocks and facilities?

Both questions may be properly answered in the negative because the very bloodstream of the motion picture is radiant energy; and without its expert use in widely varying forms the motion picture would cease to exist.

Undoubtedly a reduction in key-light levels from 500 foot candles to 150 foot candles will bring about a substantial reduction in the cost of set lighting. However, it also presents an opportunity for a wider scope of operation on the part of the cinematographer. If he can use some of the advantage gained for improvements in depth of focus; or improvements in production values, or any of the hundreds of means of creating a better illusion, then the total result may be a product that is more economical because the boxoffice receipts have made it so.

While the director of photography may for a time restrict his work to narrow limits because of economic factors, in the long run he deals in successful ideas that must be applied within broad limits.

Successful ideas are transient intangibles until molded into concrete form through the evolution of dreams, struggles, setbacks and trial and error. This is particularly true of our motion picture industry where engineering skill, no matter how great, is a mere tool for an artist who is striving for a type of dramatic effect which will make an audience thrill to the mood he has created.

Lighting equipment is a major tool in the cinematographic artist's kit. He uses light as the painter uses pigment and he molds his effects to the mood of the story, often ignoring engineering technical perfection for the greater goal of creating an illusion. Through the evolution of trial and error he evolves a technique which is peculiar to him alone and which becomes a symbol of his character as a "Raphael," "Michelangelo," or a "Leonardo da Vinci" reveal their creators.

One cinematographer I know who does painting with pigment as well as with light was called to the front porch by his daughter who was painting a sunset.

"Dad," she asked, "have I the right saturation of red in my sky?"

He looked at the sunset for a moment, then at her picture.

"Is that the way you see it, dear?"

She smiled quizzically. "That is the way I see it, but is it technically correct?"

"If you see it that way it is technically correct," he replied, and left her with *her* creation.

For each successful piece of lighting equipment we have made I can recall many that have been discarded; often for reasons of inadequacy; more often because they were created to fill a supposed need that was never to crystallize. To these so-called failures I credit what

success we have attained in our field.

From the beginning I have felt that it is our job to create adequate lighting tools for the cinematographer. These tools are not first designed by us and then presented to the cinematographer as what he should use. Quite the reverse is true. The cinematographer imagines a tool which he believes will give him a desired dramatic effect. He and his brother cinematographers must use it before its permanent value can be determined. It is upon this premise that our work begins. We often build one, or a few, of a given piece of equipment with little more to go on than the stuff dreams are made of. If the desired result is not attained the equipment is laid aside to bring back nostalgic memories when in later years it is relegated to the scrap heap from the places I often succeed in hiding it. If it proves successful in creating dramatic effect we then strive to bring it to technical perfection.

RESEARCH in carbon arc lighting is an unending project at the Mole-Richardson factory in Hollywood. Here Peter Mole (right foreground) and technicians observe flame action of company's newest 500-amp. super high intensity arc unit—M-R's answer to motion picture industry's demand for "more powerful set lighting units."

It is doubtful if many laymen realize the importance of light in the motion picture field; that it is light which creates the image on the motion picture film; that it is light which forms the image on the motion picture screen; that all of the nuances of modeling are the direct result of the control of light; and that all of the delicate tints and the depth of brilliant colors on the screen are the direct result of expertly controlled light.

In the early days of motion pictures the cameraman was restricted from even dreaming of making of it an art form, because of the technical limitations of the process. His job was to obtain moving shadows which resembled action and if he were successful at that he probably helped write the next script or build a set. But through a long period of the survival of the most fit the importance of the cameraman brought the title of "Cinematographer" and then "Director of Photography."

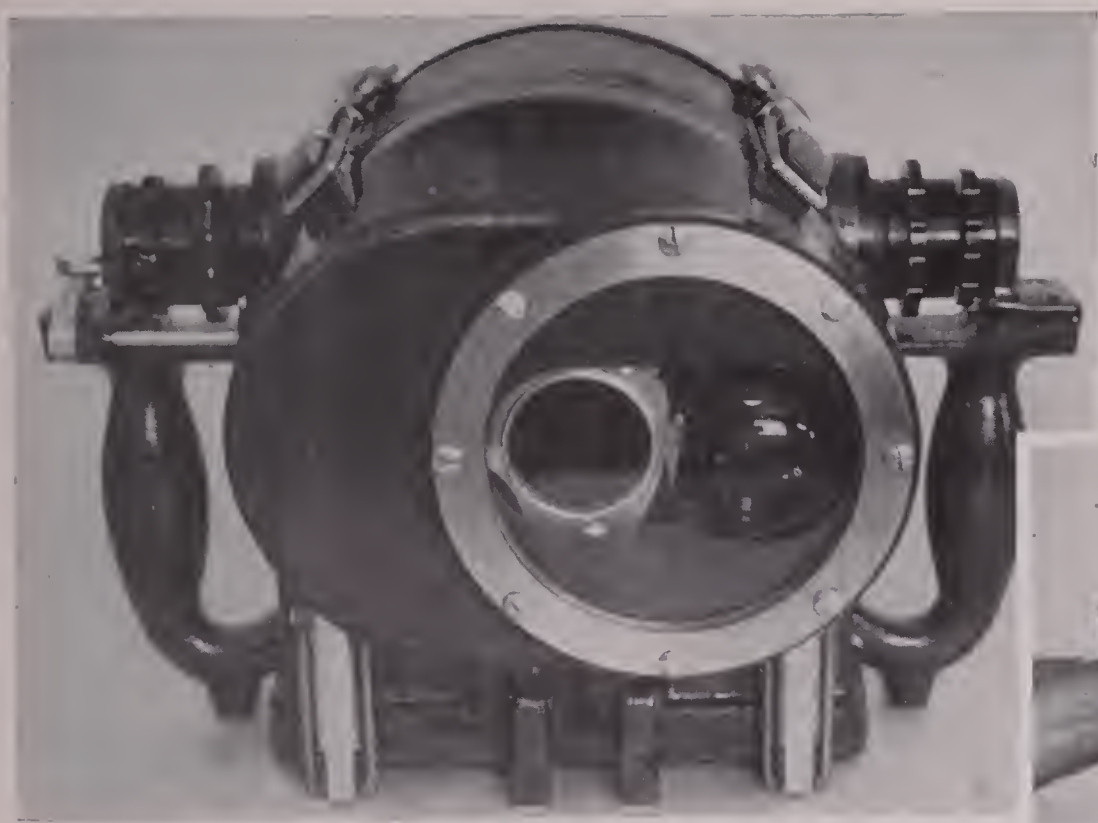
It is true that there are mechanical techniques in the making of motion pictures which demand their pound of flesh from the cinematographer as there are techniques and formulas in any other art form which must be understood and overcome before the finished product can achieve character. Because the production of a motion picture involves movement and the coordinated efforts of hundreds of individualists it is truly an achievement when the cinematographer is able to form light, shade, and color into a dramatic effect.

As the cameraman grew in artistic stature he struggled to overcome the limitations of outdoor illumination which were constantly changing with the time of the day and the condition of the weather. He developed reflectors to project light into dark areas; scrim to diffuse the overhead illumination; myriads

(Continued on page 72)

OLD AND NEW set lighting methods are illustrated in above photos. Picture at left shows set for "The Jazz Singer," 1926 black-and-white musical, lit entirely with incandescent lamps. Note great number of lighting units that were necessary for comparatively small set and fact they had to be placed close to scene and subjects being photographed.

Note also rapid falling away of illumination in rear of set. In sharp contrast is scene at right from "Samson and Delilah" lit entirely with arcs. Here, about same number of units are used but with far greater effectiveness, and lamps are placed clear of set. It would have been impossible to light this set adequately with incandescent lights.



KNURLED knobs at either side of the Fenjohn camera, just above hand grips, afford full control of exposure, focus, motor speed, filter placement and stop-and-start, while camera is submerged.

SIDE VIEW shows motor starting lever. Viewfinder aperture is seen at rear, through which the footage counter may also be observed.

A Bantam-Weight Camera For Underwater Photography

Weighing but twenty-one pounds before submerged, the Fenjohn 16mm. camera features full external controls and electric motor drive.

By HENRY S. MONCRIEF

Manager, Fenjohn Underwater Photo and Equipment Co.

DEVELOPMENT of a low-cost 16mm. underwater motion picture camera now makes possible the photography of a wide range of marine subject material which heretofore has been restricted to those with only very expensive cameras. Such cameras, until recently, were custom-built jobs running into thousands of dollars and they have been used chiefly by the British and U. S. Navies and by a few—a very few—engaged in marine biological surveys.

In addition to the development of this new camera, one other factor has contributed to the growing activity of making motion pictures under water, and that is the Aqua-Lung diving equipment which makes it possible for marine cameramen to work at reasonable depths and to remain under water for as long as 1½ hours at a time. Dives over 200 feet have been successfully accomplished with the Aqua-Lung.

The Fenjohn underwater camera is the result of twenty-two years of custom production of underwater photographic equipment. Now for the first time, the camera is being manufactured in quantities in our factory in Ardmore, Penna. Progress in the underwater camera field was stepped up during the last war. We benefited by this, together with our years of experience in underwater photography and making equipment for this type of cinematography. Previous to the time we went on a quantity production basis with the Fenjohn camera, all underwater cameras were custom-built. Ten to fifteen thousand dollars was not an unusual price for such equipment. Today, the Fenjohn sells for less than $1,800.00.

The camera is so designed that the diver-operator can handle it with the same ease he would a regular motion picture camera above the surface. All controls—focus, aperture, speed, filter and start and stop—can be manipulated while the camera is submerged. The footage counter is so arranged that it may be seen through the camera viewfinder.

The camera is driven by a power-pack of flashlight batteries. In exhaustive tests,

(Continued on Page 64)

UNDERWATER photoelectric exposure meter developed by the Fenjohn Company as companion equipment for its underwater camera. Submerged, meter is used same as any photocell meter above surface.

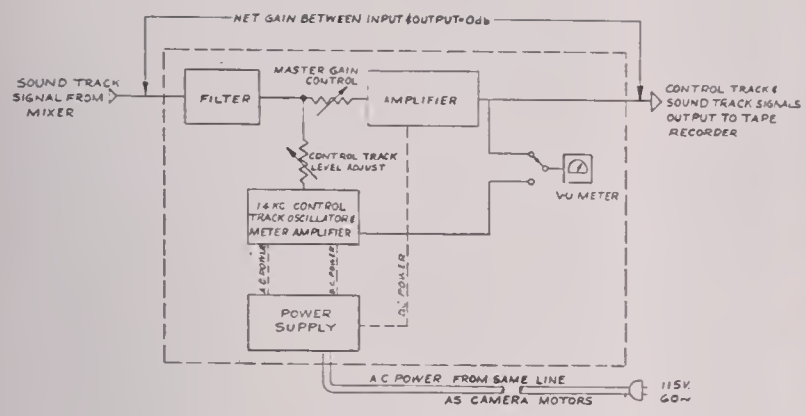


FIG. 1—Simplified circuit of the Fairchild Control Track Generator. The audio signal, entering at the input terminals, passes through filter which eliminates sound track frequencies above 12,000 cycles so as to prevent intermodulation between audio and control signals.

FIG. 2—External appearance of the Fairchild Control Track Generator by which control signal governing synchronizing Pic-Sync unit is injected into the circuit and mixed with the audio signal. Result is synchronism of quarter-inch tape recorder with the motion picture camera.

New Technique For "Sync" Sound On Quarter-inch Magnetic Tape

PART 2: Utilizing non-sprocketed ¼-inch magnetic tape equipment for synchronous sound track recording.

By WENTWORTH D. FLING

Vice President and General Manager
Fairchild Recording Equipment Corporation

LAST MONTH we described the Fairchild Pic-Sync attachment which is combined with the Fairchild Professional Recorder Unit No. 125, and which utilizes non-sprocketed ¼-inch magnetic tape for synchronous sound recording. In this issue, we shall describe the function of the Fairchild Control Track Generator which, when coupled with a ¼-inch tape recorder, insures positive synchronism of sound track with the picture film recorded in the camera.

The basic requirement of the Fairchild Pic-Sync system is that a signal, which is a measure of the speed of the camera motor, be recorded on the magnetic tape simultaneously with the taking of the picture. Once this is done, the track may be played back on a Pic-Sync machine in exact synchronism for later dubbing onto an optical track, or for direct playback with the picture without any further processing, providing the advantages of economy and high audio quality of direct magnetic tape recording. The magnetic sound track may also be played back on any ¼-inch tape recorder for checking or editing, if desired, without the speed control feature of the Pic-Sync system.

Most 16mm optical sound tracks reproduced on conventional projectors are somewhat below optimum sound quality. By using standard tape recorders for the sound, the quality is equal to the original.

Not the least of the advantages of this system is the saving in cost over optical recording—especially for 35mm pictures. Standard picture production technique benefits by the use of magnetic recording rather more than with the 16mm film, because in ordinary production recording it is normal practice to make a number of takes of each scene, print the selected takes, and save all of the film—negative and positive—until the picture is completed. The new method requires the saving of the magnetic tape just as in the optical method, but after the picture is cut to its final footage, the magnetic tracks corresponding to the selected takes may then be dubbed to an optical track for the master negative. The entire magnetic track may then be erased and used over again on other production recording. In a cost comparison, 35mm optical sound track film runs about $1.00 per minute for the negative, plus about $2.00 per minute for positive prints of the selected takes, whereas the magnetic method costs about 25 cents per minute for the original tape, and after final dubbing onto the master negative, all of the tape may then be used again. Thus there is essentially no cost for the tape used and the amount of sound track film required is reduced to the actual footage of the picture in its completed form.

The advantages of the Pic-Sync system are not limited to owners of Fairchild recorders. Fully synchronized sound tracks can be made with most professional ¼-inch tape recorders that run at the standard speed of 15 inches per second. The only additional equipment necessary to synchronize a ¼-inch magnetic tape with a picture film is a Control Track Generator—a zero-gain coupling unit which is simply connected between the mixer and the tape recorder input.

Reviewing briefly the functioning of the Pic-Sync system, it will be remembered that a synchonizing track is recorded on the tape at the time the picture is being photographed, using the a.c. voltage which drives the camera as the modulating signal, as we explained on page 16 in the January issue of *American Cinematographer*. This requires that both camera and projector be driven by synchronous motors, which is current practice. During playback, the

(Continued on Page 73)

TYPICAL camera setup in filming location scenes in eastern stadiums for Columbia Pictures' "Harlem Globetrotters." In far background, director of photography Phil Tannura, A.S.C., mans camera shooting through panel of optical glass toward basket to catch decisive scoring action. Note absence of floor lights.

ACTION such as this was photographed in several stadiums while regular basketball games were in progress, using house lights augmented by photofloods for illumination. Latensification augmented the low-level lighting to insure a printable negative.

The Practical Use Of Latensification

By PHIL TANNURA, A.S.C.

LOW-LEVEL lighting system was also employed in photographing scenes for picture on sound stage. Tannura followed Columbia's "fifty foot candles" photographing system which employs latensification of film.

LATENSIFICATION, which was re-evaluated about eighteen months ago by the motion picture industry, has since become standard practice with several of the studios. Columbia Pictures Corporation, to cite one, has incorporated the process in its well known "fifty foot candles" photographing system, which is employed on all of that company's low-budget productions. Normally, a light level of 100 foot candles is employed in shooting high budget productions in black and white.

Briefly, latensification is a special treatment given the negative after exposure and just prior to development, which has the effect of stepping up the film's emulsion speed. As the term "latensification" implies — it intensifies the latent image on the film. Thus, negatives which have been underexposed, for one reason or another, are brought up to normal printing value in the laboratory. Today, there are many instances where cinematography is deliberately planned to take advantage of latensification—for instance the Columbia productions which are filmed using the "50 foot candles" system.

Knowledge of what latensifying the negative can do for the director of photography will make it possible for him to successfully undertake filming assignments that otherwise may appear difficult or impossible. Rather than go into the technical aspects of the process here, we refer the reader to articles on the subject which have appeared in earlier issues of *American Cinematographer*. (See page 409, December, 1948, issue; also page 440, December, 1949, issue.—ED.)

(Continued on Page 68)

At The Top
of the Ballot
and
In First Place
on All Good Pictures—

The Popular Choice—
The Popular Winner—

EASTMAN
PROFESSIONAL
MOTION PICTURE
FILMS

J. E. BRULATOUR, INC.
Distributors
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A Canadian cameraman spars with 1,500 pipeliners to shoot a 16mm. color film documenting the laying of 1,127 miles of oil pipe line through Western Canada.

Filming A

THE SCRIPT WRITER'S simple titles seldom reveal any of the cameraman's headaches endured during filming of a picture. "Artery for Oil," a 16mm color film on Canada's first major oil pipe line, is certainly no exception. Although only 60 feet wide the pipe line right-of-way is 1,127 miles long. It runs from Edmonton, Alberta to the head of the Great Lakes. And take my word for it—*all* cross country! Prairie, forest, lakes, rivers, muskeg and hills all majored in the locations.

Although work on the pipe line got underway during the winter, the big push started in May when most of the ground had thawed and dried out. One hundred and fifty days was to be the schedule for construction. Before the next frost came, oil had to be flowing into huge storage tanks at Superior, Wis. The largest tankers to ply the Great Lakes were already being built to carry the crude oil from Superior to the refineries of Ontario.

The main problem in shooting was the juggling of time, location and operation. This meant intensive study of project technique, progress of work and distance between action points. In other words, we had to be at scheduled locations well ahead of the time that the desired action was to take place. Changes in terrain gave opportunities for variety and enlarged on the difficulties that faced the men who build pipe lines. Quick transport by any means available figured largely in our production.

The picture divided itself simply into two sections—winter and summer. The tight construction schedule (reputedly one of the shortest of its kind ever attempted) meant the camera work would be all of the newsreel type—no set-ups, no posing, and—within reason—no waiting for "ideal" weather.

The long distance and probable leg work indicated the simplest of equipment would be the best. Thus, all shooting was done with a Cine Kodak Special equipped with only 25mm and 15mm Ektar lenses. Accessories included flat reflectors, exposure meter and a light tripod. Commercial Kodachrome film was used throughout. Cameraman and assistant made up the crew.

Winter shooting was scheduled to begin in Edmonton in January—but . . .

After travelling three-quarters of the way across Canada, with camera freshly winterized at the factory and the "crew" outfitted with all the heavy clothes that could be found in the cedar chest, we arrived in Edmonton to find temperatures ranging from 40 to 50 degrees below zero. It was too cold even for welders erecting the huge storage tanks.

THE RUGGED pipe trucks served both as car car and means of transportation in the early of the project filming.

WITH coming of spring, pipe line work w faster. The cameraman had better opportunity study locations for pictorial composition, cam angles.

CAMERAMAN Gerry Moses (right) of Imperial Oil Limited, Toronto, and his assistant Frank Reeson travelled three-quarters of the way across Canada to begin shooting the pipe line project in midwinter. Their "winterized" cameras performed perfectly in temperatures 40 to 50 degrees below zero.

'HE project headed into the wilderness, Moses his assistant rode the brush cutters, or ran d of them or followed.

WHEN the going really got tough, the snowmobile got the pipe line photographers to the scene of action—surveyors working on skis.

COTTON gloves enabled Moses to handle camera at temperatures 30 degrees below zero. All shooting was done with a Cine Special and Ektar lenses.

ES' camera traced the fabrication of the pipe from hauling of the pipe sections from a dis- terminal to welding the sections. . . .

. . . applying the protective coating, and finally laying the unbroken length of pipe in the trench that stretched for 1,127 miles.

MOSES' simple camera equipment enabled him to get right in among the crews during the most in- tensive action. Dust was always a shooting hazard.

ipe Line Project . . . By GERRY MOSES

Roads were blocked and newspapers were filled with reports of cars freezing on the move and of travellers freezing to death on the prairie roads. We just had to wait, and wait we did for two weeks, until weather warmed up, roads cleared, and men were able to work. An interesting place Edmonton—where men and women have separate taverns and "red-eye" (tomato juice and beer) is a popular drink.

The city, capital of Alberta, became our headquarters. It was, incidentally, head office for construction of the western section of the line and here pipe line engineers schooled us for the summer work ahead when time was to be of the essence.

Although temperatures did rise a bit we found shooting the surveying and brush clearing sequences a bit chilly. We discovered that white cotton gloves on the hands were the only practical covering during actual handling of the camera. This meant slow work and touches of frost bite. Our transport, like the surveyors', was snowmobile, bulldozer, skis and foot.

The main highlight of the winter work was to have been the crossing of the South Saskatchewan River — about half a mile wide. The ice was drilled and dynamited for huge diggers to trench into the bottom. The river was treacherous and great pressures underneath caused over-runs of water which made both pipe line and camera work most difficult. Twenty to thirty below zero temperatures made it uncomfortable too, especially for a cameraman who fell in!

Work on the river dragged into early spring and meant a second location trip. Warm weather in the mountains caused

(Continued on Page 70)

SINGLE photolamp attached to Filmo camera and fed by power pack suspended from shoulder strap enables KTTV newsreel cameraman W. Glover to get important indoor shots amply lighted.

LEAVING courthouse, where he filmed procedure in important case, Glover tows his dolly-mounted power pack as he heads back to KTTV headquarters for his next newsreel filming assignment.

AT END OF DAY, power pack is put on charger which brings voltage back to normal for pack's use the following day. Pack consists of sixteen two-volt non-spillable batteries, weighs about 18 pounds

Light Source For T-V Newsreel Cameramen

Portable 32-volt power pack and new high-power photo lamp enable KTTV newsreel cameramen to vie with press photographers in recording news events.

By BENJAMIN BERG
Technical Director, KTTV Television Newsreel.

TWO FORMIDABLE problems which face every television newsreel photographic staff are (1) providing a light source for filming indoor news events and (2) providing such light in sufficient volume to afford shooting at an aperture that will assure reasonable depth of focus, which is highly essential for films made for telecasting.

Until recently, KTTV's staff cinematographers, who cover the Los Angeles police and courtroom "beats," depended upon photoflood lamps mounted on the camera and powered by 110-volt current supplied from some convenient outlet. The trouble encountered, more often than not, was that the current outlet was not always convenient. More than once action the photographer intended to film was over and the subjects dispersed before he could locate an outlet into which to plug his extension cord. And there were times, too, when his fifty-foot extension cord became fouled in the feet of spectators and attendants in the courtroom. The newsphoto still men, with their compact flash cameras, often got their shots and were on their way to another assignment before the newsreel cameraman got his first shot.

The news photographer's strobe light unit was the inspiration for the new compact light source, which we recently developed for KTTV's newsreel cameramen to replace the old cumbersome 110-volt equipment. This consists of a powerpack weighing less than 18 pounds and a lamp unit which clips on to the viewfinder tube of the Filmo 70-DE camera which we use mostly for spot news assignments.

The powerpack is light enough to be carried with a shoulder strap, and one photographer has his mounted on a base with four casters so he can pull it along the sidewalk or in corridors of buildings. Housed in a light, wooden, Fabricoid-covered case is 16 two-volt, 5-ampere hour non-spillable aircraft batteries. These units have clear plastic cases with built-in hydrometers that show at a glance condition of each battery.

Sixteen of the batteries furnish a maximum of 32 volts—two volts more than is normally required, thus providing an emergency current reserve. There's a two-position switch on outside of case. When battery is fresh, the current is drawn off the 30-volt position; when voltage begins to drop, the supply is taken from the 32-volt tap.

The source of illumination used with this power pack is a single 30-volt, 250-watt General Electric lamp of the photoflood type. It has a rated life of 3 hours, costs 60 cents. It is not normally stocked by lamp supply houses and is obtained only on special order.

We made up the lamp holder and re-

(*Continued on Page 64*)

Television Filming Activities

By LEIGH ALLEN

OLLE COMSTEDT, A.S.C., (rear) directing the photography for 16mm color production "Bermuda Bound," operates his rare zoom lens while assistant, Tom Draper, shoots the scene.

Three color films, recently photographed by Olle Comstedt, A.S.C., have been televised on video networks from coast to coast. These include "Christmas In Sweden" and "Youth And Summer In Sweden," produced by Comstedt, and "Bermuda Bound," which he photographed for John Bransby Productions. Films were among those used by CBS in demonstrating its new color television system recently.

•

Howard Meighan, CBS vice-president, painted a dim view of Hollywood's future in the television scene in recent talk to members of American Society of Cinematographers, many of whom are interested in what the future holds for them in the TV filming field.

It was Meighan's view that Hollywood labor and production costs were too great for making profitable TV films, asserting that movies cost about $10,000 per minute of screen time to produce, whereas live TV can be produced for only $321.00 per minute.

Opinion in industry is that Meighan, recently from New York, had not had opportunity to explore and properly evaluate local TV film production scope and operations.

•

Academy of Television Arts and Sciences' recent 1950 awards presentation in Hollywood was notable for a major omission: one or more awards for the best TV show on film, best TV film photography, etc. Whereas last year and the year before, the Academy's most prominent awards went to TV film shows, this year the motion picture phase of video was entirely ignored by the Academy. Said *The Hollywood Reporter:* "Incredible was the omission of KTTV's splendid newsreel in the news category, and even more incredible was the Academy's failure to continue last year's award for the best TV show on film. With Hollywood TV prepared to stand or fall on its ability to develop and use TV film technique, surely here was one major award which could lend considerable honest stature to Hollywood's standing in the industry."

•

KTTV Newsreel, incidentally, has been making a tidy profit for the station for some time. While other video program operations have made little money, station's newsreel zoomed to a profit-making venture almost immediately. One factor is reel's "repeater" value. Each film is now put on air thrice daily: at noon, and at 7:30 and 10:30 p.m. At end of week, station puts on a half-hour newscast comprising re-edited summary of week's best news events. Each telecast has a separate sponsor or series of sponsors. One notable result of reel's financial success is that KTTV's cinematographers have recently been elevated to standard 16mm pay scale.

•

Benjamin Kline, A.S.C., video film photographer for Bing Crosby Enterprises, who, we reported here last month, has been awarded the trade publication TV's Award of Merit, informs us the Award was for the *quality,* not quantity of the television films he has photographed for Crosby—now numbering more than 125.

•

WBAP-TV's fast newsroom crew turned in an achievement record last year when it filmed 25 complete Southwest Conference football games and presented same on air within 24 hours or less. In all, 65 prints were turned out from the original 25 games by this Fort Worth station's film laboratory, with films averaging 2,500 feet per game. Total footage going through cameras and process-

(*Continued on following page*)

At Precision today
we're processing the finest
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AMERICAN CINEMATOGRAPHER'S 1951 INTERNATIONAL AMATEUR MOTION PICTURE COMPETITION

TEN American Cinematographer Trophy Awards are the prizes that await the makers of the TEN TOP films entered in our 1951 competition, which closes March 1st. Judging and classification of films is now in progress. Judges are six distinguished Hollywood directors of photography.

If you are an amateur movie maker and your film is wholly amateur-made, you are eligible to compete in this annual competition, no matter where you live. Entries are invited from amateurs throughout the world. Time is short! Send for entry blank and rules today!

Contest Chairman,
AMERICAN CINEMATOGRAPHER,
1782 No. Orange Drive,
Hollywood 28, Calif.

Sir: Kindly send me official entry blank for AMERICAN CINEMATOGRAPHER'S 1951 Amateur Motion Picture Competition. I plan to enter an 8mm.____/16mm.____ film, length_____ft.

Name_____

Address_____

City_____ Zone_____ State_____

Country_____

ing amounted to 130,000 feet. Station's cinematographic staff won the 1949 NARD award for the nation's best television newsreel.

•

Television film programs released in the Los Angeles area by the city's seven TV stations totaled fifteen hours per week during the last week of 1950. This includes only films produced specifically for telecasting. Total increased from four hours and forty minutes for the first week in June. These figures also do not include the great number of TV commercial films and spot announcements televised by each station.

•

$750,000 is budget set aside by Ziv Television Programs, Inc., New York and Hollywood, for production of 52 "Boston Blackie" video films. Shooting will be done at company's Hollywood studios.

•

Multiple camera method of photography will be employed in shooting four 15-minute TV film programs for the Dormeyer Corporation, makers of kitchen equipment. Films will be produced by Sarra, Inc., in Chicago.

•

Chase scenes for live show video programs are now being recorded on film for a series of half-hour shows being produced in Hollywood and directed by Barney Girard. About 12 minutes of each 22 minute program consist of film, which is projected and mixed with the live show as it is telecast.

•

KTTV of Los Angeles recently negotiated a deal with WPIX-TV in New York for interchange of newsreel footage. The two stations are the nation's leaders in video newsreel films, are only stations known to be sharing films. KTTV plans to enlarge scope of its exchange so other TV newsreel telecasters can share KTTV's filmed news events. Already station has purchased a Bell & Howell 16mm film printer for turning out the duplicate footage.

•

"**Truth Or Consequences,**" filmed on 35mm in Hollywood by Fred Jackman, Jr., A.S.C., now reaches 34 TV stations—10 of them by film. Show was awarded an Emmy by Academy of TV Arts and Sciences for the most outstanding audience participation show.

•

Jimmy Van Trees, A.S.C., is director of photography of the Groucho Marx "You Bet Your Life" video show, for which Marx was voted most outstanding TV personality by the Academy.

Make Your Movies With Sound

Advanced cine amateurs in increasing numbers are buying single-system sound cameras and finding renewed interest in their movie making hobby.

By LEO CALOIA

THE INTRODUCTION by Berndt-Bach, Inc., of its *Cine-Voice* 16mm sound-on-film camera at the attractive price of $695.00 now makes it possible for serious ciné amateurs to shoot movies with sound. Price of this complete sound camera compares favorably with the expenditures by many movie amateurs for the better grade silent 16mm cameras and attendant lens equipment. Thus, for the first time, those amateur movie makers able to afford the best in ciné equipment, now may own a single-system sound camera that produces sound movies of professional quality.

However, long before the *Cine-Voice* was introduced, many amateurs already had acquired the more costly 16mm sound cameras, such as the Auricon-Pro. I, for one purchased one of these cameras about two years ago; and in the Los Angeles Cinema Club, of which I am a member, there are at present six members with 16mm sound cameras—all successfully making sound films comparable in sound and picture quality to those made by professional cinematographers with the same equipment.

The fact these amateurs have achieved professional quality in their work attests to the ease with which they made the transition from silent film production to sound. That other ciné amateurs will follow the growing trend to sound films is evident in reports of purchases of sound cameras being made by amateurs all over the country.

(Continued on Page 66)

AUTHOR, shown above with his Aurcon-Pro single-system sound camera, shot "Joint Account," his most recent production, using lighting and camera equipment shown here; handled camera and sound unaided.

BEFORE starting to shoot, sound level, monitored through headphones, is adjusted on the mixer-amplifier panel close by the camera.

AS ACTION is photographed by camera, sound is also recorded on the film. Headphones enable camera operator to hear sound as it is being recorded.

Meet The New 70-DL

Bell & Howell's newest 16mm camera features parallax - correcting finder with three - objective rotary turret.

By FREDERICK FOSTER

BELL & HOWELL'S winning entry for 1951—the new 70-DL 16mm motion picture camera which features a formidable parallax-correcting viewfinder that insures accurately centered pictures, no more off center closeups or titles. Three finder objectives match lenses on camera.

THE NEW BELL & HOWELL 70-DL 16mm motion picture camera introduces a completely new parallax-correcting viewfinder that eliminates off-center closeups and titles. Of course, this feature is only one of the many that highlight this new camera, which replaces the popular 70-DA and 70-DE models. But the camera's viewfinder—an important feature on any cine camera—represents a revolutionary step in finder brilliance, accuracy and convenience.

Long exclusive to Bell & Howell cameras in the 8mm and 16mm fields, the "positive" principle of finder construction has been applied to an entirely new optical system, and has been combined with a parallax-correcting device to produce a viewfinder said to be the only one of its type in the amateur field.

The new finder is adjustable to correct for parallax (that is, to match the viewfinder field exactly with the camera lens field) from 3 feet to infinity, in 8 steps. Thus, the problem of centering closeups and titles is eliminated.

The new optical system is said to give a 500% brighter image, showing an extremely brilliant image of the field. This is something to be appreciated when filming in bad light or when lining up night scenes. Telescope-type optics—as used on B&H-built tank gun sights—provide extreme sharpness and highly increased contrast over the field image of the finder.

A new type focusing eyepiece, adjustable through a range of 6 diopters, meets individual eye requirements, and insures a clearer image. Those who wear glasses will appreciate the eye clearance that has been provided, so that the operator need not "glue" his eye to the eye-piece. With the new 70-DL, the eye position is three-fourths-inch back of the eye-piece.

The term "positive" given this radically new Bell & Howell finder means that the image does not move as the eye shifts, and the finder always shows sharply defined limits of the field. Objectives for the finder are available for all B&H focal lengths—from .7-inch to 6-inch. The viewed image always fills the finder frame, and—of particular importance—no masking down is required for telephotos.

Complementing the camera's 3-lens rotary turret is the finder's own 3-objective rotating turret, on which may be mounted any three positive objectives to match the lenses mounted on the camera turret.

An innovation for those who may employ the camera for professional work requiring exact measurement from film to subject, is a prominent index mark placed on the viewfinder which shows the plane from which to measure the subject.

The camera has a host of additional features, too. One is

(Continued on Page 78)

NO MORE closeups like this when photographing with the 70-DL 16mm camera, with its parallax-correcting viewfinder which makes centering of closeups accurate and simple. Ideal for title centering, too.

THIS IS the way the shot appears on the screen when filmed with the 70-DL—just as it appeared in the finder to the camera operator. New finder gives a brighter image, too — 5 times brighter.

WORLD'S LOWEST PRICES

CAMERAS

BELL & HOWELL 70 DA 16mm. x 100' capacity $225.00

AKELEY CAMERA AND TRIPOD, 35mm electric operation, 12 or 24 volt, or hand-operated; speeds of 16, 24, 32 and 48 t.p.s.; matched objective and view finder lenses mounted together; complete with following accessories: Carl Zeiss Tessar lens and matched viewing lens, 50mm f/2.7; Bausch & Lomb telephoto lens and viewing lens, 4½" f/4.5, three Akeley 200' magazines; Akeley Tripod; Akeley electrice motor drive, 12 or 24 volt, complete with cable; power pack, 12 volt, in case. Price Complete....$450.00

DE VRY, 35mm late model spring-wound or hand crank. B&L 50mm f/3.5 lens....$95.00

UNIVERSAL 35MM, hand crank, single lens turret and 100 ft. magazine....$75.00

UNIVERSAL MODEL C, 35mm, 3 lens turret, 100' Universal Model C magazine....$125.00

JEROME B-2, 35mm x 200' capacity, 3 lens turret. Operates single frame, or 4 to 48 per second, or automatic time delays up to 30 min. Also operates as conventional camera....$295.00

BELL & HOWELL, MORSE, LACKNER, AND FAIRCHILD, 16mm electric drive, 50' magazine, 16, 32, 64 frames. 35mm f/3.5 lens with viewer, portable power pack....$79.50

DE BRIE LE PARVO (MODEL K). All metal 35mm hand crank. Provision for electric drive, pilot pin registration, variable rotary shutter, speed of 8, 16, and 24 frames per second. Direct focus on film or ground glass. Sunshade. Erect image viewfinder. "Through-the-lens" viewer. 400' magazines. Complete with Zeiss Tessar 50mm f/3.5; Dallmeyer Kinematograph, 50mm f/1.9; Zeiss Tessar, 75mm f/3.5; Zeiss Tessar, 35mm f/3.5; 7 each 400' magazines, leather carrying case; leather case for camera $475.00

EASTMAN KODAK TRACKING CAMERA. electric $325.00

BELL & HOWELL EYEMO "K", with electric motor. For instrument panel recording $375.00

MISSILE TEST CAMERA, with eight Zeiss Tessar lenses, 9.5cm, f/3.5 ....$925.00

MITCHELL AND AKELEY THEODOLITES, New. ....Quotation on Request

BELL & HOWELL FILMO AUTOLOAD $125.00

MITCHELL LENSES IN MOUNT

B & L BALTAR, 25mm f/2.3....$145.00
COOKE SPEED PANCHRO, 25mm f/2....$165.00
ANASTIGMAT, 32mm f/6.3....$ 45.00
B & L RAYTAR, 40mm f/2.3....$135.00
GOERZ HYPAR, 1⅝" f/3.5....$ 48.00
CARL ZEISS SONNAR, 50mm f/1.3....$195.00
BAUSCH & LOMB, 50mm f/2.7....$ 67.50
DALLMEYER, 50mm f/1.9....$ 95.00
TACHAR-ASTRO, 50mm f/2.3....$ 85.00
TAYLOR-HOBSON-COOKE, 40mm f/2..$ 95.00
HOBSON COOKE KINIC ANASTIGMAT, 75mm f/2....$ 90.00
TAYLOR-HOBSON-COOKE, 4½" f/2.5..$ 95.00
DALLMEYER DALLON, 14" f/5.6 telephoto....$225.00
MITCHELL VIEWFINDER OBJECTIVES $ 45.00

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COOKE, Cinema, 47mm f/2.5....$120.00
DALLMEYER, 10" f/5.6....$150.00
CARL ZEISS 16.5 cm, focusing mount $125.00
COOKE KINIC 2" f/2.8, focusing mount $75.00
EYEMAX 2" f/4.5....$ 29.50
EYEMAX 6" f/4.5....$ 78.00
EYMAX, TELEPHOTO, 10" f/4.5....$135.00
EYEMO OBJECTIVE LENS, 2"....$ 12.00
EYEMO OBJECTIVE LENS, 4"....$ 13.00

16MM AND 35MM EQUIPMENT

POLAROID VARIABLE FILTER, 3" diameter in leaf-type mounting bracket....$5.00

PORTABLE REFRIGERATED FILM STORAGE VAULTS, 9 cubic ft. 30" x 60" x 36". 110 volt, complete with compressor and motor....$285.00

TEMPRITE DEHUMIDIFYING FILM DRYER, 4' to 8' per minute; two H.P. refrigeration unit, 110-120 volt, 38" x 24" x 82". New....$775.00

BELL & HOWELL EYEMO IDENTIFICATION RECORDER AND TITLER, 35mm. Facilitates titling and identification of film in the field or on location. New....$8.95

EYEMO CARRYING CASE, Model K....$12.50

SIMPLEX SOUND PROJECTOR, 35mm sound projectors and rectifiers, Model SP. Projection lens, B & L 5.5". Per pair....$1100.00
(Many other types of Simplex, Holmes, de Vry, Bell & Howell, Ampro, Victor, RCA, and other 35mm and 16mm projectors in stock.)

ASHCROFT ARC LIGHTHOUSE (THEATRE MODEL SUPREX), 30 to 65 amps with 14" glass reflector, per pair....$175.00

STRONG ARC LIGHTHOUSE (THEATRE MODEL). 15 amp, per pair....$150.00

FILM TRANSPORT CASES, vulcanized fibre, with reinforced corners
16mm x 800' ....$ .98
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35mm x 800' (Steel) $1.45

PROJECTION SCREENS: A complete line of beaded and plain screens with and without stands. Quotations on request.

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NATIONAL CINE 12-VOLT BATTERY CASE, (PH403)....$ 14.00

MITCHELL ACCESSORIES CARRYING CASE, compartmented for view finder, matte box, motor, extra equipment....$ 29.50

MITCHELL MOTOR CARRYING CASE $ 14.00

MITCHELL MAGAZINE CARRYING CASE for two 1000' magazines....$ 20.00

BELL & HOWELL MAGAZINE CASE, for two 400' magazines....$ 15.00

NEUMADE FILM CLEANING MACHINE, electric (specify 16mm or 35mm)....$225.00

ART REEVES SENSITESTER....$275.00

EK FILM WAXING MACHINES, electric $275.00

BELL & HOWELL SHIFTOVERS, (alignment gauges), mfd. by Camera Equipment Company. Chrome finish. New $ 48.50

BUFIT. The sensational new film leader with a special polishing rouge bonded to its surface. Keeps camera and projector apertures "sparkle bright" and free of dirt. Eliminates film scratch. 16mm Kit. Double or single perforated $4.50 ea. 35mm Kit ....$5.00 ea.

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NATIONAL CINE LABS. ANIMATION STAND $4750.00

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ROTOSCOPE PROJECTOR, Acme....$2350.00

TRIPODS AND DOLLIES

AKELEY GYRO TRIPOD. Standard height, with bowl. For heavy cameras....$125.00

AKELEY STANDARD TRIPOD AND HEAD, with friction control for pan and tilt, standard height, complete. For heavy cameras....$185.00

AKELEY STANDARD TRIPOD. Standard height, less head. For heavy cameras....$85.00

AKELEY BABY STANDARD TRIPOD. Less head. For heavy cameras....$85.00

TRIPODS AND DOLLIES

AKELEY BABY GYRO TRIPOD. Less head. For heavy cameras. $85.00

AKELEY GYRO TRIPOD AND HEAD. Standard height, with gyro movement for smooth pan and tilt. Complete. For heavy camera....$495.00

BELL & HOWELL PROFESSIONAL TRIPOD. Complete with head and pan handle....$ 98.50

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SALTZMAN TRIPOD DOLLY (MODEL 500 M.B.T.). Heavy-duty. Collapsible extensions extend from 20" to 36" spread. Mounted on ball casters. Three leveling screws for locking dolly in position. New....$65.00

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FILM DEVELOPING MACHINES

PATCO 16mm or 35mm x 200' capacity, 110 volt. Complete with motor, three stainless steel tanks and reel assembly....$95.00

MORSE G-3 8mm, 16mm or 35mm x 100' capacity, daylight tank. All processing and reversal operations in one tank....$18.50

CAMERA EQUIPMENT COMPANY DAYLIGHT TEST STRIP DEVELOPER vacuum bottle, solution tanks (3 each), adapter for attaching Mitchell or Bell & Howell 35mm magazines directly to change box; arm sleeves for readily processing test strips....$29.50

HOUSTON K-1A (SIMILAR TO MODEL 11) 16mm automatic film processing unit. Each step controlled for proper exposure and solution temperature; self-contained unit requiring no extra equipment; processes black and white, negative, positive, or reversal at speeds up to 20' per minute. Like New....$3,450.00

HOUSTON 16mm COLOR MACHINE, Model ASCM, Color, positive, negative, and reversal. Fifteen feet per minute reversal. Thirty-five feet per minute positive and negative..$5,950.00

HOUSTON 35mm FILM DEVELOPER. Complete film processing unit, the standard of all 35mm automatic developing outfits. Processes black and white, negative, and positive at speeds up to 90' per minute....$10,750.00

DEEP TANK for processing 16mm or 35mm film, two racks per tank, accommodates 200' of film each; Grade 1 select Cypress....$35.00

STINEMAN DEVELOPING OUTFITS, 200' capacity ....$ 97.50

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STINEMAN 16mm or 35mm collapsible drying rack; 4' x 4' set up; capacity 200'. Ambient air dryer. New....$8.50

MORSE A-8 (M-30) for 8mm, 16mm or 35mm x 50' capacity. Hand-operated by winding film onto areated collapsible reel. Ambient air dryer. Complete with carrying case....$16.50

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BELL & HOWELL 16MM COMBINATION VIEWER AND PROJECTOR. Portable unit with built-in daylight viewing screen 12" x 12." Can be used as standard projector....$185.00

GRISWOLD SPLICER, 35mm, R-2, New....$19.50

NEUMADE STRIPPING FLANGE, 10" diameter with brass hub. New....$6.50

NEUMADE FILM MEASURING MACHINE 35mm Model M-37-S, single hub. New....$29.50

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DE PUE AUTOMATIC LIGHT CONTROL BOARD 152 scenes $975.00

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STUDIO LIGHT, with large 22" diameter chrome reflector on adjustable collapsible stand; focusing mount for bulb, complete with cables and scrims in fitted case....$55.00

BARDWELL-McALISTER STUDIO LIGHTS with casters and floor pins. Three fluorescent light heads, each bank holds six fluorescent lamps, banks swing 360°, can be raised 15'....$69.50

MOLE-RICHARDSON CINELITE, (Type 16), 500, 1000 watt, double extension stand, casters, portable. New $55.00

All equipment listed is new or fully reconditioned. California purchasers please include 3% State Tax. All quotations f.o.b. Mail orders filled upon receipt. Cashier's check or M.O. with order. Please include 25% deposit with C.O.D. orders.

(MORE GORDON SPECIALS ON PAGE 78)

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UNDERWATER CAMERA

(Continued from Page 52)

we have exposed well over 2,000 feet of film at sound speed on one set of batteries. Normally, an underwater camera would rarely shoot this much film during a single season. Battery depletion is automatically indicated far in advance of actual battery exhaustion by a small light bulb that ceases to flash when the current drops below minimum requirements.

The camera housing is cast aluminum, machined to tolerance. The camera unit is a Bell & Howell, taking 50-foot film magazines. The lens is 13mm. wide-angle Elgeet, f/1.5. Variable camera speeds provide for operation at 12, 16, 24, 32, 48 and 64 frames per second.

The camera weighs 21 lbs. in air, and 3¾ lbs. under water. Both of these weights are very important. The camera is said to be the only underwater motion picture camera light enough in weight so that it can be easily handled topside or passed by the swimmer to a companion in a boat for reloading.

Reloading may be accomplished in a matter of seconds thanks to two very important features: quick-acting clamps on the housing cover and the use of instant loading film magazines.

Lens on the Fenjohn camera is calibrated for underwater distances.

The camera provides for use of filters and includes four filter mounts. Where black and white film is used in the camera, good results can be obtained without use of filters—although we have found that better contrast is secured when using the Aero No. 2 filter. Where color film is used, filters become a must. The excessive blue and green colors of the water must be retarted in order to obtain good color balance. Suitable underwater color filters are not generally available, possibly due to lack of demand. As a result, we have prepared our own—four in all—which meet most underwater requirements with color film. The governing factor in choosing a filter for underwater cinematography with color film is the distance through water —i.e., from surface to object to camera. Even the same depth may require use of a different filter should object distance change from 3 to say 15 or 20 feet.

Polarizing plates are also very helpful at times. The average underwater photographer, however, will find very little use for them. After numerous experiments we have concluded that generally, polarizing plates are indispensable only under certain special conditions—for example when the water surface is glassy-calm.

An important item of companion equipment which we have developed for use with the Fenjohn camera is an underwater exposure meter. A light-weight cast aluminum housing encloses a Weston model 852 photoelectric exposure meter. Adjustment knob extends to exterior of case through a water-tight bushing. At front and back of housing are glass-covered openings which provide light passage to the photocell and afford means of reading the meter dial. Weight of the meter in air is 16 ozs.; under water, 9 ozs. Measuring but 3" x 4" x 1½", the meter is small enough to fit your pocket.

Under water, light readings are taken in the normal manner with this meter. While the average depth for general underwater photography is around ten to twenty feet, good light will be found in most clear-water areas as far down as sixty feet. In southern waters, coral and tropical fish are most abundant at the ten to twenty foot level, and we have found it is common to have a Weston reading of 150 at this depth.

So much for the equipment. As to the pleasure to be derived from shooting movies under water, I'd like to tell you something of the scenery you may expect to find when you take your camera below surface. On the surface, water usually has a very drab appearance; but descend below and a riot of color unfolds. The novice cameraman, making his first descent invariably is amazed at the vari-colored coral formations, with purple sea fans in the background. And the tropical fish make rainbows of color as they pass in review.

Of course, such breathtaking lovliness does not prevail in all waters. It is in the warm waters of the south where such underwater fairlylands are to be found—in parts of Florida and around the Bahamas.

Underwater movie filming, when done with proper equipment, differs little from surface photography—set your focus, get your light reading, and proceed.

LIGHT SOURCE FOR TV NEWS CAMERAMEN

(Continued from Page 58)

flector unit, using the reflector from a Mole-Richardson Junior spot. A hole was cut in the center, in which was fitted a lamp socket, and the unit then attached to a cast aluminum bracket specially made for the purpose. Bracket readily clamps by means of a thumb screw to housing of the Filmo viewfinder on left side of camera. The addition of this lamp bracket offers no interference to opening the door of camera when loading film. Lamp and bracket come off with the door, and are not dislocated in any way. Thus, the use of this unit does not slow the time consumed in replacing a used roll of film with a new one.

The 30-volt lamp gives sufficient light to enable the photographer to shoot subjects four feet distant at a stop of f/6.3, and at 20 feet at f/1.9—using DuPont No. 330 reversal panchromatic film, which has an ASA tungsten rating of 40. Most exposures, of course, depend upon the surroundings—light or dark walls; light coming through windows, etc. To enable photographer to set his lens at the proper stop with a minimum of delay, a prepared exposure chart is pasted on back of the lamp reflector and shows at a glance the stop to use when camera is at various distances from subject—similar to a flash-lamp guide.

The light source is also used on exterior shots for fill light. If an assistant goes out with the cameraman, the lamp is detached from camera and held in a fixed position by the assistant. This enables cameraman to move about the scene, in and out for closeups, etc., without having to change exposure for each camera setup. The 30-volt lamp has a very narrow beam, and for this reason must be held right on the subject for best photographic results.

As a result of the development of this new lighting unit, KTTV's newsreel photography has improved considerably. Many TV set owners have complimented the station on the improvement. Where before the station's newsreel cameramen were limited in the scope of subjects they could film, because of the light problem, today these men are now getting real action movies never before possible. The powerful new light unit now enables them to get excellent night shots such as those of notables arriving or departing at airports; unusual night traffic accidents; etc.

When the day's work is done, the cameraman puts the power pack "on the fire" to be re-charged. For this we use a special rectifier-charger made up for the purpose which delivers a charge of 2 amperes per hour. It usually takes about 4 hours to completely recharge a battery given normal use.

At the present time we have four 16mm Filmo 70-DE's equipped with the lamps and power packs. These units augment our heavier camera equipment consisting of Auricon single system sound cameras. We have also built up a larger power pack unit that has a 22 ampere hour capacity. This has been divided into two sections which are connected by flexible cable. Another 25-foot length of cable permits the lights to be used some distance away from the power source, such as in a large courtroom, where the power pack must necessarily be kept in the rear of the room or in the corridor

NEW!!!

KINEVOX PORTABLE FIELD POWER SUPPLY

- 115 Volts, 60 or 50 Cycles, A.C.
- 500 Watts Output
- Heavy Duty Fibre-Covered Cases
- Battery Weight, 62 lbs. — Generator Weight, 72 lbs.
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Supplies power for any standard 35mm or 16mm camera and Kinevox Recorder.

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outside. This power pack is more often used for night shots in large areas and where a larger lamp unit is used with the camera. This is a four-lamp unit similar to the Powel-lite, which is attached to the camera with a screw through the tripod fitting, and takes four lamps of a different type than those used in the 30-volt unit described earlier. These are 30-volt reflector-flood type lamps, made by General Electric Company, which have only a 3/4-hour life and cost $2.60 each. Four of these lamps supply ample illumination for the biggest shooting assignments our cameramen are likely to cover.

These illumination outfits which were developed primarily for KTTV's television newsreel cameramen, also have applications in the fields of theatrical and documentary motion picture production. Already, the little 30-volt unit has been successfully employed with a portable 35mm camera in shooting location footage in a remote cave for a forthcoming Hollywood production.

And unquestionably the theatre newsreel outfits will ultimately adopt them, too; for if they have proven successful in the admittedly tough field of TV newsreel photography, they undoubtedly can do a comparable job for theatre newsreels which operate at a more leisurely pace. END.

110 Volt AC/DC **VARIABLE SPEED MOTOR**

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Now you can motor drive your Cine Special with confidence.

Tachometer is mounted in clear view of operator. It is calibrated from 16 frames per second to 64 fps. with a definite RED marking for 24 fps.

Electrical governor control for adjusting speeds. Steady operation at ALL speeds. "OFF-ON" switch built into motor base. No adaptors required, except motor coupling which attaches to camera and couples to motor.

Motor shaft equipped with spring steel drive arm which will shear if camera jam occurs. This drive arm is easily replaced.

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FOR EQUIPMENT BARGAINS

See Classified Advertising on

Page 77 of this issue.

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MAKE YOUR MOVIES WITH SOUND

(Continued from Page 61)

Obviously when you switch from making movies with a ciné camera to a sound camera, you have a new technique to master and not a few problems to cope with; but in the main, they are not at all insurmountable and it isn't necessary to have a corps of assistants in order to make a successful film in sound with your new equipment. There are a few kinks or "tricks of the trade" that you must learn as you go along, and the purpose of this article is to give the reader benefit of the experience of one movie amateur who has encountered most of the problems and skirted many of the pitfalls that usually beset the novice sound camera operator. Nor do I wish to hold up the experience as one fraught with disappointments—at least it need not be for those conditioned by experience to proceed methodically with any undertaking.

The cost of making single-system sound movies, in either black and white or color, is the same as for silent movies, as the initial cost of film for either type camera is the same. As the sound track is processed simultaneously with the picture, there is not the added cost of a separate sound track film that one encounters in producing sound films using the double-system. After your sound film is returned from the processing laboratory, it may be projected with the sound as recorded, or it may require some editing—a matter which presents one of the greater problems for the ciné amateur. Editing, therefore, is something that should be attended to as much as possible at the time of shooting the picture.

One of the problems that arises when shooting single-system sound on long-sustained lip-synchronized or musical scenes, is that the camera cannot be stopped and moved for a different angle or setup of the scene without also interrupting the recording of the sound. Thus, there is a problem of having the sound continue unbroken in sequences composed of alternate long and close shots. This is because the sound is recorded on the same film on which the picture is also recorded, and the sound for a given frame of film is recorded at a point approximately 25 frames ahead of the picture frame.

When shooting with a single-system sound camera, the camera should run for about two seconds before the continuity action in a scene is started, and allowed to run a comparable two seconds after the scene action ends. If this is not done, the sound for the scene will be at the beginning of the ensuing take, or twenty-five frames ahead of the picture.

Too often the amateur is told it is impossible to edit single system sound film because of this sound track displacement or over-lapping; but it can be done, once the amateur understands the picture and sound track relationship on the film. I learned early that in cutting and editing single-system sound for lip-synchronization, it is important to cut the beginning of the scene according to the first visible fluctuation on the sound track. The wavy pattern of the variable-area sound track, which appears on the edge of the film and adjacent to the picture area, is readily discernible and with a little experience the film editor can "read" the track and know just where to make his cuts. At the end of the scene, the procedure is to cut at a point twenty-five frames past the last visible fluctuation on the track.

There are times, however, when it is desirable to have the sound for one scene carry over into the next scene as, for example, in a scene showing a man seated in his living room who hears the sound of someone obviously opening a drawer in an upstairs room. The first scene would show the man reading; the second would be a closeup showing mysterious hands opening the drawer, and the third—a flashback to the man downstairs. In order to show this on the screen with uninterrupted sound, the second scene—the closeup of the hands—would be cut in at a point corresponding to the last visible fluctuation of the sound track. When spliced, the sound of the drawer being opened will carry over into the third scene.

Earlier we stated that the camera cannot be stopped on a long-sustained take of a lip-synchronized or musical scene to make another setup and have the sound carry on, uninterrupted. However, there are ways of getting around this. Let us suppose the subject being filmed is singing a song that will run for a hundred feet of film. Obviously it would be quite boring for the audience to look at the singer from the one camera angle throughout the 100 foot take. So, to make interesting cuts, the vocalist is filmed while she sings four or five lines of the song, then the camera is stopped and moved to another position. Here the vocalist starts singing again but the sound camera is not started until the line preceding the one previously recorded is sung. This second take, as well as the third and fourth, should run about 25 feet in length. When the film is returned from the laboratory, it will consist of four 25-foot takes with sound track—the first three duplicating the sound of the ending line of the previous scene.

With the aid of a good magnifying glass, the film editor can observe on the sound track where one line of the song ends and the next begins, cut and splice the film at these points, and present on the screen an unbroken sound track comparable to one made with the double-system—and with all four scene cuts properly matched.

Another interesting way in which the 16mm single-system sound camera can be used to advantage is in post-recording sound for dubbing in the picture after it is photographed. This method is especially advantageous in providing synchronized sound for travel and vacation pictures that have been photographed with careful attention to continuity, so that no cutting and editing is required afterward. The vacation film may be photographed with your old silent camera—providing it affords sound speed of 24 frames per second—which may be more convenient for the traveling movie maker than to take along the heavier sound camera. (We assume, of course that you have retained your old silent camera, instead of trading it in or disposing of it at time of purchasing the sound job. To use it for shooting film that is to have sound added, you will need to have the teeth removed on one side of the film drive sprocket.)

The important thing is to keep close record of the footage allowed each take or scene and to write a brief description of the contents of each. Before the film is sent to the laboratory for processing, wind it back on its original spool, then thread it into the sound camera. Cap the lens, so that only the sound track will be exposed as the film is run through this camera. Then, with cut sheets and narration script at hand, and the camera and michrophone set up, tested and adjusted for proper modulation, start the camera and speak the narration, carefully timing it to coincide with the scenes already recorded on the film. Such a film should open with a brief musical introduction and close with a crescendoing musical finale, which can be provided by records played on a phonograph connected to a channel of the camera's sound recording system.

I found this method not only works well in making a travel or vacation film, but in making scenario pictures, as well. In Hollywood, the big scenarized productions are shot on the sound stage with the pre-planned action and dialogue recorded simultaneously. Because of the greater number of cuts usually required in the amateur scenario-type picture as compared to the simpler 4-scene picture described earlier, it would be a complicated job to attempt to apply here the same editing-photographing proce-

dure; but results approximating that achieved on the Hollywood sound stage can be accomplished with the single-system sound camera. We proved it recently in the production of a little picture titled *Joint Account*. Most of the action filmed with sound takes place on a single set—a kitchen. Here a man and wife doing the dinner dishes together, are discussing a proposed vacation trip. The kitchen scenes with lip-sync sound were all filmed in one evening. Scenes of the various vacation spots they planned to visit were previously shot silent with my old Cine Special. Later, appropriate musical background was added to these scenes, using the sound camera as described above. These scenes were then intercut with the scenes recorded with dialogue and filmed in the kitchen.

The kitchen episode reaches a climax when the husband reluctantly reveals to his wife that the vacation trip is off because he secretly had dipped into their joint bank account to purchase a new set of golf clubs.

Editing and cutting of these scenes followed the procedure outlined earlier, and the result is a continuity film given tremendous added interest because of the addition of dialogue and synchronized sound.

Just as most ciné amateurs find it difficult to go back to shooting black-and-white film, once they try color, so the new sound camera owner will find his silent movies dull by comparison with his new sound movies. However, your old silent pictures also can be given a voice, using the sound recording facilities of the single-system sound camera. By projecting the silent films at 24-frames per second sound speed, an appropriate narrative and musical background can be recorded simultaneously by means of the sound camera. Then dupe prints can be made of the silent films with the post-recorded sound track added. Thus, all your old films may be brought up to date and given new interest through the medium of the sound camera. The increased speed to 24 f.p.s. will speed up action in some scenes, but not enough to offset the added interest given the films by the sound track.

The question most often asked, perhaps, by those contemplating purchase of a single-system sound camera is, "Can I operate it entirely by myself, or must I have one or more assistants to handle the sound?" In making *Joint Account*, I handled both camera and sound equipment without any help. On a small production of this kind that doesn't involve a large cast, it is a simple matter—once the microphone, camera and lights are set—to adjust the amplifier-mixer controls and start shooting. The sound is constantly checked as it is recorded by

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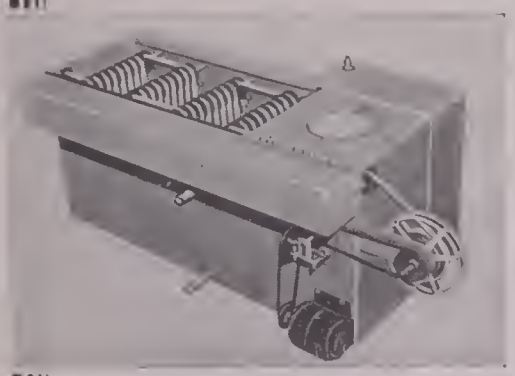

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PRACTICAL USE OF LATENSIFICATION

(Continued from Page 54)

Columbia Pictures' "Harlem Globetrotters" is an example of the type of production which could not be produced within the low budget allotted it without the assistance of latensification. The story, based on the sensational playing skill of the all-negro Harlem Globetrotters' basketball team, was especially planned to show scenes of the team playing challengers in several stadiums and auditoriums in Illinois, Wisconsin, Pennsylvania and New York, instead of staging the action in the studio. Obviously it would be impractical and too costly to ship a generator and the necessary heavy duty lighting equipment from Hollywood to the east, and transship it from one location to another. This is rarely done today, even on high-budget pictures. Instead, the picture was planned for the "fifty foot candles" shooting treatment.

Instead of broads, Juniors and spots, we employed mostly photoflood lamps in lighting the stadium interiors, building up the overall illumination to fifty foot candles and leaving the rest to Columbia's lab—where the film ultimately was latensified.

Auditoriums, gymnasiums and stadiums where most big basketball games are played are notably underlighted, insofar as photography is concerned—a fact we were well aware of before we left Hollywood; so we were well supplied with photoflood lamps and clamps—our principal lighting equipment for this assignment.

The stadiums in which more than 25 percent of the picture was filmed were located in Milwaukee; Zion, Evanston and Chicago, Illinois; Hershey, Williamsport and Scranton, Pennsylvania; and in Madison Square Garden, New York City. The illumination from electric lighting in these stadiums ranged from a low of 8½ foot candles to 124 foot candles — the latter in Madison

Square Garden. In many of the stadiums, ceilings were so high that illumination coming from the ceiling fixtures was considerably diminished by the time it reached floor level. To build up the light to fifty foot candles, we replaced some of the lamps in house fixtures with No. 4 photofloods and placed other photofloods in strategic locations using clamp-on fixtures.

Shooting in the stadiums also had its advantages, particularly because with most of the lighting coming from overhead we had greater freedom of camera movement. We could move the camera or change setups anywhere at anytime without having to consider the floor lights, as on the sound stage. There was no sidelighting in any of the stadiums, but in spite of this we secured good photographic quality, part of which was due to the light reflected from the highly polished floors. But even in the reaction shots made of spectators, the results were highly satisfactory. These were "grab" shots made without benefit of special lighting. Once or twice we did use a single photoflood near the camera for fill light on these shots.

We set out on this assignment with three Mitchell BNC cameras and three hand-held Arriflex cameras. The Arriflexes were used to get in close during height of action and for unusual angle shots. Perhaps some of the most thrilling shots were those made with the camera looking down at the baskets to catch the scoring action—and the misses, too. To achieve this with the most dramatic camera angles, we replaced the back-stop board back of one basket with a large panel of optical glass. This enabled us to shoot directly at the ball and players during the decisive plays.

The three Mitchell cameras were always in use as the play progressed, each picking up the action from a different angle. Three Arriflex cameras were required in order to have at least one in readiness when the active camera ran low on film, as the cameras hold only 200 feet of film at a time. As soon as a camera's film supply was exhausted, it was replaced by another, and immediately reloaded.

Having the advantage of latensification enabled us to shoot atmospheric shots of spectators entering and leaving the stadium entrances—this at night and without any illumination other than the street lights and lights in the building entrance.

When we returned to Hollywood, the balance of the picture was filmed on sets on the sound stage, and here we continued to use the "fifty foot candles" shooting system. A surprising few lighting units are employed for this and it is remarkable the results that are achieved.

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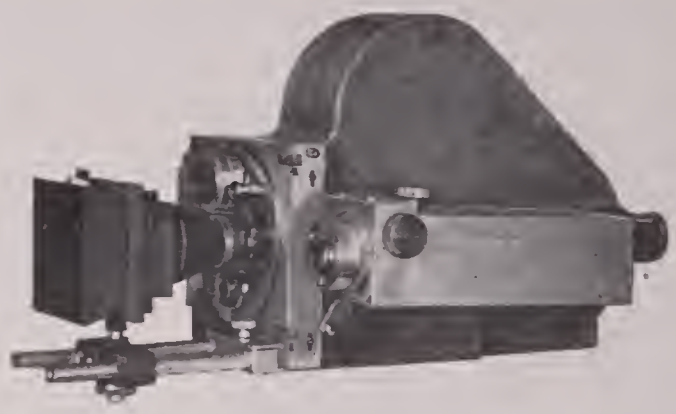

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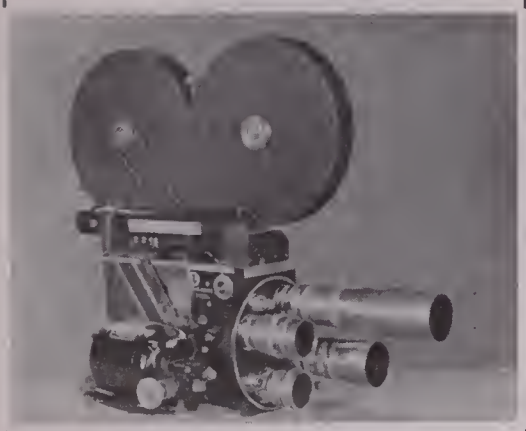

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The success of Columbia's "fifty foot candles" system demonstrates that latensification makes cinematography possible in almost any location and under lighting conditions short of complete darkness. It is now possible to shoot location scenes in office buildings, narrow halls, alleys, etc., using only a few photofloods for illumination and, by giving the negative the latensification treatment, insure an acceptable print. Moreover, it is possible to achieve print quality in such footage that makes it no problem at all to edit it with scenes shot with normal studio lighting. So successful has the "fifty foot candles" system proved that Columbia Pictures also employs it in shooting scenes for many of its high budget productions, such as night street scenes, etc.

Latensification has yet to find general use in the making of films for television, but in view of the demand for low-cost production of such films, the application of the process is certain to receive more than passing attention. For one thing, it makes possible photographing successfully live TV shows in the television studio, using nothing more than the regular stage lights for illumination.

For the commercial film producer, latensification can be helpful, too. Just as Columbia and other studios save costs of transporting generators and costly lighting equipment to remote locations, the industrial film producer likewise can shoot in similar locations with illumination comparable to fifty foot candles, have the negative latensified by the laboratory, and come up with acceptable prints. Laboratories such as Consolidated Film Industries and the Pathe Industries, Inc., in Hollywood offer this service to all producers of 35mm films—major or independent studios or industrial film producers. The service is not available for 16mm film for the reason that as yet, no 16mm stock is available that will respond to the latensification treatment.

Columbia's "fifty foot candles" system consists of shooting with Eastman Plus-X negative with illumination of fifty foot candles at an aperture of f/2.8. This film is then developed by special time and temperature process, and Columbia has so perfected its system that grain has ceased to be a problem.

FILMING A PIPELINE PROJECT

(Continued from Page 57)

an early break-up so the crossing was abandoned and re-scheduled for late summer. I was glad I was a cameraman and not a contractor. However, I did manage to cover the smaller but successful winter crossing of the North Saskatchewan River.

What the winter work lacked in heat and speed, summer made up. The pipe crews meant business. They had a line to build in a short time and had no more than a passing interest in photographers.

This meant that our material would be shot on the "fly." It meant that we had to study the action carefully and pick camera positions and angles ahead of time. As it turned out this type of shooting was very successful. Nothing looked stiff or artificial. We were actually part of the crew building the line. We learned their techniques and what routine to expect next.

This was where our simple camera equipment paid off. It enabled us to get right in among the crews during the most intensive action. To capture in closeup the skill and speed of their work often meant using the camera hand-held when tripods were in the way. This meant teamwork especially for the assistant with reflector—a job in which he became very proficient. Much of this close-uup footage made very effective cutting material.

Dust was the main summer shooting hazard. The weather was very dry and very hot. Side boom "cats" and tractors constantly churned up the prairie soil so that working in six inches of dust was commonplace. Traffic up and down the right-of-way raised a constant cloud. Of course this meant that holes and cracks in the camera and magazines had to be covered with adhesive tape. Filters were cleaned and replaced as often as possible, but naturally image quality did suffer a little.

The pipe painting and wrapping operation, one of the most fascinating of all, covered the camera and cameraman with soot and smoke not to mention the choking fumes.

Weather and light on the whole offered no particular problem especially during action which was repeated from one end of the line to the other. However this wasn't true on such comparatively short operations as river crossings. We just had to shoot when the operation was going on. Strange how important activities so often happen just when the light is on the wane. In shooting a documentary picture of this type, borderline light conditions are rather hard on the

photographer. In spite of the possibility of missing some important action, there comes the time when you must believe your light meter and quit.

The summer version of the big river crossing yielded one of the main highlights and one of the main headaches. Long welded strings of pipe already processed and fitted with heavy river weights were lifted and pushed out into the stream by a line-up of fine huge pipe line side boom tractors. At the same time a huge draw-works, connected to the pipe by cable, pulled from the opposite side. The problem was to get from shore to shore when desirable action was taking place. Only one boat, and not too seaworthy a craft at that, had to serve pipe-liners and photographer alike. However, after carefully planning our footage needs and taking advantage of minor delays when cables broke, we did manage to change locations from side to side and cover the story completely.

We almost missed the final climax though. During a shooting lull before the final push (calculated to last two days), we flew back to Edmonton for a rest. Just got there and into a bath when a long distance call indicated that "it" would happen the following morning. It was Sunday evening and the pipe line patrol aircraft could not fly after dark. We took off at six in the morning and landed at the river at nine.

The preliminaries were over and they were just ready to pull the final section of pipe across. Simple as my equipment was I had to hurry to get set up. And for a few minutes I'm sure I acted like a mad man. But I got my shots and the boys made their crossing. Afterward, many of these men left for home in Oklahoma, and Missouri and California; I left for other locations on the line.

To me, shooting the newsreel documentary has a particular thrill of its own. Simplicity of equipment and limited control of action lends an air of freedom to the work, and its results are directly relative to the ingenuity, imagination and flexibility of the cameraman and his camera. What he expends on ever-present obstacles is more than made up in the feeling of individual achievement.

Sponsored by the Interprovincial Pipe Line Company, "Artery For Oil" was produced to explain graphically the full significance of the line, especially to the west. The film shows the route of the line from the Redwater oil field in Alberta to Superior, Wisconsin, the port from which the crude oil is shipped by tanker to refineries in Ontario.

Sound recording for the film and the final editing was done by Crawley Films, Ltd., of Ottawa and Toronto. END.

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CARBON ARCS

(Continued from Page 51)

of opaque forms to block out undesired rays. He was dealing entirely in light and shade and the "pigments" he used were constantly changing. He came to realize that if he were to advance his art he must obtain complete control of light and that the beauties of natural sunlight were too vagrant to be harnessed to his purpose. Artificial light was his only salvation; so he was soon lining his sets with carbon arc lamps made for street lighting, stage lighting spotlamps, industrial lighting Cooper-Hewitt banks, and later with military searchlights and carbon arc floodlamps. He tried the incandescent filament lamps, but was unsuccessful with them at the time because the film was blind to their red rays.

With this inefficient and ill-adapted equipment he was beginning to achieve an art form when the advent of sound imprisoned his cameras in static, awkward, soundproofed booths. The importance of the new sound medium transcended all demands for photographic quality; and the importance of the engineering-minded technicians, who were brought into the industry to operate the sound equipment, enabled them to reduce the art of cinematography to a mechanical function in order that they might achieve a result in their own field.

Restricted to small sets and with his camera static the cinematographer tightened his belt and started to move forward again. Soon a number of cameras were running on the same set in order to achieve the effect of movement, and the cinematographer began casting about for a light source that would not be restricted, as were his cameras, by the noise it created.

He had been experimenting with panchromatic film which was not blind to red light and in the incandescent filament lamp he saw a lighting medium which would allow him the froodom of movement he must have in order to again paint with light.

It was during this period that we entered the field of the manufacture of motion picture studio lighting equipment. The motion picture industry was in the chaotic condition which is characterized by the aftermath of a revolution; great stars were plummeting from their tinsel orbits; stars of the legitimate stage were coming in and they brought with them the techniques of the legitimate stage which seemed artificial and restricted in motion pictures, but which were the salvation of early sound production.

Although I had been a searchlight engineer for a large corporation, and had worked for some time in a major motion picture studio as an electrician, like other engineers I lacked the double viewpoint which is a fundamental requirement for success in a business so equally divided between an engineering and an art form.

Elmer Richardson, one of my partners, had had experience in the field of design and business administration. Phil Coates, a second partner, was a veteran motion picture studio electrician with a wide knowledge of practical application. One of the many things we had in common was a firm determination to manufacture motion picture studio lighting equipment which would meet the particular needs of the trade. Looking back I now see that one of our basic errors was the opinion that engineering perfection should transcend utilization. We soon learned that economy of operation, operating efficiency and convenience were only of great importance when they were tied in with functionalism from the viewpoint of the cinematographer.

As in the period that takes place during rehabilitation after a revolution, the prime requirement was to rapidly produce equipment which would allow the cinematographer to work with a minimum of interference from the inflexible rules of the sound engineer who at that time possessed anything but a double viewpoint.

We met the demand by adapting incandescent lighting housings from other fields and by imitating some of the arc light housings which had proven useful. As a matter of fact the shock of the sudden arrival of sound brought an era of imitation in the scurry to survive. All artisans, even the sound engineers themselves, were working with a new and strange medium that could not be suddenly adapted to motion picture techniques and in their confusion they became total victims to trial and error until they had had time to digest the noisy intruder they had swallowed.

Lenses of the cameras were not corrected for proper focus of the red rays of the incandescent lamp and the types of early equipment we were able to produce, although comparatively silent in operation, failed to deliver the intensity and carrying power required for artistic results in large areas. While it has been said that two wrongs never make a right we were aided at the time by other limiting factors of the sound system which kept most production on small sets.

It was at this time that the cinematographer, battling against the odds created by the lack of tools and restricted action, attempted to capitalize his misfortune by creating a style of soft focus, effect light-

ings that would have been beautiful in portraiture but were often a distraction from the total dramatic effect of the particular scene.

This era was also characterized by flat lighting which was born of necessity because the lighting units were little more than commercial flood lamps. However, as sound became a part of the whole instead of the dictator, and the sound engineer began to develop the double viewpoint, the cinematographer was again able to prove that the *picture is light,* and to obtain more freedom of action.

(To be continued next month)

SOUND ON ¼-INCH TAPE

(Continued from Page 53)

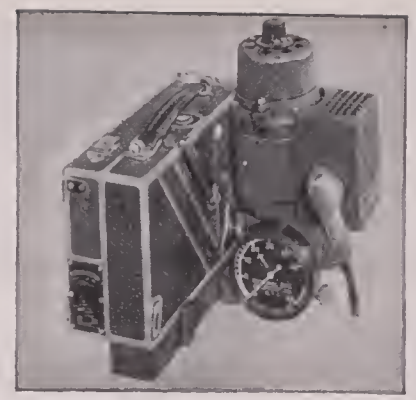
Pic-Sync machine will then hold the recorded magnetic track in exact synchronism with the movement of the film through the projector.

Any professional tape recorder which has good speed regulation and recording response to 14 kilocycles may be used for the original track, but the Fairchild Pic-Sync machine must be used for the reproduction of the tape *in synchronism* with the projected picture. For picture taking on location, it is usual to employ a reasonably portable magnetic sound recorder in conjunction with the Control Track Generator, the recorder and the cameras being driven by synchronous motors. Their speed, consequently, is dependent upon the frequency of the a.c. voltage driving them, and the frequency of this line voltage becomes the speed reference.

When using the Control Track Generator, an electrical high frequency signal is recorded on the tape. This signal is an exact measure of the speed of the film through the camera because the film is driven by sprockets, and no slippage is possible. Thus the sound tape now has "magnetic sprocket holes" recorded on it and on playback these magnetic sprocket holes hold the tape in synchronism with the movement of the film through a projector.

The Control Track Generator is effectively a junction point at which the controlling signal may be injected into the circuit and mixed with the audio signal. The control signal consists of a carrier tone of 14,000 cps—well above the usable audio signal range—and not of itself a measure of the film speed. However, the carrier is modulated by the a.c. voltage, and it is this modulation which indicates the film speed. The reason for this arrangement is that the 60-cps voltage by itself is audible, and

(Continued on Page 75)



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Current Assignments of A.S.C. Members

Major film productions on which members of the American Society of Cinematographers were engaged as directors of photography during the past month.

Allied Artists

• HARRY C. NEUMANN, "I Was An American Spy," with Ann Dvorak, Gene Evans, Douglas Kennedy, Leslie Selander, director.

Columbia

• HENRY FREULICH, "Cyclone Fury," with Charles Starrett, Smiley Burnette. Ray Nazarro, director.

• ELLIS CARTER, "Sunny Side of The Street," with Frankie Lane, Billy Daniels, Toni Arden and The Rhythmaires. Richard Quine, director.

• JOSEPH WALKER, "Remember That Face," with Broderick Crawford, Betty Behuler, Otto Hulett and Ernest Borgnini. Robert Parrish, director.

• BURNETT GUFFEY, "The Secret," with John Derek, Lee J. Cobb, Jody Lawrence, and Henry O'Neill. Henry Levin, director.

Independent

• GEORGE E. DISKANT, "Storm Over Tibet," (Summit Prodn.) with Diana Douglas, Rex Reason Myron Healy, Bob Karns, William Schallert, Harold Fung. Andrew Marton, director.

Lippert

• JACK GREENHALGH, "Man For Hire," with Hugh Beaumont, Richard Travis, Ann Savage. William Berke, director.

• JACK GREENHALGH, "Roaring City," with Richard Travis, Hugh Beaumont, and Virginia Dale. William Berke, director.

M-G-M

• ROBERT PLANCK, "Rich, Young And Pretty" (Technicolor), with Jane Powell, Vic Damone, Wendell Corey, Danielle Darrieux and Una Merkel. Norman Taurog, director.

• CHARLES ROSHER, "Showboat" (Technicolor), with Kathryn Grayson, Ava Gardner, Howard Keel, Joe E. Brown, Agnes Moorhead. George Sidney, director.

• JOSEPH RUTTENRERG, "Kind Lady," with Ethel Barrymore, Maurice Evans, Angela Lansbury, Keenan Wynn, Doris Lloyd and Betsy Blair. John Sturges, director.

• HAROLD ROSSON, "Love Is Better Than Ever," with Elizabeth Taylor, Larry Parks, Josephine Hutchinson and Tom Tully. Stanley Donen, director.

• HAROLD LIPSTEIN, "No Questions Asked," with Barry Sullivan, Arlene Dahl, George Murphy, Jean Hagen, Richard Anderson and Dick Simmons. H. F. Kress, director.

• PAUL C. VOGEL, "Man On The Train," with Dick Powell, Paula Raymond, Marshall Thompson, Adolphe Menjou, Ruby Dee, Florence Bates and Richard Rober. Anthony Mann, director.

• ROBERT SURTEES, "The Strip," with Mickey Rooney, Sally Forest, James Craig, William Demarest, Kay Brown, Myrna Dell, Vic Damone, Monica Lewis. Leslie Kardos, director.

• WILLIAM MELLOR, "The Bradley Mason Story," with Walter Pidgeon, Ann Harding, Lionel Barrymore, Keefe Brasselle, Philip Ober and Eduard Franz. Richard Thorpe, director.

• RAY JUNE, "Strictly Dishonorable," with Ezio Pinza, Janet Leigh, Millard Mitchell, Gale Robbins. Norman Panama and Melvin Frank, directors.

• GEORGE FOLSEY, "The Law And Lady Loverly," with Greer Garson, Michael Wilding, Marjorie Main, Fernando Lamas, Phyllis Stanley and Ralph Dumke. Edwin Knopf, director.

Monogram

• MARCEL LEPICARD, "Ghost Chasers," with Leo Gorcy, Huntz Hall, Jan Kayne, and Lloyd Corrigan. William Beaudine, director.

Paramount

• GEORGE BARNES, "Here Comes The Groom," with Bing Crosby, Jane Wyman, Franchot Tone, Robert Keith and Jacky Gencel. Frank Capra, producer-director.

• LEE GARMES, "That's My Boy," (Hal Wallis Prod.) with Dean Martin, Jerry Lewis, Ruth Hussey, Eddie Mayehoffe and Polly Bergen. Hal Walker, director.

• JOHN SEITZ, "When Worlds Collide," (Technicolor) with Richard Derr, Peter Hanson and Larry Keating. Rudolph Mate, director.

• LIONEL LINDON, "Submarine Command," with William Holden, William Bendix, Nancy Olson. John Farrow, director.

• LOYAL GRIGGS, "Crosswinds," (Pine-Thomas Prod.) (Technicolor) with John Payne, Rhonda Fleming, Forrest Tucker, John Abbott, and Alan Mowbray. Lewis R. Foster, director.

R.K.O.

• RUSSELL HARLAN, "The Thing" (Winchester Pictures), with Kenneth Tobey, Margaret Sheridan, James Young. Christian Nyby, director.

• EDWARD CRONJAGER, "Two Tickets To Broadway" (Technicolor), with Janet Leigh, Tony Martin, and Smith & Dale. James V. Kern, director.

• WILLIAM SNYDER, "Flying Leathernecks" (Technicolor), with John Wayne, Robert Ryan, Don Taylor, Jay C. Flippen. Nicholas Ray, director.

• ARCHIE STOUT, "On The Loose," (Filmmakers) with John Evans, Lynn Bari, Robert Arthur. Charles Lederer, director.

• NICK MUSURACA, "Rustlers' Range," with Tim Holt, Richard Martin, Joan Dixon, John Dehner. Stuart Gilmore, director.

20th Century Fox

• CHARLES G. CLARKE, "Kangaroo" (Technicolor) (Shooting In Australia), with Maureen O'Hara, Peter Lawford, Finlay Currie and Richard Boone. Lewis Milestone, director.

• LEON SHAMROY, "David And Bathsheba" (Technicolor), with Gregory Peck and Susan Hayward. Henry King, director.

• JOSEPH LASHELLE, "The Guy Who Sank The Navy," with Paul Douglas, Joan Bennett, Linda Darnell, Don DeFore and Zero Mostel. Joseph Newan, director.

• JOE MACDONALD, "Will You Love Me In December," with Monty Wooley, Jean Peters, Constance Bennett, Marilyn Monroe and David Wayne. Harmon Jones, director.

• NORBERT BRODINE, "The Frog Men," with Richard Widmark, Dana Andrews, Gary Merrill, Jeffrey Hunter, Robert Wagner and Warren Stevens. Lloyd Bacon, director.

• ARTHUR ARLING, "Meet Me After The Show," with Betty Grable, Macdonald Carey, Rory Calhoun and Eddie Albert. Richard Sale, director.

• HARRY STRADLING, "Golden Goose," (Thor. Prodns.) with Fred MacMurray, Eleanor Parker, Richard Carlson, Kay Buckley, Una Merkle, Douglas Dumbrille and Nestor Paiva. George Marshall, director.

Universal-International

• IRVING GLASSBERG, "Francis Goes To The Races," with Donald O'Connor, Piper Laurie, Cecil Kellaway, Jesse White, Vaughn Taylor, Barry Kelly, Hayden Rorke. Arthur Lubin, director.

• MAURY GERTSMAN, "Ma and Pa Kettle At The County Fair," with Marjorie Main, Percy Kilbride, Lori Nelson, James Best. Charles Barton, director.

• RUSSELL METTY, "The Golden Horde," (Technicolor) with David Farrar, Ann Blythe, Peggie Castle, Richard Egan, Poodles Hannaford, Howard Petrie, and Henry Brandon. George Sherman, director.

• CARL GUTHRIE, "The Iron Man," with Stephen McNally, Jeff Chandler, Evelyn Keyes, Joyce Holden, Rock Hudson and Jim Backus. Joseph Pevney, director.

• GEORGE ROBINSON, "The Real McCoy," with Bud Abbott, Lou Costello, Dorothy Shay, Kirby Grant, Shay Cogan, and Ida Moore. Charles Lamont, director.

Warner Brothers

• SID HICKOX, "Fort Worth," with Randolph Scott, David Brian, Phyllis Thaxter, Helena Carter and Henry Hull. Edwin L. Marin, director.

• ROBERT BURKS, "Tomorrow Is Another Day," with Ruth Roman, Steve Cochran, Lurene Tuttle and Wallace Ford. Felix Feist, director.

• ERNEST HALLER, "Moonlight Bay," (Technicolor) with Doris Day, Gordon MacRae, Jack Smith, Mary Wickies, Rosemary de Camp, Leon Ames.

• ED DUPAR, "I Was A Communist For The F.B.I.," with Frank Lovejoy, Dorothy Hart, James Millican and Konstantin Shayne. Gordon Douglas, director.

Lars Moen, scientist, writer and lecturer in the field of motion pictures, passed away in Hollywood last month, following a brief illness. At the time, he was associated with Karl Freund's Photo Research Corp., as technical writer. At one time Moen was head of Paramount Studios' experimental optical laboratory. He was the author of several technical books dealing with photography, and at one time was associated with Gevaert in Europe, aiding that company in the development of its color film processes.

SOUND ON QUARTER-INCH TAPE

(Continued from Page 73)

would introduce an objectionable hum into the sound recording if it were recorded directly on the tape. A longitudinal track can be used for the control signal and a transverse track for the signal, but this would necessitate great complication. It would require an additional record head and amplifier at the recorder, and an additional playback head and preamplifier at the playback machine. With the Pic-Sync system, however, no mechanical modifications need be made and no heads added to the recorder.

The simplified circuit of the Control Track Generator is shown in Fig. 1. The audio signal, entering at the input terminals, passes through the filter which eliminates sound track frequencies above 12,000 cycles so as to prevent intermodulation between the audio signal and the control signal. The local oscillator, modulated by the line frequency, is fed at a controllable level to the input of the amplifier, being mixed with the audio signal at that point. A built-in VU meter permits the adjustment of the level of the oscillator signal to the desired amount, and another adjustment permits setting the over-all output to the same value as the input signal. The generator uses only two dual triodes—one serving as a two-stage feedback amplifier, while the other serves as the oscillator and a cathode follower which couples to the VU a voltage regulator complete the tube line-up. The output of the Control Track Generator feeds the tape recorder at the same level as it is normally fed from the mixer. Fig. 2 shows the external appearance of unit.

Since the Pic-Sync system operates on the difference in *phase* between the recorded magnetic sprocket holes and the projector supply voltage, it is seen that the control accuracy is within one-half cycle of the control voltage, or 1/120 of a second for a 60-cps line. This corresponds to one-fifth of a frame, which is the accuracy with which the system maintains synchronism. However, the range of control is such that the professional tape machine on which the original tape was recorded must be held within the manufacturer's specifications for deviation from synchronous capstan speed. The maximum range of control available during playback is 2% from the synchronized recording reference. This includes the factors of tape slippage, capstan deviation and geometric distortion of the tape.

Once the tape speed of the recorder is adjusted to the required accuracy, the Control Track Generator will furnish the magnetic sprocket holes which synchronize the tape during playback. Most picture and TV installations are already equipped with magnetic tape recorders of the conventional type, and the addition of the Pic-Sync system reduces operating overhead because the saving in stock costs will continue as long as the equipment is used.

Even the small producer of motion pictures—either 16mm or 35mm—can begin to take advantage of the lower operating costs made possible by the Fairchild Control Track Generator—and without obsoleting his present tape recorder. END.

Expansion Program For Kinevox

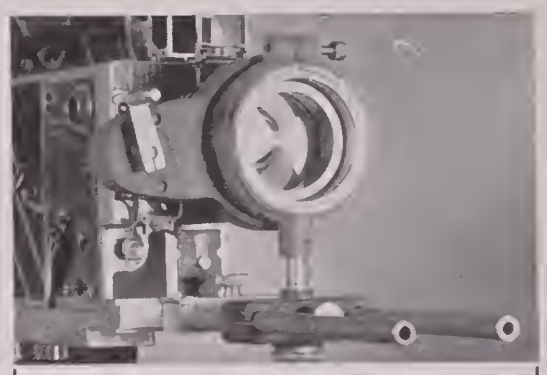
OUTGROWING present facilities at 4000 Riverside Dr., Burbank, Calif., Kinevox, Inc., makers of magnetic film recorders and allied equipment, will break ground this month for its new building to be located on Hollywood Way, opposite Warner Brothers' studio in Burbank.

ARCHITECT'S drawing showing view of new building soon to be erected in Burbank by Kinevox, Incorporated.

One story structure will provide over 3,000 square feet of floor space, which will be devoted to offices, equipment assembly, demonstration room and a research and experimental laboratory.

Company, established only eighteen months ago, has enjoyed unprecedented growth and is currently busiest producer of magnetic recording equipment on west coast.

Company, which is headed by Len H. Roos, A.S.C., and Wm. T. Crespinel, A.S.C., reports greatly increased export business, with its equipment now in use in the production of motion picture films in more than twelve foreign countries. Kinevox, Inc., has representatives in N. Y. C., Mexico City, Rome and Bombay.



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WHAT'S NEW

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TV Camera Car

A new lightweight and extremely mobile camera car for television cameras is announced by The Camera Mart, Inc., New York City. Weighing less than 200 lbs., it can be lifted by two men. Width is 27"—sufficiently narrow to go through a standard doorway. Boom arm will support a 150 lb. camera, affords an elevation angle of 90° permitting camera to be used at heights ranging from 26 inches to seven feet. Car may be disassembled into three sections in less than ten minutes and made ready for transportation in automobile or truck. Price of this new accessory, tradenamed the Camart TV Camera Car, is approximately $1,500.00 FOB New York.

New Cine Camera Lenses

Bausch & Lomb Optical Co., 635 St. Paul St., Rochester 2, N.Y., announces three new lenses for 8mm. and 16mm. cine cameras, which round out the company's impressive series of lenses for these cameras.

Comparable in operation to the Bausch & Lomb 35mm. Baltar lenses which are used extensively by major Hollywood studios, two of the lenses are for 8mm. cameras. One is a 7.5mm., f/2.5 wide angle; the other a 15mm., f/1.5 high-speed model. The third of the series is a 25mm., f/1.5 high-speed lens for 16mm. cameras.

As with other B&L lenses in the Animar series, the three new models are coated to improve image quality and have click and spread diaphragm stops.

Booklet Deals With Stains

"Stains On Negatives And Prints" is title of latest technical booklet issued by Eastman Kodak Company, said to be of interest to workers who encounter stains and who want to know how to identify them, prevent them, and whenever possible, how to remove them. Book is well illustrated with a number of photographs showing different types of stains and also contains a number of charts which summarize information on various types of stains.

Punched for insertion in the Kodak Photographic Notebook, booklet is available through all Kodak dealers at 25 cents per copy.

400-Ft. Magazine for "Special"

A 400-foot film magazine is new addition to line of Cine-Special camera accessories offered by Par Products Corp., 926 N. Citrus Ave., Hollywood.

Magazine features light trap which opens automatically when camera door is closed; reverses for backwinding; and includes a footage counter. Installation of magazine does not prevent normal use of camera's regular 100-ft. film chamber. Also available is synchronous motor drive for the "Special" that operates camera at 24 f.p.s. Further data and prices available from the manufacturer.

Hydra Pan Head

Employing a unique hydramatic principle of panning movement for cameras is the recently announced Hydra Pan pan head for cine cameras. In use, pan head is cocked then released by trigger, setting camera in a smooth panning motion without other attention by camera operator.

Manufactured by Hydra Pan Head Co., 800 Clearwater St., Los Angeles 37, it is particularly adaptable to use with cine cameras where panning action must be precise.

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UHLER 16 MM — Continuous sound and picture printer. Used just a few hours on some experimental films. Cost around $765.00. Sell for $550.00. Also 16mm step printer incorporating that sturdy Eastman Model A Projector, and 21 scene 18 change drop board, $300.00. RALPH G. WEST, 4906 E. Tenth St., Indianapolis, Ind.

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(Continued on next page)

Classified Ads

(Continued from Page 77)

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INVENTORS: The usual first step is to have a search of the U.S. Patents conducted, so I can report on patentability. Write, without obligation, PATRICK D. BEAVERS, Registered Patent Atty., 1021 Columbian Bldg., Washington 1, D.C.

GORDON SPECIALS!

We are proud to offer, in addition to the items listed below, and in our larger ad on page 63, a complete line of 16mm. and 35mm. negative and positive stock at a fraction of prevailing market prices.

REELS AND CANS

Reel or can 16mm x 400 ft. used.....$ .50
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MOVIOLA, 35MM, MODEL D. New.....$325.00
MOVIOLA, 35MM, MODEL D. Recond.....265.00

See Our BIG AD on Page 63

•

GORDON ENTERPRISES
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BULLETIN BOARD

(Continued from Page 46)

"The Steel Helmet," low-budget independent film production, which is currently receiving more than passing notice by critics and moviegoers, was photographed by Ernest Miller, A.S.C., in twelve days. Picture will be screened for members of the American Society of Cinematographers at their next meeting, February 12.

•

Motion Picture Research Council in Hollywood, last month, announced a new theory for a new background screen said to give 5 to 10 times more light to the camera than old type screens. A sample of the new screen is now being made up by the Council for further research and experiment.

•

Vistascope, new film production device developed by A. P. Dufour, in France and recently acquired for use and distribution in United States by Sol Lesser, was given its first press preview in Hollywood January 25, at the KTTV projection room. Following screening of films made with assistance of the Vistascope, a demonstration of the device was given, followed by a question and answer period during which all phases of operation of the device was explained.

Vistascope utilizes photographs of actual scenes or settings, regardless of size to provide "sets" against which action of players is staged. Lesser claims that simulation of such massive structures as Notre Dame Cathedral or the Taj Mahal may be achieved in a small studio, either for television programs or for films for TV.

•

Frank Samuels and Richard Moore, American Broadcasting Company vice-presidents, will address members of American Society of Cinematographers at their February 12 meeting in Hollywood.

•

Freddie Young, President of British Society of Cinematographers, in Hollywood recently scouting new studio equipment, was a guest of the A.S.C. at the Society's January meeting.

•

Sol Polito, A.S.C., having successfully recovered from a freak automobile accident several months ago, will return to directing photography next month.

MEET THE NEW 70-DL

(Continued from Page 62)

the fast, sharp lens which comes as standard equipment with the camera. This is the new, improved one-inch f/1.9 Super Comat 4-element lens, said to be unusually high in definition. This, as with all Bell & Howell lenses, has been given the famous Filmcoted treatment.

A range of seven camera speeds—8, 12, 16, 24, 32, 48 and 64 frames per second—affords the cine photographer a command of speeds for three degrees of slow motion movies; for smoothing out panoraming action; for smoothing the effect of filming from moving vehicles; to produce accelerated motion; and for shooting movies at sound speed where sound is to be added later.

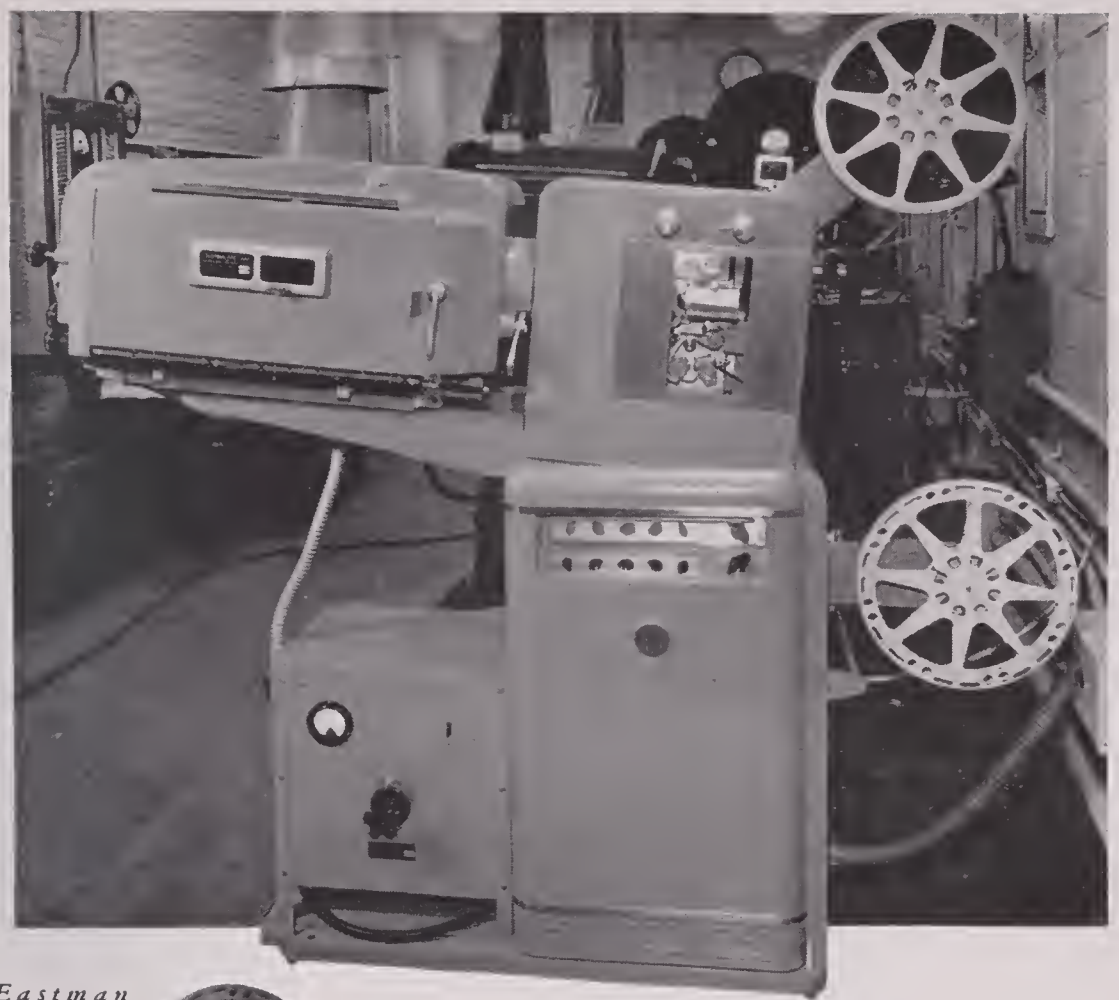
The facilities of the rotating turret head, which takes three lenses with standard "C" mounts, provides instant change from one lens to another. And with comparable finder objectives in the viewfinder, use of multiple lenses becomes a pleasure. Lenses are interchangeable, permitting use of fifteen different Bell & Howell and Taylor-Taylor Hobson lenses, as well as any other lenses with standard "C" mounts.

The new 70-DL retains the important feature found in the original 70-DA—the critical focusing device which affords through-the-lens focusing for pin-sharp pictures. A hand crank permits back-winding film within the camera, for making lap-dissolves and double exposures.

With one winding, the camera will expose 23 feet of film—enough for five average scenes—and the camera mechanism will stop automatically before the deceleration point is reached, insuring that the entire 23 feet of film will be evenly exposed from start to finish.

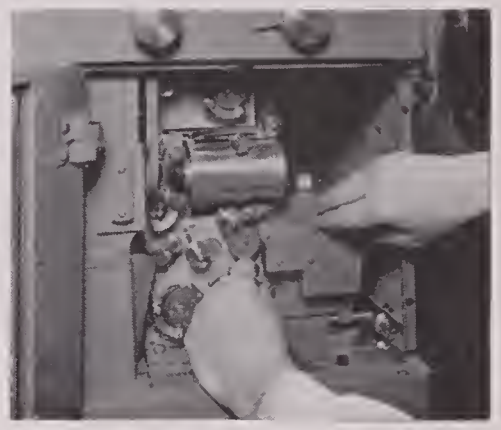
Externally, the camera looks very much the same as the familiar old model 70-DA. The starting button is in the same position—on top front of camera, and there is the familiar hand strap anchored at the base.

Price of the camera, with the 1-inch lens mentioned above, is about $370.00. It's an ideal instrument for the movie amateur graduating to more serious motion picture making, and for many professionals—long adherents of the reliable Filmo 16mm camera for work in the travelogue, lecture film and television newsreel film fields.

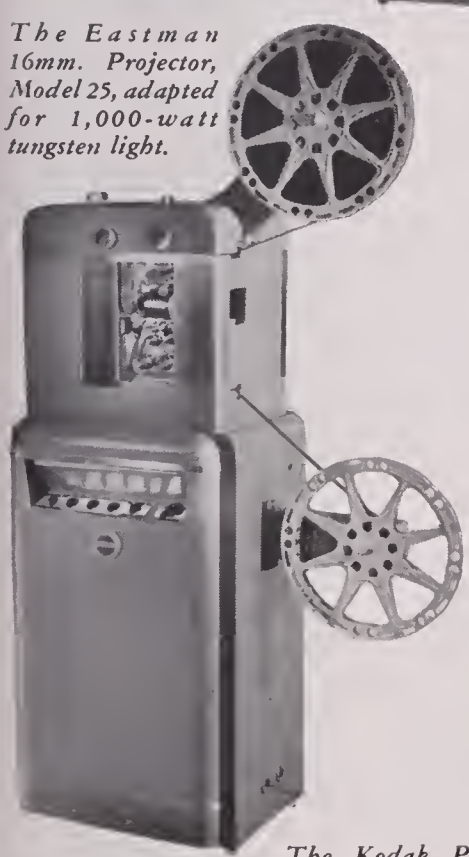


Left, the Eastman 16mm. Projector, Model 25, brings 16mm. projection to the professional level. Shown here, adapted for arc illumination, permanently installed alongside 35mm. equipment.

Below, working parts of the film movement mechanism are in constant view of the operator . . . readily accessible for threading and cleaning.



The Eastman 16mm. Projector, Model 25, adapted for 1,000-watt tungsten light.



The Kodak Projection Ektar Lens, in a choice of four focal lengths, insures superior screen image.

For Professional Quality Sound Projection from 16mm. Film

The Eastman 16mm. Projector, Model 25

This projection instrument—built to a new design concept—eliminates the three major obstacles to theatrical quality 16mm. sound projection . . . excessive wear and high maintenance cost; low signal-to-noise ratio; and excessive flutter.

A major cause of excessive wear and poor quality sound is the constant transfer of shock forces generated in the film pulldown mechanism to other parts of the system. In the Eastman 16mm. Projector, Model 25, the intermittent (film advance mechanism) is completely isolated and independently driven by its own 1440 r.p.m. synchronous motor. Thus, shock forces are sealed off from the rest of the instrument. The sprocket-shutter system is driven by its own 1880 r.p.m. synchronous motor. Exact phasing between the two systems is accomplished by specially designed synchromesh gears. In addition, the take-up spindle, rewind spindle, and blower are driven by separate motors.

A highly corrected microscope objective, adjustable for optimum sound quality from any type of 16mm. sound film, permits reproduction of variable area or variable density 16mm. sound tracks at extremely low distortion and a maximum signal-to-noise ratio.

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from every angle-newest of the finest

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7 film speeds . . . 8, 12, 16 (normal), 24 (sound), 32, 48, and 64 (true slow motion) frames per second.

Critical Focuser permits you to look through the lens for precise visual focus on the subject.

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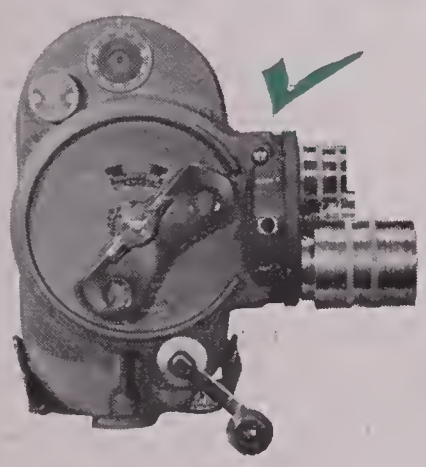

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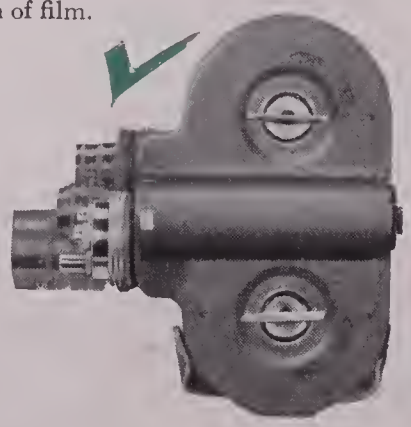

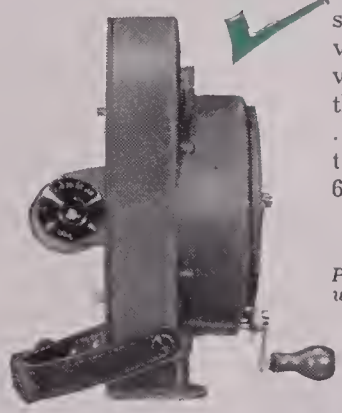

Focusing eyepiece . . . suits individual sight variations. Makes viewfinding easy for those wearing glasses . . . increases illumination to the eye up to 600%.

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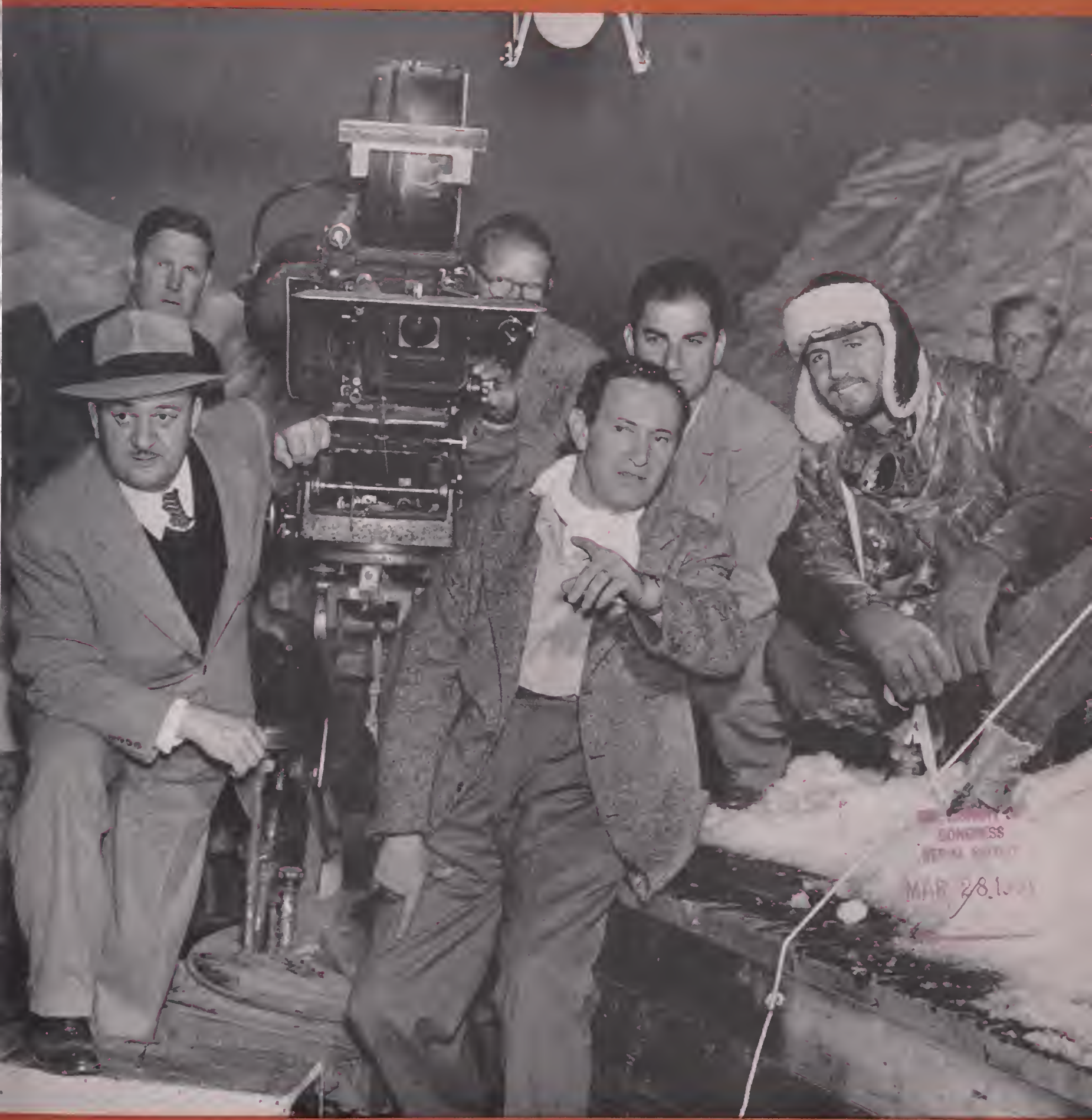

THIS ISSUE: • Nominations For 1950 Cinematography "Oscars"
• Setting Up A Television Newsreel
• Key To Successful Industrial Films

MARCH
1951

tV

film products of superior quality by DuPont

Dependable Du Pont films for television are approved and widely used throughout the industry. They're especially suitable for optimum pictorial and sound results.

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Picture Production	**Type 330**—a rapid reversal panchromatic film for high-speed processing of TV shows, newsreels, documentary subjects.	**Type 104** (Superior 1) a panchromatic film for general exterior and process background work. **Type 126** (Superior 2) a panchromatic film for general studio interior and exterior work . . . combines fine grain with speed. **Type 127** (Superior 3) a panchromatic film of exceptional speed for interior and exterior work where light is limited.
Sound Recording	**Type 802-A**—an excellent sound recording film for all-round work.	**Type 201***—a positive-type emulsion double the speed of regular positive stock.
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Today's news tonight!

KTTV Staff Uses B&H Equipment To Make Deadlines

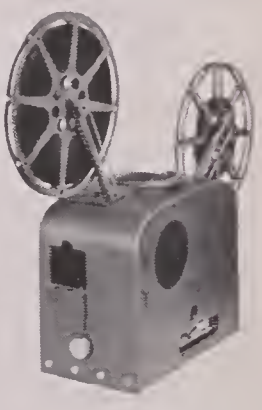
Station KTTV is attracting Los Angeles viewers with a daily "live" news reel. The popularity of this feature depends on getting on-the-spot movies of local events . . . editing and preparing them for showing the same evening . . . and making that showing a *finished* production.

To do this successfully, day in and day out, requires highly competent staff teamwork, plus the finest equipment. The staff at KTTV who work with Bell & Howell camera, projector and editing equipment have found it perfect for the job!

Shooting a street scene with a Bell & Howell 16mm "70" Camera

KTTV News Unit at work in the Film Editing Room. Man in center splices film at B&H Film Editor

Single-Case Filmosound Projector. First choice of TV experts for previewing film before broadcasting . . . and for showing film to clients. Projects 16mm film—sound or silent. Complete film protection permits running originals or work prints without fear of damage. Change from forward to reverse or vice versa at flick of a switch—no rethreading necessary. Light, compact, easy to operate.



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Editorial and Business Office: 1782 N. Orange Dr., Hollywood 28, Calif.
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ON THE COVER

HIMALAYAS IN HOLLYWOOD — Director Andrew Marton explains a bit of action to Rex Reason before shooting starts on set replica of Tibetan outpost high in the Himalayas for "Storm Over Tibet." Scene is one of several staged indoors to match footage originally shot 15 years ago in Tibet. Director of photography performing the camera magic is George Diskant, A.S.C., left foreground. (See story on page 90, this issue.—ED.) — *Photo by Milton Gold.*

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★

AMERICAN SOCIETY OF CINEMATOGRAPHERS

FOUNDED January 8, 1919, The American Society of Cinematographers is composed of the leading directors of photography in the Hollywood motion picture studios. Its membership also includes non-resident cinematographers and cinematographers in foreign lands. Membership is by invitation only.

The Society meets regularly once a month at its clubhouse at 1782 North Orange Drive, in the heart of Hollywood. On November 1, 1920, the Society established its monthly publication "American Cinematographer" which it continues to sponsor and which is now circulated in 62 countries throughout the world.

Dominant aims of the Society are to bring into close confederation and cooperation all leaders in the cinematographic art and science and to strive for pre-eminence in artistic perfection and scientific knowledge of the art.

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Bulletin Board

JUST FOR A GAG — To prove he's fit as a fiddle, fully recovered from a recent foot operation, Joseph Ruttenberg, A.S.C., director of photography at Metro-Goldwyn-Mayer studios, hoists a prop bar-bell on a set for "Showboat." British cameraman-visitor Freddie Young (left) and Charles Rosher, A.S.C., lend a steadying hand. Ruttenberg recently completed photography of "Kind Lady" at M-G-M.

William Bradford and Jack Russell were admitted to membership in the American Society of Cinematographers last month. Bradford currently is directing photography of new series of Gene Autry TV films. Russell is freelancing, having photographed his most recent pictures at Eagle Lion and Republic.

•

Robert Surtees, A.S.C., we were informed just at press time, was slated to receive the 1950 Look Magazine award for photography for his outstanding camerawork on M-G-M's *King Solomon's Mines.* Awards presentations were scheduled to be made in Hollywood the evening of February 27th.

•

Hollywood Foreign Correspondents Association also was scheduled to present two of its annual Golden Globe awards the following evening, at ceremonies at Ciros, to two directors of photography—one for best black-and-white photography and one for best color photography of pictures released during 1950.

•

In evaluating recent 1950 Photoplay Magazine Awards, consideration must be given the cinematographers who directed photography of the various pictures cited. *American Cinematographer* salutes the following:

Paul Vogel, A.S.C., who photographed MGM's *Battleground,* cited by Photoplay as most popular picture, also for best direction and best screenplay.

Charles Rosher, A.S.C., for the pictorial enhancement of Betty Hutton whom Photoplay cited for most popular performance by a film actress in MGM's *Annie Get Your Gun.* Picture also was cited as one of ten most popular.

Joseph Walker, A.S.C., for Columbia's *All The King's Men,* cited as one of ten best pictures.

Leon Shamroy, A.S.C., for Fox's *Twelve O'Clock High* and *Cheaper By The Dozen,* among ten most popular pictures.

Reggie Lanning, for Republic's *Sands of Iwo Jima,* one of ten most popular pictures.

John Alton, A.S.C., for MGM's *Father of The Bride,* one of ten most popular pictures.

George Folsey, A.S.C., for MGM's *Adam's Rib,* one of ten most popular pictures.

Lee Garmes, A.S.C., for Goldwyn's *Our Very Own,* one of ten most popular pictures.

Without taking anything away from the various stars, named below, voted by Photoplay for Top Performances, we also salute the men whose cinematography contributed something to the individual performances of these players, viz:

Charles G. Clarke, A.S.C., who photographed Claudette Colbert in *Three Came Home* for Fox; Ted McCord, A.S.C., who photographed Joan Crawford in Warner Brothers' *The Damned Don't Cry;* Leo Tover, A.S.C., whose cinematography enhanced the performance of Olivia deHaviland in Paramount's *The Heiress;* and William Snyder, A.S.C., who photographed Larry Parks in Columbia's *Jolson Sings Again.*

•

Charles Clarke, A.S.C., directing the photography on 20th Century-Fox's *Kangaroo* in Australia, is slated to wind up the assignment sometime in March. Picture, filmed in Technicolor Monopack, was filmed for most part in and around Port Agusta. Company used facilities of Ealing Australia studio.

•

President Truman, ski competitions, plane crashes, train wrecks and ice jams are subjects which have kept Jim Seeley, A.S.C. busy. Seeley is newsreel cameraman for Pathe News on the east coast.

Virgil E. Miller, A.S.C., recently photographed a ten-week educational documentary film in Chinle, Arizona. Picture, titled *Voice of the Wind,* covers traditions of Navajo Indians and is intended for release to Art Theatres throughout the world. Norman Foster directed. Miller exposed over 88,000 feet of Plus-X and Infrared film for the production.

•

Paul Eagler, A.S.C., and Bob Hansard, A.S.C., servicing the independent producers with background projection equipment, have just finished the process work on Thor Productions' "The Golden Goose," also for All American Films' "Red Snow," produced at General Service Studios. Eagler and Hansard serve most of the independent studios in Hollywood with BG projection equipment, including Motion Picture Center, Nassour, Hal Roach, Monogram and Jerry Fairbanks.

•

Elmer Dyer, A.S.C., will direct the photography on a new series of twelve Craig Kennedy TV films for Adrian Weiss at Rockett Studios on Sunset Blvd. Shooting starts March 2nd.

•

Dr. Ferenz H. Fodor, president of Filmcraft Productions, has suggested that the Academy of Motion Picture Arts and Sciences include among its awards this year an "Oscar" for "the best film made specifically for television." Fodor stated that such recognition would give the TV film industry a much-needed shot in the arm and bring additional credit to Hollywood.

•

Garutso Lens, which received its first test in major film production in hands of Frank Planer, A.S.C., when he photographed *Cyrano de Bergerac,* will now be used in the production of films for TV starring Faye Emerson and made in New York.

•

Stanley Cortez, A.S.C., has been awarded the 1950 gold trophy of the Societe Francaise de l'Industrie Cinematographique for best color photography, result of his camera work on "Man On The Eiffel Tower," which he photographed in France in Ansco Color for Irving Allen. This is first time in history of French awards that an American has won top honor for color cinematography.

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WHAT'S NEW

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Turret-Rackover for Filmo

A new four-lens turret and rackover for Bell & Howell series 70 cameras has been announced by Par Products Corp., Hollywood, Calif. Hinge-type rackover affords most efficient method of providing parallax-free through-the-lens viewing in this type camera. Camera is moved or rotated in an arc, instead of horizontally, as with other types of rackovers.

Advantages claimed are: Camera can be hand-held—hinge type rackover makes for lighter camera; camera is easily and quickly shifted from taking to focusing position, and back again; foolproof lock; focus can be checked without racking over, if desired; and there is no interference with motor drive and/or external film magazines.

The Par "constant apparent field" viewfinder system is dual purpose, because it combines optical viewfinding and groundglass focusing through the taking lens.

Further information and price may be had by writing manufacturer at 26 No. Citrus Ave., Hollywood 38, Calif.

Set Lighting Lamp Data

General Electric Company's lamp department has issued a revised listing of the various General Electric lamps used for set lighting. Comprising four mimeographed sheets, all the 3350 K lamps and some of the 3400 K lamps which are suitable for lighting sets for the new Technicolor photographic system are grouped together on one sheet; all the lamps designed for black-and-white photography are listed on the second sheet; lamps designed for 3200 K for use with such films as Kodachrome or other films in the 3200 K classification are on the third sheet; and the fourth sheet lists all the special lamps recommended for use for special effects.

The data emphasizes that lamps in the various classifications are immediately identifyable by markings on the bulbs, as for instance, lamps marked MP on end of bulb are intended for B&W photography, where economics dictate that a longer lamp life than the CP lamp gives is desirable.

Mart Message Ready

The Camera Mart, Inc., 70 W. 45th St., N. Y. City, announces the new enlarged 1951 edition of the *Mart Message* is ready for distribution. Completely illustrated 36-page booklet lists 16mm and 35mm professional motion picture and television production equipment; laboratory and editing equipment of the latest type, plus the well-known line of Camart products available from The Camera Mart. Free copy may be had by writing company.

Snapshot Movie Camera

Eastman Kodak Company, Rochester, N. Y., has introduced its new Brownie Movie Camera, an easy-to-use, economical and dependable 8mm cine camera for the amateur movie enthusiast who wants to make movies with the least amount of bother to such details as focus, diaphragm settings, etc.

The Brownie brings to the cine fan all the rugged practicality of a "Brownie" snapshot camera. It's always set to make good pictures of subjects from a few feet in front of lens to infinity. Wind the camera, adjust lens opening, aim it, and press down the operating lever. That's all there's to it. Simplified loading. Uses standard 25-foot rolls 8mm Cine Kodak film, either Kodachrome or black-and-white.

Lens is fast 13mm f/2.7, Lumenized, and set for universal focus. Shutter speed also set at fixed speed of 16 f.p.s.

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Buried Treasure

Matching photography breathes new life into rare, unreleased saga of the Himalayas filmed in Tibet 15 years ago and recently recovered from a Swiss vault.

By GEORGE DISKANT, A.S.C.

TERRIFIC is a superlative that may be applied without reservation to *Storm Over Tibet,* recently completed by Summit Productions in Hollywood. It brings to the screen some of the most spectacular photography of Tibet ever recorded by a motion picture camera.

Filming of the production began over fifteen years ago in conjunction with an international expedition to explore the forbidding Himalaya mountains. Machinations of the Nazis, into whose hands the film unwittingly fell, prevented its completion for world-wide release. It was only recently that the original negative was found intact and in good condition by Andrew Marton, who had directed it.

Marton had gone to Africa to co-direct *King Solomon's Mines* for M-G-M. On his way back he flew to Switzerland to reappraise status of the original negative. He found the treasured film there, safely stored in a deposit vault, purchased it, and brought it to Hollywood. Marton's plans for the film, meantime, had been progressing quietly, waiting only for reassurance that the original was safe and available. He and two associates, Laslo Benedek and Ivan Tors, had developed a new story line for the picture which meant that it would be necessary to shoot additional scenes for it in Hollywood—scenes which would have to carefully match those in the original.

Richard Angst, famed Swiss cameraman who photographed *Climbing The Matterhorn,* which won an Academy Award a few years ago, was Marton's photographer on the original filming expedition. It is an understatement to say that this photographic assignment was one of the toughest ever faced by a cinematographer—and by the rest of the company, too, for that matter. A man has enough to do just to keep himself alive and moving forward on such a journey, without having to bother with camera equipment, etc. But Angst turned in a remarkable job.

He used a DeBrie 35mm camera and a special super-telephoto lens for most of the picture. Additional equipment included two Eyemo cameras which were used mostly for shooting in near-inaccessible locations where it was impossible to use the heavier DeBrie.

A powerful storage battery had been specially constructed for the expedition. It was designed to supply power for the camera motor for an unusually long period, a period which Marton and his associates thought would be sufficient for the expedition. There were no means of recharging it, and when filming continued beyond the original estimate, the camera was turned by hand using a handle attached to a length of flexible cable inserted at the side—a gadget luckily brought along for just such emergency.

The company had started out with 25,000 feet of Gevaert panchromatic film—special film loads for the DeBrie—but this gave out rather unexpectedly just as Angst was in the midst of shooting rare and unusual scenes inside a monastery high in the Himalayas. Later they discovered that natives had stolen two cases of film, believing it to be something of value they could use. Fortunately they took only unexposed film. To continue shooting the monastery scenes, Angst resorted to his supply of Eyemo film loads. These had to be unwound and rewound for the peculiar threading system of the DeBrie camera.

The light that prevails in that rarified atmosphere high in the Himalayas played some peculiar tricks on photography. For instance, the sky often was such deep blue that Angst got "filtered" sky effects without using a filter. The light quality was ever-changing with the result that rendition of the sky changed almost with every location or setup if not with every take. Angst constantly made check tests of the film, developing his test strips in a little darkroom tent brought along for the purpose. But even with such precaution, the tricky sky proved an impossible factor to cope with. There just wasn't a filter available to achieve the necessary correction. The result, however, is not critical, although it posed a major problem for me when it came to lighting the matching scenes we photographed in Hollywood. My number one problem was to match Angst's photography and make it look not like a patched up job. Marton had said: "I want the picture to appear on the screen as though all of it had been shot at the same place at the same time."

Before we started shooting in Hollywood, I had looked at the Angst footage a number of times. Frankly I was not too impressed at first, because the editor had already applied his scissors to the original film in order to eliminate the closeups which featured the European players. But as the material was re-screened, I began to piece together the material on the screen with the new story script which had been handed me. This screen study enabled me to visualize the lighting of the various scenes which I was to match.

A great many of our matching exteriors were staged and photographed indoors at the General Service studios. In this way we were able to get better control of the light to effect careful matching of Angst's footage shot in the high Himalayan daylight. In all, 60% of the new picture consists of exteriors, 10% of which we filmed as actual exteriors on such locations as Bronson

TYPICAL of exteriors shot in Hollywood by George Diskant to match footage filmed earlier in Tibet is this scene staged in hills back of Hollywood. Great care was exercised in matching both quality and direction of light.

MONASTERY IN TIBET where some of most interesting action for "Storm Over Tibet" was filmed. Here, power pack expired, making necessary cranking camera by hand. Note cranking cable extending from camera.

RICHARD ANGST who filmed initial footage for "Storm Over Tibet" high in forbidding Himalayas, used this super-telescope lens with DeBrie camera in shooting scenes of avalanche. In all, 35,000 feet of black-and-white film was exposed on expedition fifteen years ago. Angst later photographed "Climbing The Matterhorn," in Ansco Color which won Academy Award.

Canyon—just a mile above Hollywood Boulevard. Here we shot 37 setups in a single day.

So that we could keep a constant check on the lighting of the old footage, Marton had a Moviola placed on the sound stage which we used for viewing Angst's footage. In this Marton was of tremendous help. Often he could recall the exact lighting from memory. Invariably he would state his opinion, then check the film in the Moviola. Ninety-nine times out of a hundred he was right.

To avoid having to build and match the vast interiors shot on actual locations in Tibet, the action was faked in reverse shots, in side angle shots, and in closeups in which just some element of the original locale, such as a couple of prop columns, were included in the scene for purpose of orientation or continuing the pictorial continuity.

Instead of doing the obvious thing—putting the cast in front of scenes by means of process photography—action in the old and new photography was skillfully matched. It was the producers' aim to retain in the production as much of the original footage as possible and avoid resorting to process. They take great pride in having accomplished this without relinquishing anything in the continuity or the terrific drama of the original photography.

In another instance, instead of using process to show two members of the cast travelling in a wagon, we shot them in closeup as they were seated in a wagon hauled to the Bronson Canyon location. With sky and cliffs in the background,

(Continued on Page 118)

CAREFUL LIGHTING was a technical must in staging scenes such as this which duplicated original snowbound tent of travelers in Tibetan trek, photographed earlier by Angst high in the Himalayas.

MOVIOLA on sound stage afforded means of comparing original footage when planning lighting for matching shots made in Hollywood. Director Marton and a set visitor are seen above studying photography of original, filmed by Angst.

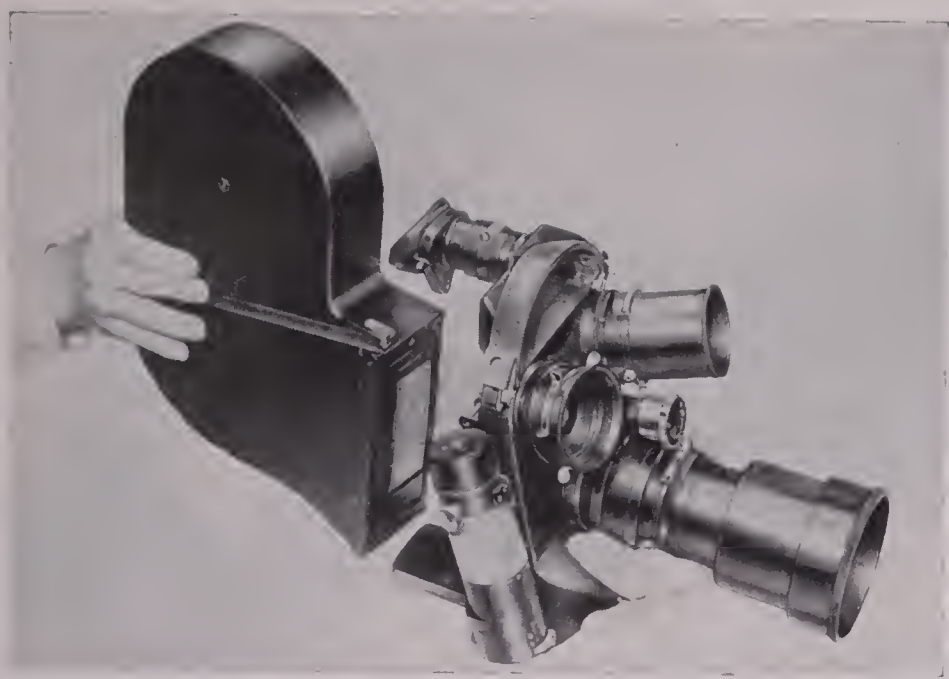

FIG. 1—Eclair 35mm Camerette, introduced in United States from France in 1949, now boasts companion model taking 35mm and 16mm film interchangeably. Camera is a two-unit job, as shown above. Film magazine is readily detached, incorporates automatic film gate and film transport mechanism.

FIG. 2—Camerette 35mm and 16mm film magazines compared. Latter is basic 35mm magazine shimmed out, with 16mm sprockets replacing 35mm.

New Eclair Camerette Takes Either 35mm or 16mm Film

Instantly interchangeable 35mm and 16mm film magazines broaden the versatility of this rugged utility camera.

By FREDERICK FOSTER

When the Paris-made Eclair Camerette was introduced to the Hollywood motion picture industry late in 1949, it was enthusiastically acclaimed the best light-weight 35mm motion picture camera yet developed for cinematography demanding a compact, hand-held camera. Not that it was restricted to such use; its many exclusive features and its rugged construction have made it a popular camera for all-around motion picture photography.

Eclair now has gone a step further to make the camera even more versatile. Through skillful engineering the company has developed the camera for use with *both* 16mm and 35mm film. Eclair is producing a 16/35mm combination model which permits the one camera to use either 16mm or 35mm film interchangeably, merely by changing the film magazines and inserting a mask in the film gate.

The advantages of such a camera are immediately apparent; the industrial film producer, for instance, may employ the 16/35 Camerette for photographing productions in either 16mm or 35mm; for filming a given production in both widths; or for shooting a 16mm Kodachrome version of a production being produced in 35mm black-and-white. The major studios can use the camera for special production photography one day, then use it for location scouting the next day, shooting 16mm film. As a rental camera, it is certain to be in constant demand.

In the beginning the Camerette was designed to combine all the advantages of the heavier studio production cameras with the portability of news cameras. Equipped with 400-ft. film magazines, the camera weighs but 14 pounds. One of its outstanding features is its unique reflex viewfinder which permits viewing through the camera lens the scene being photographed. Thus the operator may keep an accurate check on what his camera is recording by observing the action in the viewfinder. A revolving

(Continued on Page 118)

FIG. 3—View of front unit of camera with magazine removed, showing 35mm film aperture and dual claw movement.

FIG. 4—Same unit with 16mm mask (1) in place in aperture; 16mm pull-down claw is shown at (2). Note extended viewfinder tube.

"Twice The Light And Twice The Carrying Power"

This unceasing demand by directors of photography spurs the continuing search for more powerful and efficient carbon arc lights.

By PETER MOLE, A.S.C.

President, Mole-Richardson Company

LAST MONTH we traced briefly the early history of carbon arc lighting in the motion picture studios and described the impact which the advent of sound had made on the production of theatrical films. One result of this impact was the almost total exclusion for a time of carbon arc lights from studio sets, because of the noise they created; but as sound became a part of the whole picture making concept instead of the dictator, the director of photography's need for light in sufficient volume essential to good picture making began to be recognized.

"I want a lamp with twice the light and twice the carrying power," was the demand soon heard again from the industry's directors of photography.

We found a rifled glass reflector which had been in use for flood lighting at a distance from the source, and built a studio lighting unit around it. From a light collecting and distribution standpoint it was particularly well engineered; from a utilization standpoint it was not flexible. What the cinematographer really wanted was a light with twice the intensity, twice the carrying power and one that could be used at varying distances with control of beam spread and light distribution.

Of course the demand was fantastic! In order to give the cinematographer what he wanted we would be obliged to sacrifice engineering efficiency all the way along the line. It would mean more powerful incandescent globes, bulkier equipment and higher operating costs. What we had to learn was that the efficiency of utilization was the all-important factor and that strictly engineering efficiency must be made to compromise.

Compromises were made, larger globes were produced and the equipment became more flexible. Compromises were also made by the sound departments. Carbon arc lamps again appeared on sets where the effects of sunlight, streak light and back light would allow the cinematographer to express his individuality and to produce the illusion for which he was striving.

Having overcome the most chaotic conditions created by the advent of sound and having some appreciation of the double viewpoint, we were now able to give much of our energy to engineering on a new basis. Refinements were made in existing designs and we were able to replace large diameter mirror type optical systems with stepped-prism condensers made along the lines of the well known Fresnel lens system. We had learned the lesson of utilization and our new equipment rapidly replaced the old.

During all of this period we worked closely with the manufacturers of light sources and through their cooperation we were able to obtain specialized types of incandescent globes which increased the

(Continued on Page 111)

MOLE-RICHARDSON "BRUTES" were the answer to the director of photography's demands for a light unit with more power. Today, the company has in production an even more powerful super high-intensity carbon arc unit.

SCENE FROM "The Black Rose"—example of motion picture set which would be almost impossible to light effectively with incandescent lights. Only carbon arcs in great numbers could produce the volume of light which was required not only for effect lighting but for general set illumination.

Nominations For 1950 Cinematography "Oscars"...

THE BIG MOMENT—when a gleaming gold "Oscar" is thrust into the winner's hand and a hearty handshake sends him away virtually floating on a cloud—a member of that distinguished circle of motion picture artists and artisians cited for achievement by the Academy of Motion Picture Arts and Sciences. It is an important moment in the life of a director of photography, a milestone in his career.

By LEIGH ALLEN

NINE HOLLYWOOD directors of photography and one from Great Britain have been nominated by members of the Academy of Motion Picture Arts and Sciences as contenders for the Aacdemy's Achievement Awards for cinematography of pictures released during 1950. Five of these men directed the photography of black-and-white productions and five filmed productions in Technicolor. The nominees and the productions which they photographed are as follows:

BLACK-AND-WHITE

Robert Kraskner, "The Third Man," (London Films Prodns. Ltd.)

Milton Krasner, A.S.C., "All About Eve," (20th Century-Fox)

Victor Milner, A.S.C., "The Furies," (Paramount)

Harold Rosson, A.S.C., "The Asphalt Jungle," (Metro-Goldwyn-Mayer)

John F. Seitz, A.S.C., "Sunset Boulevard," (Paramount)

COLOR

George Barnes, A.S.C., "Samson and Delilah," (Paramount)

Ernest Haller, A.S.C., "The Flame and the Arrow," (Warner Brothers)

Ernest Palmer, A.S.C., "Broken Arrow," (20th Century-Fox)

Charles Rosher, A.S.C., "Annie Get Your Gun," (Metro-Goldwyn-Mayer)

Robert Surtees, A.S.C., "King Solomon's Mines," (Metro-Goldwyn-Mayer)

Those who have seen all ten films will agree that the competition this year is probably the keenest ever presented to Academy voters and will require considerable close analysis and re-evaluation in order to finally select the winner in both classifications. All ten films represent the finest picture making in the industry's history. Each picture displays a new "high" in cinematographic art.

The ten contenders were selected by Academy-voting from among a list of more than 50 black-and-white and color feature film productions released during 1950 and named in a preliminary ballot sent out to the industry's directors of photography. Result of the initial balloting narrowed the list of potential contenders down to ten films in each class. A second balloting resulted in selection of the ten films named above.

These films will now be screened for members of the Academy who will then vote to select the best film in each classification for the Achievement Award for Cinematography. Only members of the Academy of Motion Picture Arts and Sciences participate in the final voting.

The two winners will be announced along with those in other Awards classifications at the Academy's gala Awards Presentation ceremonies, which will be held the night of March 29, at the Pantages Theatre in Hollywood. The event will be broadcast over the more than 270 stations in the American Broadcasting Company network and short-waved throughout the world by the Armed Forces Radio Service. The combined facilities of these two networks will reach an estimated total of 190 million people. As far as is known the event will not be televised.

The selection of films for the Academy's annual Cinematography Awards begins each year with the directors of photography themselves. The first of January each director of photography in the industry is invited to submit to the Academy for consideration the name of one black-and-white and one color production on which he has received sole or joint screen credit, and which was released in Los Angeles for general public showing prior to December 31. These films are listed on the preliminary ballot mentioned earlier. The ballots are mailed to the directors of photography who vote to select the 10 films in each class to be voted on for the selection of the final contenders. Thus the initial selection of contenders is in the hands of the men who photograph motion pictures—the directors of photography.

Voting for Academy Awards has always been on the basis of technical excellence. The technical elements of pictures and the work of every actor and actress is carefully studied by thousands of their associates. Competition is keen; rivalries are intense. Nothing is taken for granted at an Academy Awards election. Rules are simple but explicit. Voting is secret, ballots going from the voter not to the Academy direct but to a firm of certified public accountants. No one, except the accountant, whose contract demands that he reveal the count to no one prior to the presentation

(Continued on Page 109)

At The Top
of the Ballot
and
In First Place
on All Good Pictures—

The Popular Choice—
The Popular Winner—

EASTMAN
PROFESSIONAL
MOTION PICTURE
FILMS

J. E. BRULATOUR, INC.
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CAMERAMAN — It was Raphael Wolff's personal photographic research that enabled his organization to successfully photograph arc welding operations for company's notable series of films for General Electric Company. Wolff, behind camera, supervises photography of every production.

PLANNER — All industrial films produced by Wolff Studios are preplanned on story board for visualization to client. Here studio's executive director Macdonald Macpherson explains proposed continuity to a client. Wolff, in background, planned layout, supervised script.

Top Photography--Key To Successful Industrial Films

Wolff Studios' emotional documentary technique founded on specialized photography by cameramen trained in non-theatrical film making.

By RALPH LAWTON

A NEW CONCEPT in training film production was established during the last war by Raphael G. Wolff, Hollywood industrial film producer. It not only has endured but is credited with the phenomenal growth of his organization as one of the nation's leading producers of 16mm institutional, training and television motion pictures.

Whereas other business film producers before him had generally followed the "Hollywood type" of theatrical film presentation in their productions, Wolff saw great limitations in such film making. Plotting a more objective course, Wolff has established what he calls *emotional documentary technique*. Today it is the success formula of all films produced by his studios.

Ralphael Wolff discovered that average audiences liked other types of motion pictures besides feature films. He had observed the increasing public interest in travelogues and lecture films in color; saw further clue in the tremendous interest displayed by people everywhere in home movies filmed in Kodachrome. The key to arousing audience interest, as Wolff saw it, was the emotional impact of color.

One of the first factors established in his emotional documentary formula was incisive photography, in color. The other factors fell naturally in line as he pursued the study further. Choral music and natural, every-day nostalgic sound effects contributed further in rounding out the emotional documentary formula. Thus it is that Wolff productions today begin with specialized color photography as the major driving force to compel audience attention, and for this specially trained cinematographers are important.

None of Wolff's five cameramen is a product of the Hollywood major film studios. Rather they are men personally trained by Wolff for his specialized work. Finding a man with the right creative talent and a reasonable grounding in the fundamentals of photography, Wolff takes him under wing and gradually channels the man's talents and ability into his particular brand of cinematography.

As a teacher of cinematography, Wolff perhaps has few equals, although he never considers himself an instructor; nor has he ever served in that capacity professionally. He is one of the few 16mm industrial film producers who is himself an expert photographer. His first notable venture in photography began in 1919 when, as a youth, he startled family and associates by navigating a canoe from New York to New Orleans—a distance of 3200 miles. Along the way he shot hundreds of pictures, using an old Eastman 3A postcard Kodak. His pictures and trip were featured by National Geo-

graphic magazine. As a result of this sudden renown, he was engaged by a news photo syndicate in New York City. He worked for Underwood & Underwood; later went to Chicago where he was hired as a photographic illustrator. Here he revolutionized the illustration of automobile advertising by conceiving a method of photographing cars to give them a sleek, low-hung and slightly elongated look— an exaggeration which up until then had been accomplished by commercial art illustration. For years afterward he was considered one of the nation's famous photographic illustrators in color and ultimately did considerable work for Standard Oil Company.

It was this contact with Standard that led to his introduction to movie making. Wolff, having now moved to Los Angeles, was sought by Standard's eastern advertising offices one day with the request to make a business film on service station management. Plans called for one or more Hollywood "name" players in the cast and a narrative style story treatment. Wolff, lacking experience in cinematography, engaged Robert Planck, A.S.C., now a director of photography for M-G-M, to photograph the picture. The late Arthur "Slow burn" Kennedy was signed as the star. The film, shot in black-and-white and given wide release, set a new mark for technical excellence in 16mm business films.

It remained for advent of World War II to uncover Wolff's real ability as a color photographer and lead him to apply it in making 16mm training films. Following reports that competitors were landing lush contracts for wartime training films, Wolff began to explore the field, went out looking for ideas— and business.

"What type instruction films are needed most to aid the war effort?" he asked. The Los Angeles Board of Education, for one, said: "Good films to teach war workers the techniques of arc welding,"—an industrial operation that received its greatest impetus in war production. "But," he was asked, "how can you photograph effectively the welding procedure with the tremendous flare of the arc flashing into your camera lens?"

At first, Wolff sought to circumvent this obstacle by doing the closeups of welding action in animation, but drawings were not sufficiently convincing. Then followed experiments

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TYPICAL recording session for a training film produced by Raphael G. Wolff Studios in Hollywood, one of very few 16mm film producers offering clients original music scores for their films.

WOLFF maintains one of largest fleets of mobile equipment in the industry: five general purpose trucks, one 600-ampere and one 1000-ampere mobile generator truck, and three personnel cars.

CAMERA setup in meat packing plant is supervised by Wolff, foreground. Scene about to be filmed is for latest Wolff Studios production for the American Meat Institute, to be given national distribution.

SPECIAL effect shot staged by Wolff Studios for a recent production for Ironrite Ironers. Image on home movie screen is actually live action, staged behind cutout of movie screen and expertly lighted.

SINGLE-SYSTEM sound camera and completely equipped camera car enable Telefilm, Inc., of Los Angeles to cover any pictorial news assignment in Southern California for local and other television newsreels. Camera used here is Auricon "Pro" made by Berndt-Bach.

Setting Up a TV Newsreel

Both independent and station-produced newsreels gain ready and profitable sponsor acceptance, offer increasing opportunities for 16mm cameramen.

By HERB A. LIGHTMAN

Formerly Program Director, KOTV, Tulsa.

AN IMPORTANT OPERATION of major television stations today is the local TV newsreel. With stations such as KTTV, Los Angeles, WPIX-TV, New York, and WBAP-TV, Fort Worth, it has developed quickly as one of the more profitable program features. As a result, other TV stations are either developing their own newsreel operations or laying plans to do so in the very near future.

Following such decision, a station has two alternatives: to organize its own newsreel production staff, as did KTTV, or to purchase newsreel material from a local independent producer. The latter may operate exclusively for the station until it gets the project started or until such time as the station feels returns from sponsors justify investment in camera equipment and personnel necessary to setting up its own newsreel production staff.

The production of a good TV newsreel is not always as simple as it may seem. The project requires specialized equipment and personnel plus sufficient organization geared to meet deadlines—deadlines which come around with merciless regularity, you may be sure. How extensive the setup is to be depends on the budget available, and whether the station will do its own filming, using present station personnel. Some stations, not presently producing newsreels, nevertheless own motion picture cameras and lighting equipment which is used in recording remote program material for later presentation on the air, or for shooting commercials for presentation via film. Such equipment, in proper hands, can be the nucleus of a formidable TV newsreel operation.

Many successful TV newsreels started as a one-man project—often by a staff member willing to spend extra hours, sweat and no little tears searching for timely material, going out and filming it, then editing and putting it on the air. Obviously, a great deal must be sacrificed in scope and possibly quality where one man must do the entire job. The ideal setup is a two- or three-man staff, with at least another on call for special, direct sound assignments. Staff members double up on operations as their individual talents dictate and divide up the work of directing, photographing, sound monitoring and caption writing—the latter a highly important phase of the operation.

KTTV's newsreel outfit is an example of a particularly well-situated setup. Owned and operated by the Los Angeles Times, it is a joint operation of the editorial department and as such has ready access to all the latest news tips. When an event occurs in or around Los Angeles that lends itself to TV newsreel presentation, the tip is immediately relayed to KTTV's newsreel cameraroom and a photographer dispatched to the scene. The latter uses a car equipped with two-way radio, and is thus able to keep in close contact with the office while enroute to and from the assignment. If other news events transpire in the meantime, he is informed and thus able to cover them without first returning to the office. The automobiles used by KTTV's newsreel staff were made available without cost by the manufacturer in exchange for the advertising and news value that accrues from their daily use.

Most TV newsreels are produced on 16mm film. Some stations are equipped

KTTV'S newsreel cameramen travel to assignments in camera car equipped with two-way radio communication, which enables them to receive hot news tips while away from home office.

to shoot material with single-system sound. For this, the popular Auricon "Pro" and "Cine-Voice" have proven superior equipment. An excellent hand-held camera to augment sound equipment is the versatile Filmo 70-DA. With KTTV, this camera, fitted with special lighting equipment, as reported here last month, is proving most ideal in the field where recording of sync sound is unnecessary.

Regardless of the camera used, it should be equipped with a lens turret and a full complement of lenses, although some TV cameramen prefer the Filmo and a single one-inch lens for general news coverage. The lens chosen for this work should be the fastest obtainable, in view of the unpredictable lighting conditions invariably encountered on assignments. A suggested range of lenses for sound cameras is: a 15mm wide-angle, 1-inch, and a telephoto ranging from 2½ to 4 inches in focal length. Until recently it was considered optically impractical to grind an extremely fast wide-angle lens. Thanks to recent technical developments in lens making, wide-angle lens with apertures of f/1.3 are now on the market which, as the manufacturer puts it, "photograph anything visible to the eye."

Lighting equipment should be portable and compact. For illumination of specially staged events, the popular Color-Tran lights are adequate for most purposes. Photofloods and particularly the reflector-floods and reflector-spots are ideal light sources. For hand-held cameras, lighting units such as the Powell-Light which may be readily attached to the camera, and which take either two or four reflector-floods are ideal where 110-volt current is readily available. More recently, KTTV developed a lightweight power-pack which enables its cameramen to shoot anywhere, using a single special photoflood lamp, as described on page 58 of the February *American Cinematographer*.

After the film is shot, the next step of course is developing it. For this a station may send the film to a local laboratory equipped to render quick processing service, or it may install its own quick processing equipment such as the very excellent Houston-Fearless processor or the Bridgamatic offered by S.O.S. Cinema Supply Corporation, New York.

The film stock most suited to TV newsreel filming, where it is to be given quick processing, is a medium speed 16mm reversal such as DuPont No. 330 or Eastman.

The production of a high quality television newsreel demands a specialized news-gathering set-up which need not, however, be too complicated or costly. One person should be designated to

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Television Film Production

By LEIGH ALLEN

Mack Stengler, A.S.C., and John Boyle, A.S.C., recently completed photographic assignments on a series of filmed video spot announcements for Ivory Soap at the Raphael G. Wolff Studios in Hollywood.

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"Experimental Television Film Production" is title of new course to be offered by Department of Cinema of the University of Southern California. Purpose of course, according to instructor Wilbur T. Blume, is to explore conditions and techniques relevant to speed and economy in video film production.

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Ralph Edwards, who is putting his TV show *Truth or Consequences* on film, has learned a lot from the experience. He had to organize his own film production company, collect a warehouse full of props, and buy cameras and lights. In the beginning Edwards considered having an established 16mm film producer make the films, but those he considered all had the same idea: They wanted to "stage" the shows — select contestants, rehearse them and then film the show at a movie studio. Edwards reneged; said spontaneous quality of show would be lost by these methods, elected to do the show wth hs own crew. Fred Jackman, Jr., A.S.C., is director of photography.

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Paul Ivano, A.S.C., has been signed by Green Film Corporation, Hollywood, to photograph the "Loving Family" TV series.

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Working on the theory that no single person can know as much about integral TV requirements as a team of individual experts working together, the Elston-Nichols Co., Chicago, which handles writing exclusively and does not get into the production end of TV, contends that sloppy writing is biggest cost in current TV production—filmed or live.

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Gene Autry started production February 26 on another series of 13 television films. Shooting is being done at Pioneertown by Flying A Productions. William Bradford, A.S.C., is directing the photography.

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Production of video films hit a new high at Jerry Fairbanks Productions in closing week of February with total of four in shooting stage, utilizing services of cameramen Lester White, A.S.C., Harold Stein, and Kenneth Peach, A.S.C. Of the four productions, two are 60 minute and two 30-minute features.

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Volume of processing 16mm industrial and TV films has reached point at Consolidated Film Industries where company is planning expanded facilities to take care of increasing business. With the grace of the government, new plant construction will start within 60 days and will be devoted to handling 16mm films exclusively. Numbered among Consolidated's regular customers for processing and release prints of TV films are producers of such video programs as *Groucho Marx Show, Truth or Consequences, Trouble With Father, Fireside Theatre, Gene Autry* series, *Lone Ranger* series, *Range Riders, Stars Over Hollywood* and *Snader Transcriptions.*

•

New high in video film production was set recently by Jerry Fairbanks with eight camera units involving 28 cameramen at work at one time. Utilizing Fairbanks' patented Multicam shooting system, three units were filming *Charming Billy,* new Bigelow Theatre program; three were photographing *Holywood Wrestling,* and others were training cameras on two new series of video spot announcements for Pepsi-Cola and Dodge Motor Cars. Still other Fairbanks camera crews were busy filming two Campbell's Soup variety shows at El Capitan theatre: *Bing Crosby's Club 15* and *Double Or Nothing.*

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Frederick K. Rockett Company, Hollywood, has enlarged its studios to take care of increased program of television film production. Company recently completed two video films for Richfield Oil, which were photographed by Al Higgins.

•

Copyrights on TV films registered during 1950 were 33⅓% more than for preceding year, according to U. S. Copyright Office in Washington.

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Bob Hope and Lou Costello are planning to put their TV shows on film. Both have stated preference for filming because of greater flexibility permitted in personal travel programs, and fact filming affords more careful editing, resulting in better programs. "Filming would also minimize or eliminate most of the tension surrounding present live shows and bring better performances into the living room," said Costello.

They'll sit through this one *twice*

• Once, of course, because here is a show that's got everything. Laughter and joy. A charming young "actress." A plot that will never grow old.

The second time, we think, they'll stay to applaud Ansco Hypan—the splendid panchromatic film that gives you sharp, crisp screen images which look so wonderfully *natural.*

Whether you're shooting indoors or out, you can count on Hypan's extremely fine grain and sparkling contrast to add that extra something which makes your movies *better.* Add to this the splendid panchromatic balance of Hypan—its pleasing scale of tonal values—and you can't *help* but get movies with that sought-after professional look.

Next time load your camera with Ansco Hypan (available in 8 or 16mm rolls) and discover for *yourself* why so many amateurs are turning out way-above-average home movies.

Ansco, Binghamton, New York. A Division of General Aniline & Film Corporation. *"From Research to Reality."*

INSIST ON *Ansco* 8 and 16MM HYPAN FILM

THREE frame enlargements from one of author's films are reproduced here to illustrate simple basic cinematographic formula of long shot, medium shot and closeup.

YOUNG couple are obviously bored by the amateur magician's efforts in legerdemain; but it required this medium shot to reveal it to the audience. It is used in film as a reaction shot.

CUTTING to a closeup of the magician shows audience what he is doing—something that is not easily apparent in the long shot at top of page.—Illustrations by author.

You Must Start From The Beginning!

As with all the arts, there are certain fundamentals the amateur must master in cinematography before he can hope to advance from the novice class.

By CHARLES L. ANDERSON
Supervisor, Shoreview Productions, San Francisco

IN ONE WAY, learning to shoot good films is like learning to ride a bicycle. You can carefully read the instructions that come with the bike and the safety rules for riders, and yet you still won't be able to keep your balance until you've had actual practice in riding. And that goes for cine photography, too. You can get acceptable focus, exposure, and framing by remembering the instructions in the manuals, but the only way you will achieve a fine "balance" in your pictures is through trial-and-error. If you know about the most common errors beforehand, however, you're most likely to gain a mastery of the screen idiom much sooner. Some beginners who anxiously study books on film construction before they do much shooting fear that they have to learn a complicated sort of grammar consisting of particular shots and cutting rhythms. This is especially true of people coming to cinema with a background in another art. They are anxious to express themselves in a new medium and carefully study the volumes dealing with motion picture theory. I suppose that Eisenstein's "Film Sense" has discouraged more prospective film makers than all the price lists for new cameras put together.

But the truth of the matter is that making a good motion picture—and by "good" I mean a picture that entertains or educates—is basically just talking about the subject matter with film instead of with words. We develop our powers of speech as young children by instinctively copying speech patterns of older folks and by stumbling along with our own combinations of words. If what we said was understood, we knew we had achieved a bit more power of expression. But if we were misunderstood or laughed at—well, there was always a new way of telling our thoughts.

The sentence structure and vocabulary development of our earlier days will, in a sense, be repeated in terms of filming sequences and shots. You've heard about long and medium shots and close-ups; their primary function is to show different aspects of your subject in a logical fashion. The old formula of

Long shot
Medium shot
Closeup

is altered to suit individual scene requirements so often

(Continued on Page 104)

FRIENDS and members of family served as production crew. One stands ready with clapsticks while cameraman-producer of "The Mirror" Arthur Smith makes last minute camera check.

TYPICAL setup for shooting a sound sequence in backyard location simulating corner of airport. Tape recorder and operator are in foreground; blimped Cine Special camera at his left.

"The Mirror"--Amateur Production In The Professional Manner

Homemade equipment plus resourcefulness nets a thrilling mystery film complete with sound.

By ARTHUR H. SMITH

MOST AMATEUR MOVIE MAKERS try to justify the expense of their hobby in one way or another. Wolfgang Schubert and I are no exception. We are non-smokers and therefore claim that the forty cents a day we save on cigarettes pays for our film. Maybe so and maybe not. It was a plausible justification until we started to shoot "The Mirror," 800-foot 16mm sound film. This is an amateur movie made along professional lines. The actual cost — all of which came out of our pocket money — amounted to $219.35 for camera film and $90.00 for a final composite print. This added up to two packs of smokes per day for approximately 785 days. Cost of any additional equipment, such as lenses, etc., isn't counted because such items became fixed assets.

First came the story, naturally. It was written directly into screen play form. I always think in terms of screen appearance anyway, so the full shots, long shots, closeups, etc., fell directly on to paper. Our plans called for shooting some scenes with lip-sync sound, but since we didn't have recording equipment available when we started on the picture, we kept such scenes at a minimum. A little later, what lip-sync recording we did do was done "wild," as I will explain later.

I had been influenced somewhat by an article I had read wherein the author said if you want to make a motion picture, just start making it; otherwise it might never be made. So that is what happened with us. It required over two years to complete the picture because sometimes we had to wait for the cash equivalent of "two packs a day" to accumulate so we could buy film.

Luckily, Mrs. Smith goes along with my hobby—and I tolerate hers: making hats and painting pictures — and she served as script girl for our production. My associate, Mr. Schubert, served as cameraman and also played one of the parts; and when it was time to arrange a musical score for the picture, he was in there pitching, too.

Soon all our shooting was scheduled and rehearsals held prior to the initial day of filming. Then complications familiar to most serious amateurs began to take place: our leads backed out and another player, whose attic had been chosen as the setting for many of the scenes, found it inconvenient to continue with the production. After a hectic first day, during which substitute scenes were

(Continued on Page 115)

AUTHOR SMITH shown with his blimped camera, lining up a shot for "The Mirror." Inside is a Cine Special. Viewer is independent of camera.

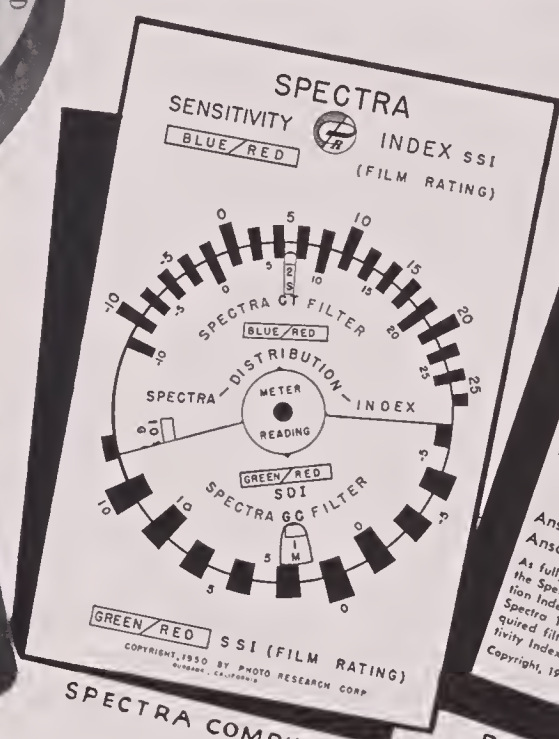
INTERIOR of homemade blimp for Cine Special, put together quickly with a few boards, rug padding and a discarded pillowcase. Works perfectly says Smith.

New SPECTRA 3 COLOR METER

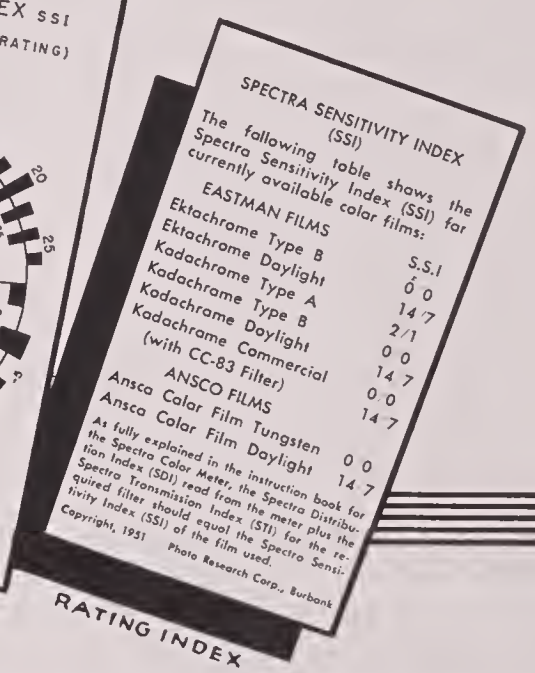
THE ONLY METER THAT MEASURES ALL LIGHT SOURCES— INCLUDING *DAYLIGHT*, ACCURATELY

For a true color picture, there must be a correct relationship between the color content of the light and the color sensitivity of the film. SPECTRA 3 Color Meter measures the proportionate amounts of all three primary colors present in the light source, and indicates the filters necessary for positive color correction.

The only meter that has the two scales—BLUE/RED and GREEN/RED and is calibrated to read directly in the new Spectra Index Units (Table is supplied to convert Spectra Index into Kelvin Units)



SPECTRA COMPUTER



SPECTRA SENSITIVITY INDEX (SSI)

The following table shows the Spectra Sensitivity Index (SSI) for currently available color films:

	S.S.I
EASTMAN FILMS	
Ektachrome Type B	0 0
Ektachrome Daylight	14 7
Kodachrome Type A	2/1
Kodachrome Type B	0 0
Kodachrome Daylight	14 7
Kodachrome Commercial (with CC-83 Filter)	0 0
ANSCO FILMS	14 7
Ansco Color Film Tungsten	0 0
Ansco Color Film Daylight	14 7

As fully explained in the instruction book for the Spectra Color Meter, the Spectra Distribution Index (SDI) read from the meter plus the Spectra Transmission Index (STI) for the required filter should equal the Spectra Sensitivity Index (SSI) of the film used.

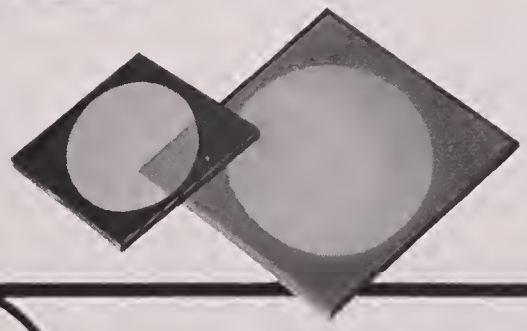
Copyright, 1951 Photo Research Corp., Burbank

RATING INDEX

SPECTRA CT and GC FILTERS

CT (Color Temperature) GC (Green Correction)

All filters are optically flat and coated. The SPECTRA 3 Color Meter indicates the correct SPECTRA Filter to be used.



Write today for our descriptive literature of SPECTRA 3 Color Meter, Filters and prices—also for conversion of existing models to the new 3 Color SPECTRA.

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START FROM BEGINNING

(Continued from Page 101)

it can hardly be called a formula. But it's still a useful concept to a picture maker, especially the beginner, and so we'll examine it closer.

The long shot shows the audience where the scene is taking place. If indoors, it reveals as much of the room as space limitations (and a new chromium-plated $89 wide-angle lens) allow. If outdoors, it pictures the grounds or buildings around the spot where the main action occurs. Your audience likes to know where something that interests them is happening. The long shot tells them where. It's that simple. Sometimes a sequence can be properly opened with a closeup. One that comes to mind began with a closeup—wrongly. The filmer began his picture with closeups of a cute little girl in a Dutch costume. The only clue as to *where* the girl was when filmed was suggested by some shrubbery appearing behind her in the scene. The audience could only assume she was at either a park or a garden. At last the camera panned to one side (a bit too quickly, incidentally) and a grand Mardi Gras type of celebration was seen going on in a city park. A more natural shot order would have introduced the celebration first and then singled out the little girl as an especially interesting side light subject.

Medium shots bring us closer to the subject and reveal less of the surrounding territory. "But why use a medium shot anyway," you may ask. "The long shot tells *where*—and the closeup tells exactly *who* and *what*. Therefore the medium shot in this formula has no logical purpose." Actually, the medium shot serves several good purposes when used in this shot sequence. First, it serves as a buffer between the widely-differing first and third shots. If you cut from a large view to a big closeup, you can expect to "sock your audience in the eye." A jump of this sort is permissable to emphasize the close action, but only at the risk of disrupting the smooth continuity flow. The medium shot, you can see, acts as a stepping-stone.

Furthermore, intermediate shots are generally not photographed from the same line of sight as those preceeding and following them. They are best made from another angle, but pointing towards the same subject. An obvious mark of someone who slavishly follows the "rules" is his making three separate shots, each one from the identical line of sight but moved progressively closer. Certain filmers with a three-lens turret are guilty of this construction, while others who are forced to move about because they have just one lens will often use a side angle since they've already had to carry their camera and tripod to get a closer shot. Perhaps our basic formula should be modified to read

Long shot

Medium shot from a new angle

Closeup.

Yes, there are occasions when a move-in on the direct line of sight is perfectly satisfactory. One of them occurs when you cut on action. Suppose you are photographing a sand-lot baseball game. You make a good long shot of a player leaping up to snag a fly. Then you switch to your 3-inch lens and get a closeup of the same player again catching a fly, this time running the camera longer to show his reaction to the play. Can the two shots be intercut? Certainly. You are cutting on action, and to the audience the cut is unobtrusive because it sees only the ball player's movements in one continuous leap and catch. Obviously, there has been no cut.

The medium shot taken from a side angle reveals some more of the setting not given in the long shot, and this, too, is helpful. Remember that the audience enjoy seeing something new, and extra medium shots keep the film moving at a pleasant clip, even if there isn't very much doing on the screen.

The closeup, final unit of this shot series, presents the subtle details of our subject matter. It magnifies motion and satisfies curiosity that might have been aroused by the less-revealing longer views. The compositions of closeups are often rather striking and thereby become visual seasoning to our pictorial platter of shots.

And then there is the technical routine to be learned. For instance, it often takes a novice cine filmer 3 or 4 rolls of film to get exposure under control unless he has had much experience in shooting stills. Part of the first roll should be set aside for exposure practice and nothing else. Quick takes of about 3 seconds each are long enough for test shots taken under many different exposure conditions. The cameraman then soon learns the use of his meter or computer for direct sunlight, overcast illumination, backlight, shade, and indoor set-ups.

Focus is something the filmer should be aware of, even if he has a fixed-focus lens. For it's important to know when a fixed-focus lens *will* produce a sharp picture and when it won't. All long shots will automatically be in focus because the lens is set for either 25 feet or infinity. And when shooting in the bright daylight, your lens will be at f/8 or smaller, so that objects will be in focus from about 6 feet and beyond. They'll be sharp even closer to the lens in 8mm because of the optical effects of the short lenses used on that size camera. But when youre filming indoors with large apertures, depth of field suddenly shrinks and care in checking distances becomes important. The 8mm filmer has the advantage of greater depth inherent in his camera lens, and the small frame size of 8mm causes out-of-focus effects to become less apparent. If you plan to film many closeups and medium shots indoors with a fixed-focus lens, it might be wise to buy a snap-on portrait attachment for your camera.

Lenses that are in focusing mounts are naturally more versatile, but they also hold their traps for the unwary. There is probably no error in movie making easier to commit than shooting a long shot without resetting the lens after a big closeup. My own most painful filming memory is of the time I photographed a sailboat regatta for some friends who were participating. After the race, they sailed to where I had my camera set up and made a beautiful, slow curve against the wind to the breakwater I was standing on. The shot used a full spring-winding of film. At the conclusion, I quickly checked my lens to make sure everything was O.K. and found the focus scale at 2 feet! I had left it that way after photographing a gray test chart earlier as part of some color tests. The scene was rephotographed immediately, but the wind and currents, as might be expected, were not nearly so good the second time.

As in most other aspects of photography, there are two extremes in focusing the new amateur can go to. He may measure every distance with a tape measure, even when shooting at f/11, or he may not bother to use his focusing mount at all, although he often makes indoor scenes at full aperture. A setting based on a quick estimate is a good compromise. **END.**

NOTICE TO CONTESTANTS

in

AMERICAN CINEMATOGRAPHER'S 1951 ANNUAL COMPETITION

Regarding Closing Date for Entries

Due to a typographical error appearing in entry blanks mailed to contestants which stated closing date for the competition is March 31, instead of March 1, as stated in notices which have appeared in American Cinematographer, the contest committee has decided officially to advance the closing date to

MARCH 31st, 1951

• GORDON ENTERPRISES •

CAMERAS

BELL & HOWELL 70 DA 16mm. x 100' capacity $225.00
DE VRY, 35mm late model spring-wound or hand crank. B&L 50mm f/3.5 lens....$95.00
UNIVERSAL MODEL C, 35mm, 3 lens turret, 100' Universal Model C magazine....$125.00
JEROME B-2, 35mm x 200' capacity, 3 lens turret. Operates single frame, or 4 to 48 per second, or automatic time delays up to 30 min. Also operates as conventional camera....$295.00
BELL & HOWELL, MORSE, LACKNER, AND FAIRCHILD, 16mm electric drive, 50' magazine, 16, 32, 64 frames. 35mm f/3.5 lens with viewer, portable power pack....$79.50
DE BRIE LE PARVO (MODEL K). All metal 35mm. Provision for electric drive, pilot pin registration. Erect image viewfinder. "Through-the-lens" viewer. Complete with Zeiss Tessar 50mm f/3.5; Dallmeyer Kinematograph, 50mm f/1.9; Zeiss Tessar, 75mm f/3.5; Zeiss Tessar, 35mm f/3.5; 7 each 400' magazines, leather carrying case; leather case for camera....$475.00
EASTMAN KODAK TRACKING CAMERA. electric $325.00
BELL & HOWELL EYEMO "K", with electric motor. For instrument panel recording $375.00
MISSILE TEST CAMERA, with eight Zeiss Tessar lenses. 9.5cm. f/3.5 ....$925.00
MITCHELL AND AKELEY THEODOLITES, New. ....Quotation on Request
BELL & HOWELL FILMO AUTOLOAD $125.00
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HOBSON COOKE KINIC ANASTIGMAT, 75mm f/2....$ 90.00
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MITCHELL VIEWFINDER OBJECTIVES $ 45.00
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BALTAR, 50mm, f/2.3....$165.00

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DEEP TANK for processing 16mm or 35mm film, two racks per tank, accommodates 200' of film each; Grade 1 select Cypress.....$35.00
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ACME ANIMATION MOTOR....$475.00

(MORE GORDON SPECIALS ON PAGE 118)

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TOP PHOTOGRAPHY

(Continued from Page 97)

with photography of actual welding. There was considerable research done with filters; in talking with other color photographers and with physicists; and after many long hours of painstaking camera work, Wolff eventually found the right combination of filters, lighting, film and camera technique to achieve his objective. His first one-reel instructional film on arc welding, in 16mm Kodachrome, was widely acclaimed wherever it was shown.

General Electric Company who, meantime, had endeavored to produce its own films on arc welding, heard of Wolff's film and asked for a screening. Here began a valuable business contact between Wolff and General Electric Company that continues to this day. Wolff Studios produced for General Electric eight films in 16mm Kodachrome on AC and DC arc welding and atomic hydrogen welding. Hundreds of prints of each film have since been made and distributed throughout the world. Another picture, *Principles of Electricity*, also sponsored by G-E, was later translated into twenty different languages for distribution in various countries by the U. S. State Department.

Very early Wolff began to employ animation in his training and instructional films, and is said to have revolutionized the 16mm film industry when he introduced his documentary animation technique in the production of training and instructional films. The Wolff animation department, which is equipped with two of the largest animation camera cranes ever built, today is one of the most formidable in the 16mm film industry.

Since 1945, Raphael G. Wolff Studios have been the greatest single user of 16mm Kodachrome in the world, and during a recent period reportedly used more Kodachrome film than all other 16mm commercial film producers put together. Today, the studios' entire product, save for television films, is photographed on 16mm Commercial Kodachrome.

Wolff Studios' list of major clients reads like a page out of "Who's Who" in American business and industry. In addition to Standard Oil and General Electric Company, the studios have made films for Ford Motor Company, International Paper Company, Nash-Kelvinator Company, American Meat Institute, Link-Belt Company, Minnesota Valley Co., Proctor & Gamble, General Motors Pontiac Division and Ironite Ironer Corp. The company will soon begin production on a film depicting the history of the city of Detroit, which Ford Motor Company is sponsoring in connection with that city's 250th anniversary, and for which Raphael G. Wolff will personally direct the photography.

Wolff Studios maintain a full-time staff of four 16mm cameramen—two of them animation cameramen. These are Pat Corbett, Allessandro Bodrero, Arthur Pierce and Jay Adams. In addition, whenever there is a picture to be produced in 35mm, cameramen members of the American Society of Cinematographers are employed. John Boyle, A.S.C., recently completed photography of a series of TV commercial spot announcements for Wolff, and earlier Gil Warrenton, A.S.C., photographed *The Human Bridge,* one of the studios' most notable productions sponsored by Ford Motor Company. Wolff Studios have had as many as four production crews on the road at one time. A crew comprises about ten men.

The studios maintain one of the greatest fleets of location rolling stock in the industry: five general purpose trucks, one 600-ampere and one 1000-ampere mobile generator truck, and three personnel cars. Most of this equipment is kept in the east for use on the many productions filmed east of the Mississippi.

Camera equipment consists of four Maurer 16mm cameras, two 70-DA Filmos, and two Eastman Cine Kodak Specials. Dissatisfied with available camera blimps for the Maurer camera, Wolff and his staff designed their own—a result of Wolff's constant search for newer and better methods and equipment for making 16mm films. He was among the first to try magnetic tape recording and while he uses it occasionally for short sequences in remote locations, all lip-sync sequences as far as possible are filmed in the studios, employing Glen Glenn Sound Company's facilities and recording personnel.

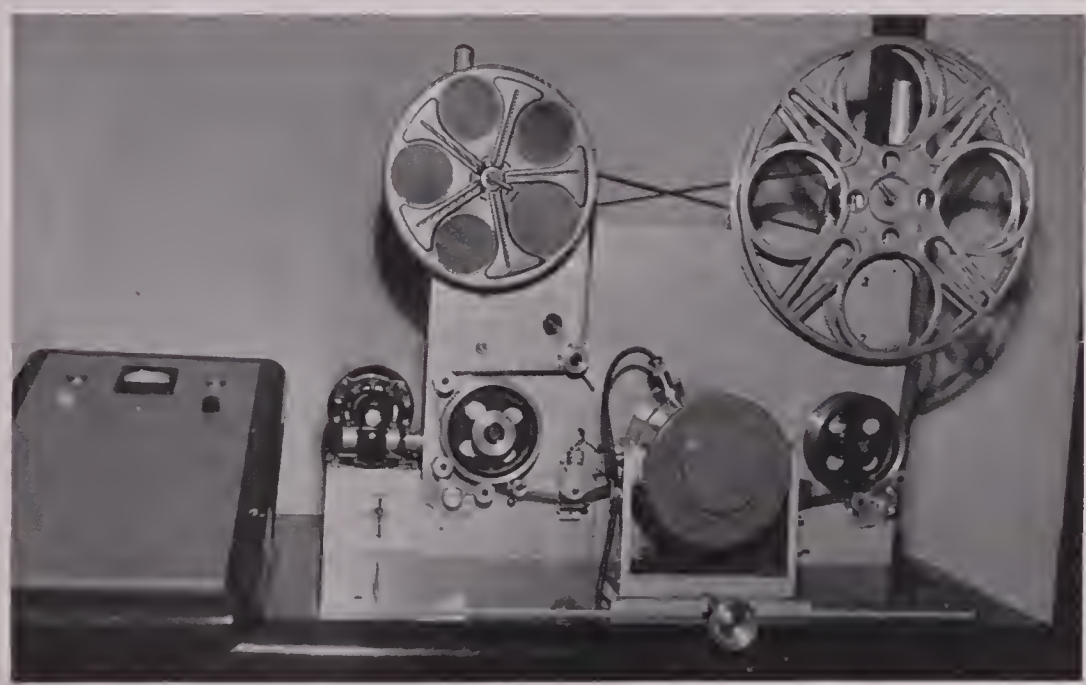
One notable feature of Wolff studio production planning is the story board, an idea adapted from Walt Disney. Today, every Wolff production is prepraed in story board form as a means of visualizing the production for both client and crew. Applied to industrial film making, it speeds up production and reduces costly production mistakes.

Wolff's detailed attention to the photographic treatment of his pictures is directly responsible for many of them winning awards for their sponsors. *Clean Waters,* produced for General Electric Co., was acclaimed the most outstanding industrial film at the Films Of The World Festival in Chicago in 1947. *The Human Bridge,* produced for Ford Motor Company, won top honors at the Cleveland Film Festival last year. Over 600 prints of this film have been distributed by the sponsor to date.

Of This We Are Proud, produced for Nash-Kelvinator Co., was chosen the motion picture best representing contemporary American life for deposit in a time capsule at Valley Forge last summer. The film also was honored with a Gold Medal at the Valley Forge Freedom Fair.

One of Wolff Studios' more recent and widely acclaimed 16mm productions

Visual Sound On Magnetic Film



EDITORIAL HANDLING and synchronization of magnetic film has been simplified by the new modulation writer now in use at Paramount Pictures Corp. and Ryder 16mm Services, Inc., Hollywood. In operation, the magnetic film is made to pass over a reproducer from which the sound signal is amplified and made to actuate a special pen which writes the signal along the film. This visual signal is a true oscillograph record of the sound recording and can be used as a guide in same manner as any area or density photographic recording, enabling the editor to visually handle and synchronize magnetic film with same ease and in same manner as photographic film. The modulation writer will work on 35mm, 17½mm and 16mm magnetic film.

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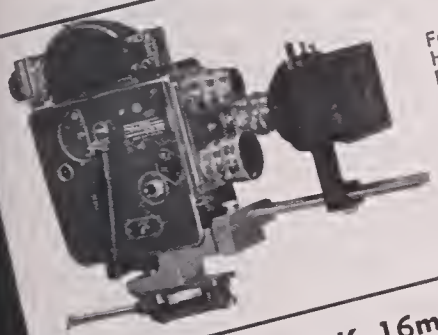
FRICTION TYPE

Handles 16mm. EK Cine Special with or without motor; 35mm. DeVry; B&H Eyemo with motor and 400' magazines and all 16mm. hand-held cameras. Head is interchangeable with the Gear Drive head. Both types fit "Professional Junior" standard tripod base, "Hi-Hat" and "Baby" all-metal tripod base.

GEAR DRIVE

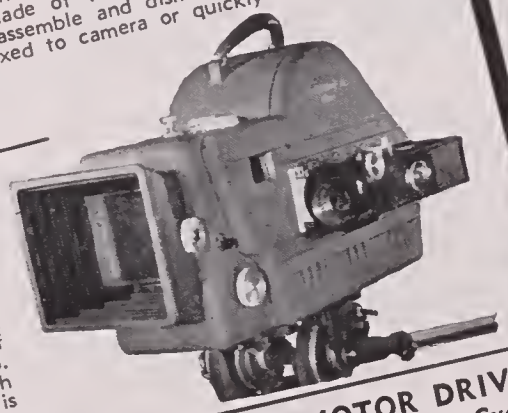
The head, made of Dow Metal magnesium, weighs but 5½ lbs. and is interchangeable with the Friction type head. It handles all types of cameras. Snap-on metal cranks control pan and tilt action from both sides. Worm - driven gears are Gov't spec. bronze.

SUNSHADE & FILTER HOLDER COMBINATION



For use with Bolex and Cine Special 16mm. cameras. Holds two 2" sq. glass filters and 2½" round Pola Screen with handle which can be rotated for polarization. Covers all lenses from 15mm. to 6" telephoto and eliminates need of various filters. Precision made of the finest materials. Compact, simple to assemble and dismount. May be permanently affixed to camera or quickly detached.

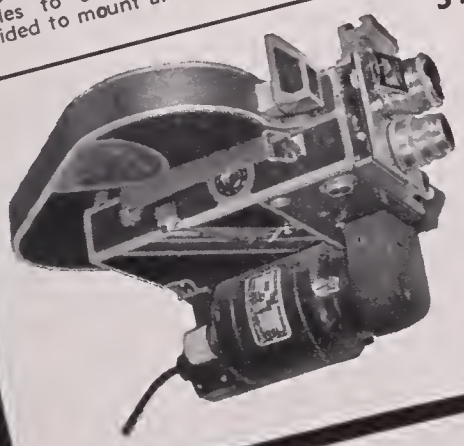
BLIMP for EK 16mm. CINE SPECIAL



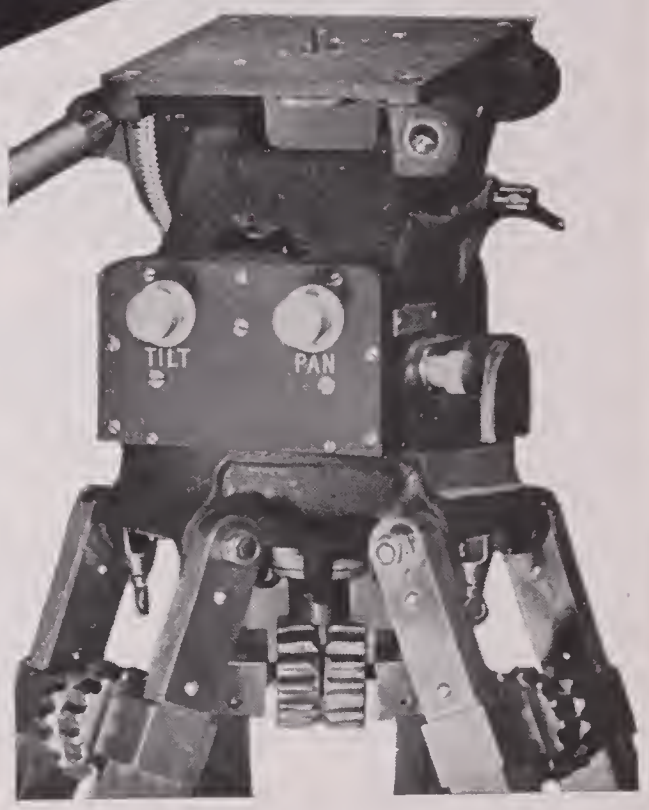
This Blimp constructed of Dow Metal magnesium, is thoroughly insulated to afford absolute silent operation. Exclusive features: Follow focus mechanism permits change of lens focus while camera is operating in blimp. Blimp takes synchronous motor drive which couples to camera. A dovetail bracket is provided to mount an erect image viewfinder.

SYNCHRONOUS MOTOR DRIVE

110 Volt A. C., Single Phase, 60 Cycle



This motor will run in synchronization with either 16mm. or 35mm. sound recorders. It is provided with mounting platform which permits removal of magazine while camera remains mounted on motor. Drive coupling attaches to single-frame shaft of camera and is mated to spring-steel drive arm of motor gear box. This assures that camera mechanism cannot be damaged if a film jam occurs as the spring steel arm drive will shear. This is easily replaced. A knurled knob on motor armature permits rotating for threading. "On-Off" switch built into base. Platform base threaded for ¼" and ⅜" camera tie-down screws. Rubber covered cable with plugs included.



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Positive pan-locking knob. Tilt locking lever. Quick wrist action locking knob for leg height adjustments. Pan handle can be inserted at 3 different positions on tripod head for operator's convenience or extreme tilt work. Legs are hard maple specially treated and warp resistant. Tripod head is Dow Metal magnesium and aluminum. Built-in spirit level. Swivel tie-down rings. Platform can be equipped for either ⅜ or ¼ inch camera screw.

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is the *Magic Key*, which tells the chronological story of advertising since early craftsmen of Europe employed crude signs to call attention to their wares.

Five cameramen were employed in filming the picture over a period of two years. The production is notable for many singular photographic innovations. One is a scene depicting an audience viewing a demonstration film in color shown on a home movie screen. Normally, shooting a scene like this would entail background projection or special process photography — both costly for 16mm producers. Wolff's staff staged the scene successfully by substituting live action for the projected image on the screen. The screen was actually cut out and in the rear was a woman seated before a home mangle. Skillful illumination and careful attention to the camera angle produced the illusion of a motion picture in color on the screen.

For another scene, in which a family group is shown watching a television program, the picture tube and receiver chassis were removed from the set and a translucent screen substituted in the cabinet. The picture was transmitted to the screen by rear projection, using a Bell & Howell sound projector and a continuous film loop. The scene was shot with a Mitchell 16mm professional camera. There was no interlock between projector and camera. "It was the result of a simple experiment," said Wolff, "and it was just sheer luck that the shutters of both projector and camera opened and closed simultaneously."

These and other innovations which invariably highlight every Wolff production are the result of his personal vigilance over the camera work in each picture. In many instances, Wolff photographs scenes himself. Where a crew is on a distant location, the film that is shot is shipped to the home studios daily. Each day's shooting is promptly processed and clips, similar to the light tests cameramen receive daily in the studios, are airmailed to the cameramen in the field together with Wolff's personal letter of criticism and instruction.

Every foot of film photographed for his productions comes in for his personal scrutiny, as does story preparation, budget, music score, editing, etc. But it is the photography that gets priority on his attention. Recently he had a cameraman re-photograph a brief and seemingly unimportant insert five times before he finally approved it for a client's picture.

Professional cameramen agree that a Wolff production is no pushover assignment. And while Wolff's unending pursuit of perfection seemingly makes him a hard taskmaster, unanimous opinion of his cameramen is that they are the better technicians for it.

'OSCAR' NOMINATIONS

(Continued from Page 94)

hour, knows the winners in advance. On the evening of the Awards presentation a simple note listing the nominees and name of the winner is brought to the podium in an envelope closed with sealing wax. As each Award category is announced, the master-of-ceremonies opens the envelope in full view of the audience, reads the nominees, concluding with the name of the winner. The "Oscar" winner of the preceding year often presents the Award to current winners.

Of the ten men whose cinematographic artistry has been nominated for the 1950 Awards, five have previously won "Oscars" for cinematographic achievement. Charles Rosher has two awards to his credit for "Sunrise" in 1928, which he photographed jointly with Karl Struss; and "The Yearling," photographed jointly with the late Leonard Smith and Arthur Arling, and cited in the awards for 1946.

Victor Milner won an "Oscar" in 1934 for his photography of "Cleopatra." Ernest Haller won an award in 1939 for "Gone With The Wind," which he photographed jointly with Ray Rennahan, A.S.C. George Barnes was cited in 1940 for his photography of "Rebecca," and Ernest Palmer won the color photography award in 1941 for "Blood and Sand," co-photographed by Ray Rennahan. None of the 1950 contenders were nominated the preceding year, although many have been nominees in previous years.

Robert Krasker is the only foreign director of photography among the contenders this year. He photographed London Films Production's "The Third Man," the first British film nominated for a cinematographic award since Desmond Dickenson's "Hamlet" which was a contender in 1948.

Colorful as has been the career of the coveted "Oscar" awarded by the Academy, nothing is more amusing than the true story of how the trophy got its name. In 1931 Mrs. Margaret Herrick, now executive director of the Academy of Motion Picture Arts and Sciences, while studying the small golden statuette, remarked that the square jaw and sharp mannish features reminded her of her Uncle Oscar. A newspaper columnist overheard the comment and the next day published a single line in his nation-wide column reading, "Academy employees have affectionately dubbed their famous gold statuette 'Oscar'." Bette Davis and other stars later used the nickname in press interviews and the screen's most distinguished art symbol became world famous as "Oscar." **END.**

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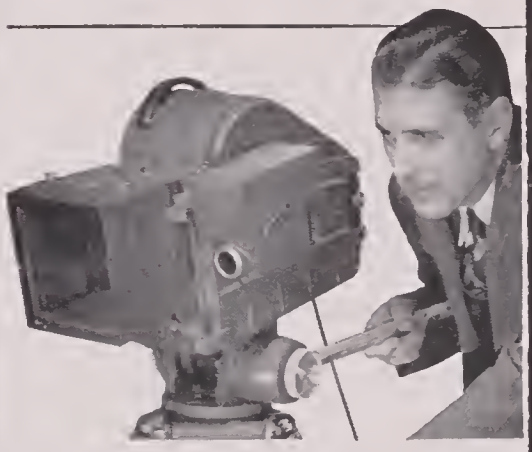

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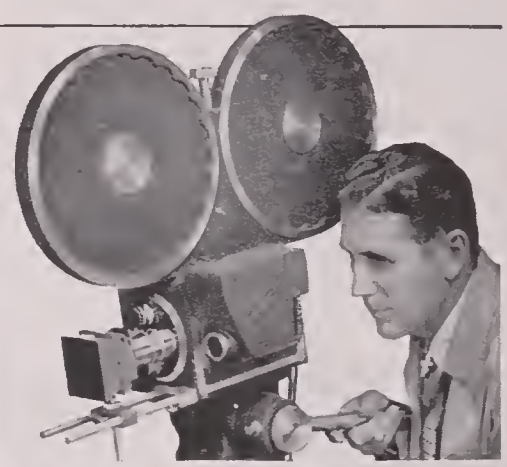

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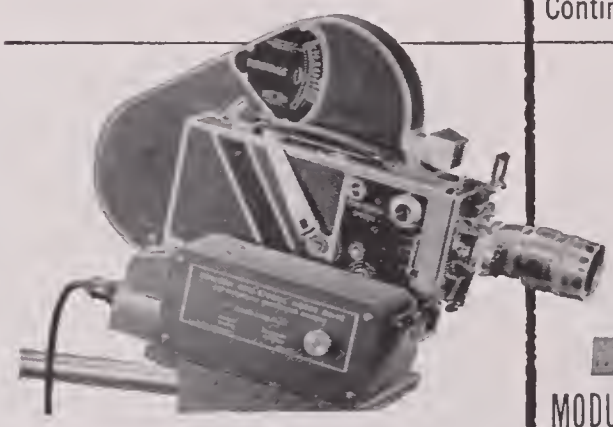

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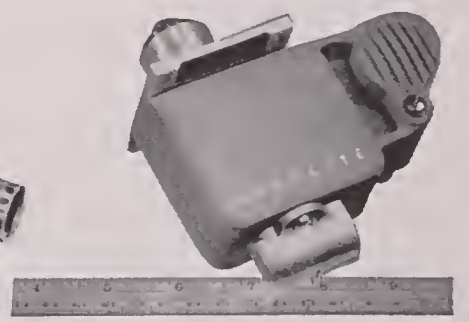

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TV NEWSREEL

(Continued from Page 98)

analyze news leads and assign the filming of stories. Very often the station news editor doubles in this capacity. He is the ideal one to do so, since he constantly works with news stories and thinks in those terms.

It should not be necessary for this person to go out and "beat the bushes" for filmable news items. Rather, by means of courteous diplomacy, he can set up a network of information sources throughout the city to keep him alerted to newsworthy happenings. He will make profitable contacts with officials of the local police department, fire department, schools, hospitals, Chamber of Commerce, and the civic clubs, and other similar organizations—to function as "reporters." Such contacts are usually quite happy to donate their personal services where it will benefit their organizations.

In some cities, where especially cordial relations exist between the television station and local newspapers or radio stations, it should be possible to work out reciprocal agreements whereby each medium cooperates to keep the other informed of local spot news or feature assignments. By establishing a regular "beat" of sources of newsworthy information, it usually is possible for the TV news editor to learn in advance about situations that make good feature newsreel stories, and to plan filming accordingly.

When the newsreel editor receives a tip for a spot news story, he immediately contacts his camera crew and describes the assignment briefly. Where time permits, a quick briefing of the approach and shots needed will help the crew to bring back the right material for the telecast. As time goes by, the crew itself will develop a sense of approach and will instinctively know how stories should be handled.

In covering a spot news story, the sound camera should be set-up in a central location which commands a good view of the overall situation. This location will also serve as a base of operations for the crew during filming. Since a spot news story is often catch-as-catch-can, it may often be wise to forego recording of direct sound in favor of a live sound narration furnished from the control room during the telecast. However, by means of a small microphone it often is possible for the cameraman or assistant to function as narrator and provide a running commentary of the scenes as they are filmed. This sound-on-film narration, if not actually acceptable for broadcast, will at least serve the newsreel editor later in writing a suitable commentary for the film.

By using the range of lenses on his camera turret, the operator can secure a variety of shots and angles while remaining at the same vantage point. In the meantime, his associate equipped with the hand-held camera can get closeups and reaction shots of the crowd. Both cameramen should keep charts describing briefly the subject matter of each scene. This may not always be possible, but it is a great aid later in editing the films.

Television news filming follows the

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RECORDING sound for scene in "Open City" at Titanus Studios, Rome, Italy, using a Kinevox synchronous magnetic film recorder. In foreground is Anna Magnani, star of picture. Studio, one of first to adopt Kinevox equipment, reports excellent recording results.

general tenets of standard newsreel coverage, with few exceptions. The long shot, medium shot, close-up and re-establishing shot formula still holds good in the general sense. However, since television is primarily a closeup medium, emphasis should be placed on closer shots and tighter compositions.

When photography of an assignment has been completed and the film processed, a minimum of editing is done. Camera charts and camera caption sheets filled out by the cameraman are used as a basis for the narration. Each scene is then measured and the footages recorded. Allowing four words to the foot, the commentary is then tailored to fit the edited picture. With a rapid developing system and a simplified editing routine, it is possible to have a newsreel on the air within two hours after filming is completed.

"TWICE THE LIGHT AND CARRYING POWER"

(Continued from Page 93)

efficiency of our lamps without inversely affecting their utilization. It began to appear as though we had settled down to a standard form, aside from the often repeated demand, "I want twice the light and twice the penetrating power from a single unit."

Incandescent globes powered to as much as fifty kilowatts were manufactured and tested, but they failed to compete in controllability and light output with the more powerful of the old searchlight types of carbon arc units.

From a commercial viewpoint the production of a new and efficient carbon arc spotlamp was highly questionable. It is true that the demand was there, but it was a small, specialized demand that could not be expected to cover the design and manufacturing cost of a carbon arc unit which would deliver an even field of illumination under conditions of varying beam divergences, and which would also meet the requirements of silent operation.

We discussed the situation from all angles, decided it was commercially impractical, then went ahead with preliminary design just because we wanted to do it, and secretly because we felt we could hide the losses from each other.

Then came another revolution!

Technicolor, who had been struggling with a two-color process, announced that they were ready to launch motion pictures in the full color scale and that the white light of the carbon arc lamp would be needed for the success of the process.

The announcement by Technicolor did not produce chaos in the industry as had sound because the studios believed

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that color was something they could take or leave alone. Many believed that color would never replace black-and-white and others reasoned correctly that if it did eventually replace black-and-white it would be by evolution and not by revolution.

So the revolution of the effects of the arrival of color was within our own organization. True we had done some preliminary design work on a new carbon arc lamp and would have probably built a few and have allowed the cinematographer to approve or discard it as was our custom. But if we were to be a part of the plan for three-color motion picture photography we must produce a number of different types of carbon arc lamps and have them ready on the assumption that a process which was unknown to us would be a success.

We conferred with the carbon manufacturer, with Technicolor and with the various personnel of the studios. Some urged us to go ahead; others just shook their heads. If we could have started with spotlamp units which would also find a use on black and white we would have had something tangible to go on, but it was carbon arc floodlamp units which were required most urgently and we did not believe these would ever be used on black and white.

This was one possible failure that I couldn't hide in a corner, or that we couldn't hide from each other. If we did go into it and it failed, or even received a serious setback, it is doubtful if we would have had a corner to hide anything in.

We discussed it among ourselves until we were sure it was a most dangerous gamble and having got that out of our collective system we went ahead and manufactured the required number of lamps.

Historically, the arrival of color followed a pattern similar to the arrival of sound except that it was not dumped onto an unsuspecting and confused industry overnight. Aisde from the urgency of producing the original equipment for one or more color productions it has arrived in more or less orderly fashion.

The first carbon arc floodlamps we produced had to be a refinement of the then obsolete units which had been in service previous to the arrival of the incandescent lamp. For spotlamp type units they were able to use some of the semi-obsolete searchlight types of high intensity carbon arc lamps.

The carbon manufacturer supplied us with a special carbon trim which was vastly superior to the one used in the former carbon arc floodlamp and we gambled on a compromise lamp with which we could meet the production deadline. Later we produced a fully

automatic carbon arc floodlamp which has become the standard for color floodlighting.

Again the cinematographer was faced with technical restrictions. Color required higher levels of illumination than black and white and the latitude of the process was more narrow. He was told by some engineers that color itself would provide contrasts, depth and form, and that all he needed to worry about was a uniform intensity of illumination sufficient for adequate exposure. Again he tightened his belt and said, "I want a lamp with twice the intensity and twice the penetrating power of existing units."

We designed and produced 150-ampere carbon arc spotlamps fitted with a Fresnel-type lens. These afforded varying beam divergences that would allow the cinematographer to continue painting with light. The Technicolor process was improved and the cinematographer again began to express his individuality. Then came word that the speed of the Technicolor process had been doubled and we wondered if this would reduce the demand for the high powered carbon arc spotlamps.

With the thought that there might be a market for smaller units we conferred with the cinematographer. "What will be the effect of the increased speed of the color process?"

"It will allow me to obtain better depth of focus," he said, and as an afterthought he added, "I could use a lamp with twice the intensity and twice the penetrating power of existing equipment."

Through a cooperative movement between equipment manufacturers and the Research Council, the National Carbon Company had produced a carbon for process projection and we had made an automatic arc lamp to use it. The carbon burned at 225 amperes and was capable of delivering twice the light of the 150-ampere trim. The cinematographer went to his electrical department and said he wanted to use it in some of his spotlamps.

Again our engineering department was put to work on the problem and we produced a high-intensity carbon arc spotlamp twice the output, and some beam divergences three times the output, of the 150-ampere spotlamp. Again we felt that this insatiable demand for more light must at some time come to an end, and in this case we have learned that we were partially correct because the cinematographer is able to create a better effect with one of the large carbon arc lamps than with a number of the smaller units.

After this new super high-intensity lamp had found its way into the studios

(*Continued on Page 115*)

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Current Assignments of A.S.C. Members

Major film productions on which members of the American Society of Cinematographers were engaged as directors of photography during the past month.

Allied Artists

• HARRY C. NEUMANN, "The Highwayman," with Charles Coburn, Wanda Hendrix, Phillip Friend, Victor Jory and Virginia Huston. Leslie Selander, director.

Columbia

• JOSEPH WALKER, "Remember That Face," with Broderick Crawford, Betty Behuler, Otto Hulett and Ernest Borgnini. Robert Parrish, director.

• BURNETT GUFFEY, "The Secret," with John Derek, Lee J. Cobb, Jody Lawrence, and Henry O'Neill. Henry Levin, director.

• PHIL TANNURA, "China Corsair," with Jon Hall, Lisa Ferraday, Ron Rondell, Ernest Borgnine and John Dehner. Ray Nazarro, director.

Independent

• GEORGE E. DISKANT, "Storm Over Tibet," (Summit Prodn.) with Diana Douglas, Rex Reason Myron Healy, Bob Karns, William Schallert, Harold Fung. Andrew Marton, director.

• JAMES WONG HOWE, "The Lady Says No!" (Ross-Stillman Prod.) with Joan Caulfield, David Niven, James Robertson Justice, Lenore Lonergan, Francis Bavier and Peggy Maley. Frank Ross, director.

• JACK GREENHALGH, "Slaughter Trail," (Irving Allen Prod.) with Andy Devine, Gig Young, Howard da Silva, Virginia Grey, and Terry Gilkyson. Irving Allen director.

Lippert

• JACK GREENHALGH, "Kentucky Jubilee," with Jerry Colonna, Jean Porter and James Ellison. Ron Ormond, director.

• ERNEST MILLER, "Little Big Horn," with John Ireland, Lloyd Bridges, Jim Davis and Hugh O'Brian.

M-G-M

• JOSEPH RUTTENRERG, "Kind Lady," with Ethel Barrymore, Maurice Evans, Angela Lansbury, Keenan Wynn, Doris Lloyd and Betsy Blair. John Sturges, director.

• ROBERT SURTEES, "The Strip," with Mickey Rooney, Sally Forest, James Craig, William Demarest, Kay Brown, Myrna Dell, Vic Damone, Monica Lewis. Leslie Kardos, director.

• WILLIAM MELLOR, "The Bradley Mason Story," with Walter Pidgeon, Ann Harding, Lionel Barrymore, Keefe Brasselle, Philip Ober and Eduard Franz. Richard Thorpe, director.

• RAY JUNE, "Strictly Dishonorable," with Ezio Pinza, Janet Leigh, Millard Mitchell, Gale Robbins. Norman Panama and Melvin Frank, directors.

• GEORGE FOLSEY, "The Law And Lady Loverly," with Greer Garson, Michael Wilding, Marjorie Main, Fernando Lamas, Phyllis Stanley and Ralph Dumke. Edwin Knopf, director.

• PAUL C. VOGEL, "The Tall Target," with Dick Powell, Paula Raymond, Marshall Thompson, Adolphe Menjou, Ruby Dee, Florence Bates, Richard Rober and Lou Nova. Anthony Mann, director.

• ROBERT PLANCK, "Texas Carnival," (Technicolor) with Esther Williams, Red Skelton, Howard Keel and Ann Miller. Charles Walters, director.

Monogram

• MARCEL LEPICARD, "Ghost Chasers," with Leo Gorcy, Huntz Hall, Jan Kayne, and Lloyd Corrigan. William Beaudine, director.

Paramount

• GEORGE BARNES, "Here Comes The Groom," with Bing Crosby, Jane Wyman, Franchot Tone, Robert Keith and Jacky Gencel. Frank Capra, producer-director.

• LIONEL LINDON, "Submarine Command," with William Holden, William Bendix, Nancy Olson. John Farrow, director.

• LOYAL GRIGGS, "Crosswinds," (Pine-Thomas Prod.) (Technicolor) with John Payne, Rhonda Fleming, Forrest Tucker, John Abbott, and Alan Mowbray. Lewis R. Foster, director.

• VICTOR MILNER, "My Favorite Spy," with Bob Hope, Hedy Lamarr, Francis L. Sullivan, Arnold Moss, Marc Lawrence and Iris Adrian. Norman Z.. McLeod, director.

• GEORGE BARNES and PEVERELL MARLEY, "The Greatest Show On Earth," (Technicolor) with Betty Hutton, James Stewart, Cornel Wilde, Dorothy Lamour, Gloria Grahame, Charlton Heston and Lyle Bettger. Cecil B. DeMille, director.

• DANIEL FAPP, "The Stooge," with Dean Martin, Jerry Lewis and Eddie Mayehoff. Norman Taurog, director.

• LEE GARMES, "Detective Story," with Kirk Douglas, Eleanor Parker, William Bendix, Cathy O'Donnell, Horace McMahon. William Wyler, director.

• LIONEL LINDON, "Rhubarb," (Pearlberg-Seaton Prod.) with Ray Milland, Jan Sterling, Gene Lockhart, Orangey Murray. Arthur Lubin, director.

• CHARLES LANG, "Peking Express," (Hal Wallis Prod.) with Joseph Cotton, Corrine Calvert, Edmund Gwenn. Dick McWhorter, director.

R.K.O.

• RUSSELL HARLAN, "The Thing" (Winchester Pictures), with Kenneth Tobey, Margaret Sheridan, James Young. Christian Nyby, director.

• EDWARD CRONJAGER, "Two Tickets To Broadway" (Technicolor), with Janet Leigh, Tony Martin, and Smith & Dale. James V. Kern, director.

• WILLIAM SNYDER, "Flying Leathernecks" (Technicolor), with John Wayne, Robert Ryan, Don Taylor, Jay C. Flippen. Nicholas Ray, director.

• ARCHIE STOUT, "On The Loose," (Filmmakers) with John Evans, Lynn Bari, Robert Arthur. Charles Lederer, director.

• NICK MUSURACA, "Rustlers' Range," with Tim Holt, Richard Martin, Joan Dixon, John Dehner. Stuart Gilmore, director.

• FRANK PLANER, "Androcles And The Lion," with Jean Simmons, Robert Newton, George Sanders, James Donald and John Hoyt. H. C. Potter, director.

Republic

• WALTER STRENGE, "Million Dollar Pursuit," with Penny Edwards, Stephen Flagg and Grant Withers. R. G. Springsteen, director.

20th Century Fox

• CHARLES G. CLARKE, "Kangaroo" (Technicolor) (Shooting In Australia), with Maureen O'Hara, Peter Lawford, Finlay Currie and Richard Boone. Lewis Milestone, director.

• NORBERT BRODINE, "The Frog Men," with Richard Widmark, Dana Andrews, Gary Merrill, Jeffrey Hunter, Robert Wagner and Warren Stevens. Lloyd Bacon, director.

• ARTHUR ARLING, "Meet Me After The Show," with Betty Grable, Macdonald Carey, Rory Calhoun and Eddie Albert. Richard Sale, director.

• HARRY STRADLING, "Golden Goose," (Thor. Prodns.) with Fred MacMurray, Eleanor Parker, Richard Carlson, Kay Buckley, Una Merkle, Douglas Dumbrille and Nestor Paiva. George Marshall, director.

• LEO TOVER, "The Secret Of Convict Lake," with Glenn Ford, Gene Tierney, Zachary Scott, Ethel Barrymore, Ann Dvorak, Helen Westcott and Barbara Bates. Michael Gordon, director.

• LEON SHAMROY, "Friendly Island," (Technicolor) with William Lundigan, Jane Greer, Gloria DeHaven, Mitzi Gaynor, David Wayne, Jack Paar and Gene Lockhart. Edmund Goulding, director.

• HARRY JACKSON, "Anne Of The Indies," (Technicolor) with Louis Jordan, Jean Peters, Deborah Kerr, Herbert Marshall, Thomas Gomez. Jacques Tournear, director.

Universal-International

• MAURY GERTSMAN, "Ma and Pa Kettle At The County Fair," with Marjorie Main, Percy Kilbride, Lori Nelson, James Best. Charles Barton, director.

• RUSSELL METTY, "The Golden Horde," (Technicolor) with David Farrar, Ann Blythe, Peggie Castle, Richard Egan, Poodles Hannaford, Howard Petrie, and Henry Brandon. George Sherman, director.

• CARL GUTHRIE, "The Iron Man," with Stephen McNally, Jeff Chandler, Evelyn Keyes, Joyce Holden, Rock Hudson and Jim Backus. Joseph Pevney, director.

• GEORGE ROBINSON, "The Real McCoy," with Bud Abbott, Lou Costello, Dorothy Shay, Kirby Grant, Shay Cogan, and Ida Moore. Charles Lamont, director.

• RUSSELL METTY, "Fiddler's Green," with Shelly Winters, Richard Conte, Stephen McNally, Charles Bickford and Alex Nicol.

Warner Brothers

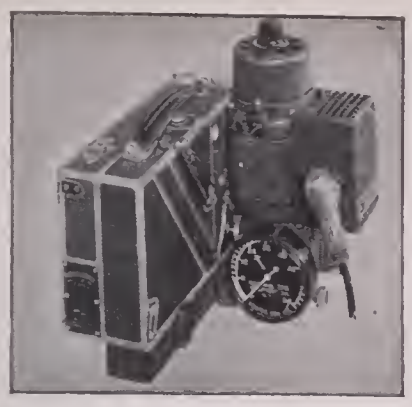
• SID HICKOX, "Fort Worth," with Randolph Scott, David Brian, Phyllis Thaxter, Helena Carter and Henry Hull. Edwin L. Marin, director.

• ROBERT BURKS, "Tomorrow Is Another Day," with Ruth Roman, Steve Cochran, Lurene Tuttle and Wallace Ford. Felix Feist, director.

• ERNEST HALLER, "Moonlight Bay," (Technicolor) with Doris Day, Gordon MacRae, Jack Smith, Mary Wickies, Rosemary de Camp, Leon Ames.

• ED DUPAR, "I Was A Communist For The F.B.I.," with Frank Lovejoy, Dorothy Hart, James Millican and Konstantin Shayne. Gordon Douglas, director.

• WILFRED CLINE, "Painting The Clouds With Sunshine," with Dennis Morgan, Virginia Mayon, Lucille Norman and Gene Nelson. David Butler, director.



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"TWICE THE LIGHT"

(Continued from Page 113)

a cinematographer told me: "This lamp enables me to penetrate deep sets and to create an illusion of a single-source lighting with less total equipment. However, on extremely large sets and in certain cases of 'booster' lighting on exteriors *I want a lamp with twice the intensity and twice the penetrating power.*"

Of course there is a limit to all things, but we have tested carbon arc trims as high as 500 amperes. The proposed changes in set lighting levels will probably limit this work, but we know from long years of experience that the cinematographer and his producing organization will not abuse a production to use a system and if he can utilize improvements in film stock, or development techniques to create a better illusion on the screen he will be searching for new tools with which to work.

"THE MIRROR"

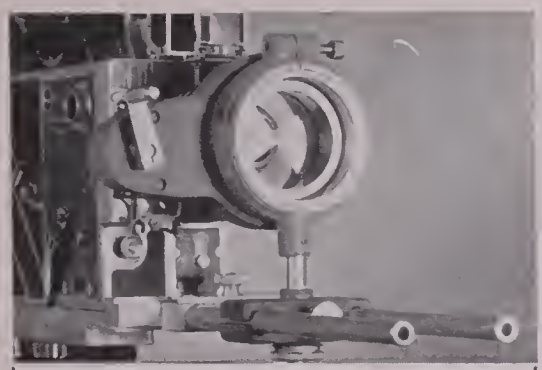
(Continued from Page 102)

filmed, an emergency meeting enabled us to select alternates for our depleted cast. Shooting then progressed more or less on schedule on Sundays of the ensuing three months.

Ultimately we were able to borrow a magnetic tape recorder for recording sound, which we planned later to re-record on an optical track. Our camera was a Cine Special for which we constructed a home-made blimp. Sound was synchronized with the film in the accepted manner, using clap-sticks. The amount of dialogue was kept to a minimum because of the anticipated drift between picture and sound, which was recorded wild.

A home-made dolly, using wheels from a super-market basket cart plus two lengths of tongue-and-groove flooring formed in the shape of a "T," was used a number of times, rolled on wooden tracks. Most important to the story was the attic in an old house where the telltale mirror hung. Actually this old house was never entered by our players. Instead, we photographed the exterior with a still camera and made two enlargements. One was finished as a normal day shot; the other as a night shot. These prints were then photographed at close range. Two dolly shots were made of the night scene. This we did by single-frame photography, re-focusing the lens every five frames for accuracy.

We rarely made fades or dissolves in the camera, (although the Cine Special is one camera which permits this) be-



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cause the great geographical differences in locations would not permit. We found it more convenient to shoot all of the scenes scheduled at a given location at one time. Sometimes the script called for dissolving from an interior of one house to the interior or exterior of another; and then perhaps at the end of the sequence, dissolving to a backyard location, dissolving to another location miles distant, then back to the interior. Because some of these scenes were to have lip-sync sound, subsequent editing would have cut the dissolves and this made it impractical to shoot the sequence scene-following-scene in the camera with the necessary dissolves.

We therefore planned to use the well known professional technique of editing our footage in "A" and "B" rolls. Since our sound would have to be re-recorded from tape to film and then composite-printed with the picture film, the additional cost of "A" and "B" printing was a minor factor.

The day finally arrived when all scenes in the script were shot and all sound, including the musical score was recorded on tape. However, by this time, not enough "two packs per day" funds were immediately available so the original picture was rough-cut for feeling and the film and tape temporarily stored.

Sometime later we were fortunate to obtain the use of a Berndt-Bach Cine-Voice single-system sound camera for re-recording our tape sound track. This we accomplished by setting up our tape recorder next to the Cine-Voice camera and recording the sound from the recorder speaker.

With the aid of a film synchronizer and a sound reader—both home-made—we undertook the final editing of the film. Using these two devices in conjunction with our editing equipment, it was possible to line up the relative positions of sound track and picture film by locating the point where the clap-stick comes together on the picture film with that point in the sound track where sound of the clap-stick is heard.

As for those scenes shot wild, where only a few lines of dialogue is spoken, the small amount of drift is not noticeable. But where a longer speech was recorded wild, re-syncing was accomplished by cutting away to a reaction shot, then back to the speaker—with the picture footage being adjusted as necessary to accomplish a return to synchronization.

The reader mentioned above was made by utilizing a sound head from an old Victor 16mm sound projector plus an associated amplifier capable of boosting the sound level from the —90 db output of the photocell up and above amplifier losses, delivering from 3 to 5 watts to a six-inch speaker.

After the "A," "B" and track films were matched in the final editing, an interlock check was run on the sound projector before sending the three rolls of film to the laboratory for the final composite print. Most 16mm sound projectors can be used for this as follows: the picture film is threaded through the film gate and run to the take up reel—bypassing the sound head. The sound track, coming off an auxiliary feed spindle, is threaded through the sound head of the projector and thence to an auxiliary takeup spindle. For our auxiliaries we used our film rewinds set up near the projector, taking up the sound film by hand. Thus, with the sync marks of picture film and track lined up together in the film gate, the two continue through the projector until the end in perfect synchronism. Of course, we had to run the two picture films through separately with the sound track inasmuch as the picture still was in the separate "A" and "B" rolls, with the missing scenes in each roll replaced with lengths of blank leader.

After the interlock screening, the three films were again placed on the synchronizer and the sound track advanced the required 26 frames over the picture films, "A" and "B." Start marks were then placed on all three films with a grease pencil. We sent our reversal picture and the track to the laboratory and breathlessly awaited our "answer" print—and this was our *only* print, too, at .095 per foot!

We had been so long in making the picture that our actors and friends had given up ever seeing the picture on the screen. When finally our composite print did arrive, we were so pleased with it we decided to give a public showing in the Public Library Building in Richmond, California. For this we had printed special tickets of admission and a program.

Briefly, the story concerns a mysterious mirror in the attic of an old dwelling—a mirror which has the power to foretell the future. An episode in which the mirror reveals a tragic death is told in retrospect and the picture embraces just about every type of shot, interior and exterior which the professional encounters in a Hollywood production. It afforded two movie amateurs a wonderful experience in "poverty-row" movie making—especially in sound.

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(Continued on next page)

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(Continued from Page 117)

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GORDON ENTERPRISES
5362 No. Cahuenga • No. Hollywood, Calif.

BURIED TREASURE

(Continued from Page 91)

the wagon was rocked by grips and moved slowly to produce the illusion of travelling over the rocky road shown in long shot in footage filmed in Tibet.

After all the added scenes had been shot, Marton and his associates looked it over, then decided to reshoot fifteen of the takes—takes which they now saw could be improved both for camera angle or dialog or both. Added footage does have a different perspective, once it is cut with old footage, and fortunately here were producers willing to spend additional money on retakes that would materially improve the overall picture. But even with these retakes, the picture was brought in within schedule.

Today, to shoot the same picture in its entirety in the original Tibetan locales would cost a producer well over two-and-a-half million dollars. Moreover, such a production would probably be impossible to complete at this time in view of the political situation that now exists in Tibet.

The image of old Tibet, however faint it may have been to the rest of the world, will be unalterably lost to future generations as a result of the recent Red invasion. *Storm Over Tibet* may well be the last authentic pictorial account we shall ever see of this medieval borderland to the skies.

NEW ECLAIR CAMERETTE

(Continued from Page 92)

mirror, which is part of the 200° adjustable reflex shutter, reflects the image to the prism of the adjustable viewfinder. The finder objective shows both the 16mm and 35mm film fields.

Incidentally, with newer Camerettes, the viewfinder housing has been extended, as may be seen in Figs. 3 and 4, so that the operator may use either his right or left eye to keep a visual check on the composition and action. A rotating prism has been incorporated in the finder objective so that the image will remain in the proper viewing position, no matter at what angle the finder viewing tube is turned.

The Camerette, as shown in Fig. 1, is essentially a two-unit piece of equipment: the first, or main unit, comprises the lens turret, the operating mechanism (claws, shutter, reflex, etc.), the front section of the gate, the viewfinder and the motor tachometer. The second unit is the film magazine with automatic film gate and containing the film movement sprocket, pressure pads and footage indicator. The 16mm film magazines are simply the regular 35mm magazines shimmed out for the narrower width film and with 16mm film movement mechanism replacing the 35mm. (See Fig 2).

The 16mm pull-down, shown at 2 in Fig. 4, operates simultaneously with the 35mm without interference. Allowance is made for the shorter stroke of the 16mm pull-down by having the claw recede behind the aperture plate and the film track slightly recessed. The aperture plate is so designed that the 16mm pull-down does not interfere with 35mm operation.

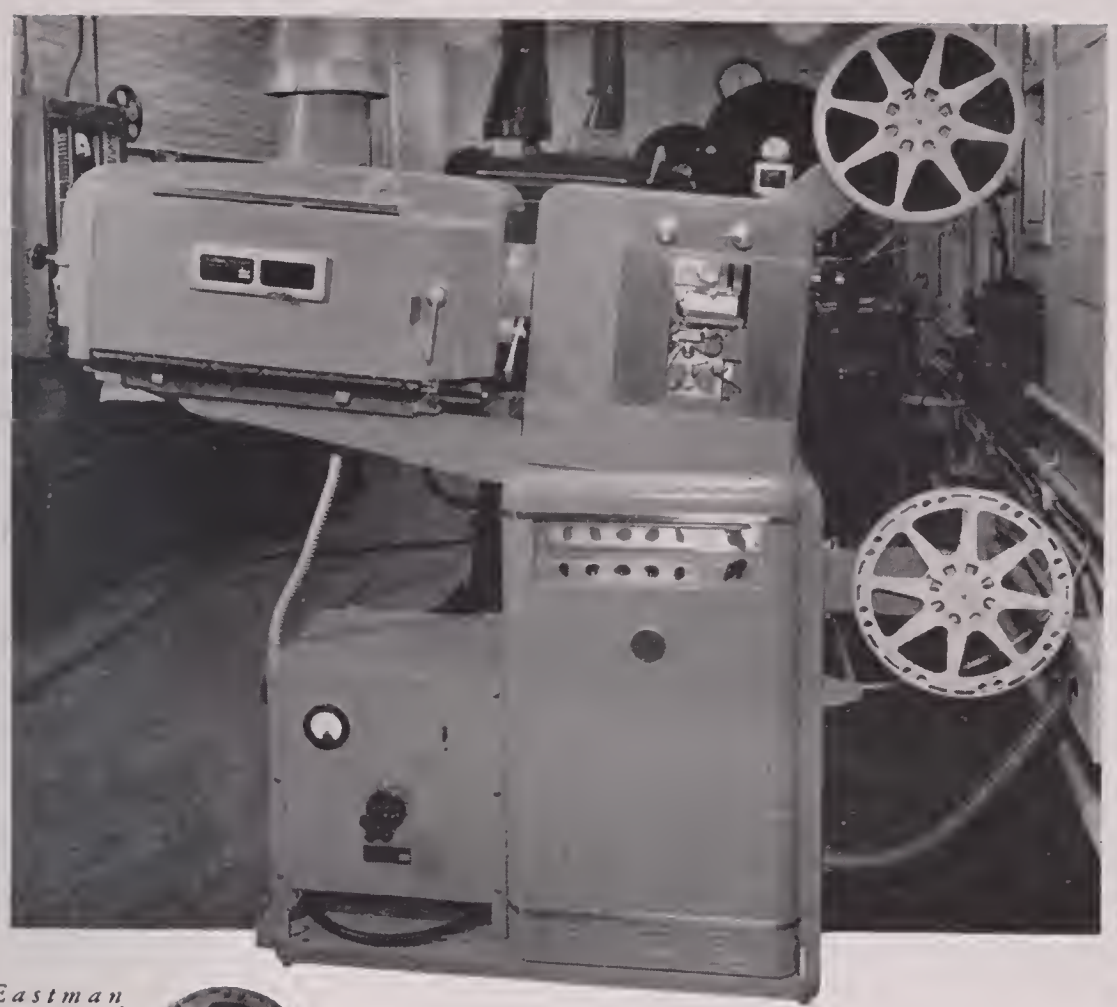
The same lenses are used for both film widths, thus affording the advantage of 35mm camera lenses for photographing 16mm film. Incidentally, Eclair has introduced a remarkable new 18.5mm wide-angle lens having an aperture of f/2.2, and this has been added to its regular line of Camerette lenses which range in focal length from 25mm to 500mm. The new 18.5mm lens not only provides a versatile shorter focal length lens for 16mm use, but affords interesting applications as an extremely wide-angle lens for 35mm cinematography. Despite its short focal length, it easily covers the 35mm field and has already been put to good use by several major Hollywood studios.

To convert the new 16/35 Camerette from one film width to the other, the film magazine previously used is removed, and a magazine loaded with the other film is attached in its place. Prior to this, a simple change is made in the aperture. If the change is from 35mm to 16mm, a special 16mm mask, as shown at 1 in Fig. 4, is inserted in the film gate in a matter of seconds. This mask is concealed in a holder at right side of camera when not in use, and is therefore instantly available.

A more complete description of the basic Camerette appeared in the September, 1949, issue of *American Cinematographer*. The camera and its accessories are being distributed on the west coast by the Benjamin Berg Agency, 8400 West Third St., Los Angeles 48, and in the east by Victor Kayfetz, 130 East 56th St., New York City.

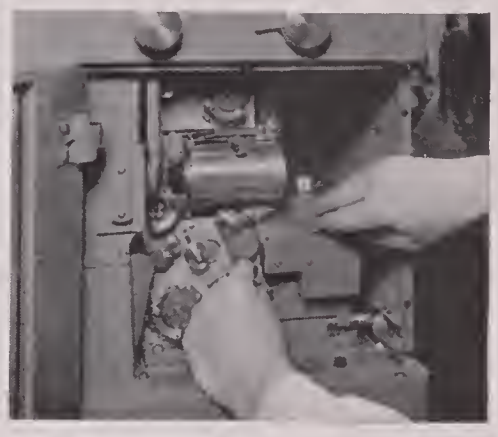
Await Lenses For Vistascopes

Vistascope will be made available to the television and motion picture industries just as soon as special lenses ordered from French and German manufacturers are received, according to Sol Lesser who has acquired rights to the process and equipment. Special Vistascopes are to be constructed and made available for television cameras and for Mitchell and Technicolor motion picture cameras. No immediate construction of Vistascopes for 16mm cameras is contemplated.

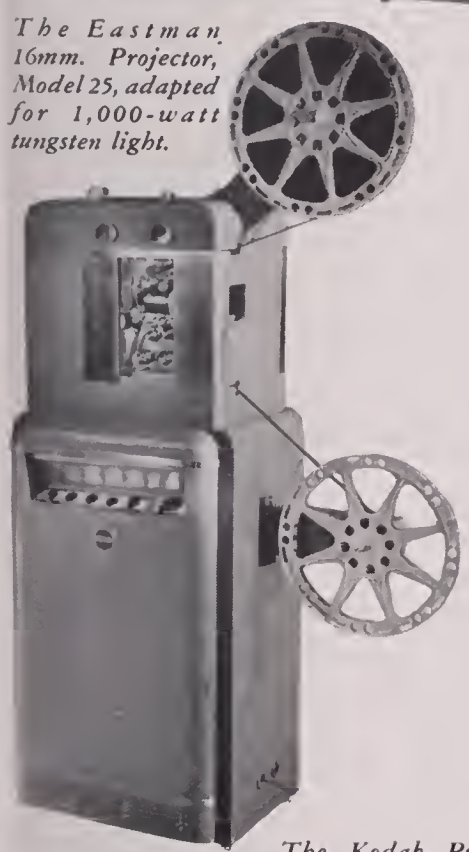


Left, the Eastman 16mm. Projector, Model 25, brings 16mm. projection to the professional level. Shown here, adapted for arc illumination, permanently installed alongside 35mm. equipment.

Below, working parts of the film movement mechanism are in constant view of the operator . . . readily accessible for threading and cleaning.



The Eastman 16mm. Projector, Model 25, adapted for 1,000-watt tungsten light.



The Kodak Projection Ektar Lens, in a choice of four focal lengths, insures superior screen image.

For Professional Quality Sound Projection from 16mm. Film

The Eastman 16mm. Projector, Model 25

This projection instrument—built to a new design concept—eliminates the three major obstacles to theatrical quality 16mm. sound projection . . . excessive wear and high maintenance cost; low signal-to-noise ratio; and excessive flutter.

A major cause of excessive wear and poor quality sound is the constant transfer of shock forces generated in the film pulldown mechanism to other parts of the system. In the Eastman 16mm. Projector, Model 25, the intermittent (film advance mechanism) is completely isolated and independently driven by its own 1440 r.p.m. synchronous motor. Thus, shock forces are sealed off from the rest of the instrument. The sprocket-shutter system is driven by its own 1880 r.p.m. synchronous motor. Exact phasing between the two systems is accomplished by specially designed synchromesh gears. In addition, the take-up spindle, rewind spindle, and blower are driven by separate motors.

A highly corrected microscope objective, adjustable for optimum sound quality from any type of 16mm. sound film, permits reproduction of variable area or variable density 16mm. sound tracks at extremely low distortion and a maximum signal-to-noise ratio.

To get the best out of any 16mm. sound film, project it on an Eastman 16mm. Projector, Model 25. For information on installation, availability, and prices, write directly to the Motion Picture Film Department, Eastman Kodak Company, Rochester 4, N. Y., or any branch office.

Motion Picture Film Department, Eastman Kodak Company, Rochester 4, N. Y.

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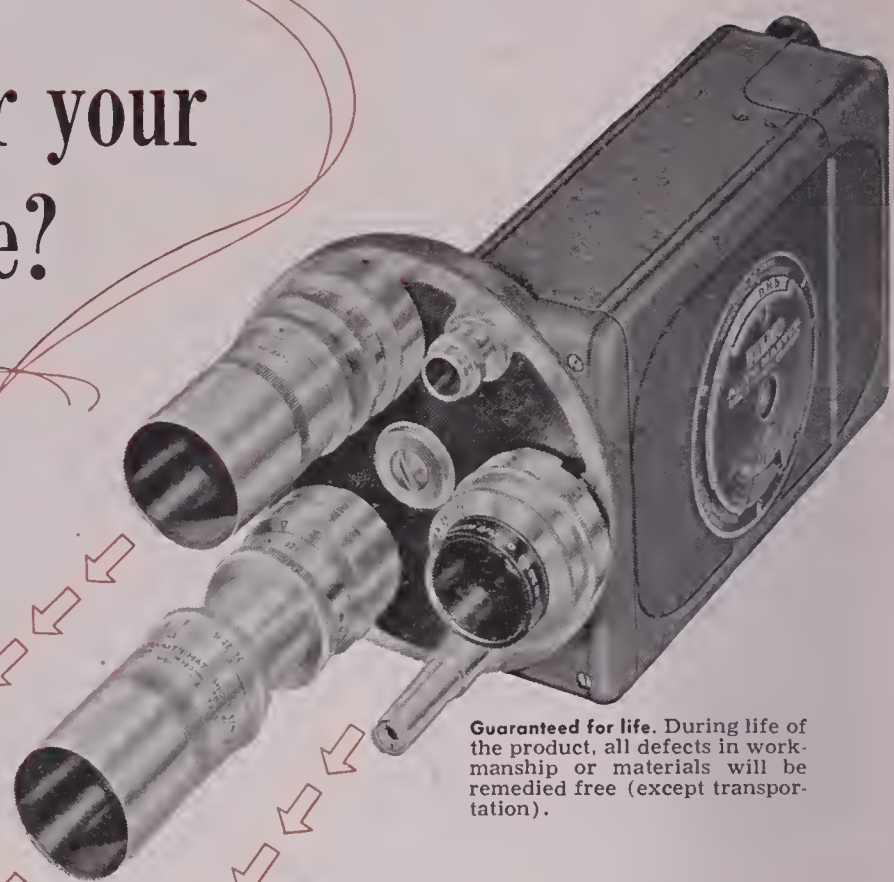
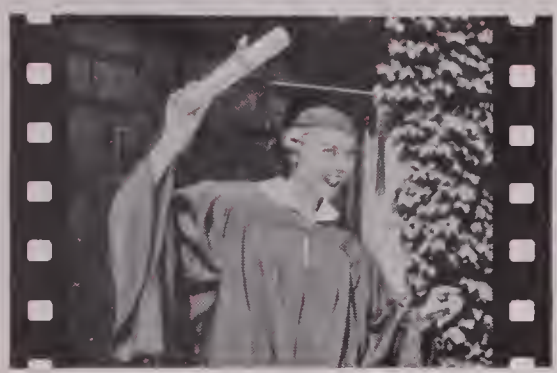


Guaranteed for life. During life of the product, all defects in workmanship or materials will be remedied free (except transportation).



Change lenses that quick! Simply turn the turret—get these different views of the same subject *without moving from your position.* And no lopped-off heads or off-center pictures, either. The exclusive Bell & Howell positive viewfinders, automatically matched to the lens you're using, show you *exactly* what you're going to get. Magazine-loading, many other features, too. Direct focuser available for focusing through the lens. Ask your dealer to show you.

For the movie-maker who wants a 16mm camera that's truly versatile—and easy to use, too—the Bell & Howell Auto Master is the choice!

The Auto Master is a precision instrument equal to the skill of the most experienced hobbyist—an outstanding member of the fine family of Bell & Howell cameras that has set movie fashions for nearly two generations. With 1-inch f/2.5 Filmocoted lens only, $249.95.

Convert Your Auto Load to an Auto Master—Now!

Are you an owner of a Bell & Howell Auto Load camera? For spring and summer movie making, you will want the added advantages of a turret head. Get your Auto Load converted to a turret model now for only $75 (including installation but not extra lenses). Take your Auto Load to your Bell & Howell dealer today. He will ship it to the factory for you.

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AMERICAN Cinematographer

THE MAGAZINE OF MOTION PICTURE PHOTOGRAPHY

APR 27 1951

This Month: ACADEMY AWARD WINNERS

Also: Under Water With The Aquaflex • Ten Factors For TV Films

APRIL 1951

On location with Du Pont Film...

Superlative performance of "Cyrano" ... recorded on Du Pont "Superior" 2

"Cyrano de Bergerac"—the magnificent Stanley Kramer production released in November, starring José Ferrer, Mala Powers, William Prince and Ralph Clanton—is another of the year's outstanding pictures made on Du Pont Motion Picture Film.

In the off-stage still above, Director Michael Gordon (lower right) surveys the battlefield set-up for one of the choice scenes. At the camera finder is Frank Planer, A. S. C.—the man responsible for the excellent photography that made the picture an instant success and earned for him the Hollywood Foreign Correspondents Association "Golden Globe" Award for best black and white photography in 1950.

Du Pont "Superior" 2 is widely used by leading cinematographers because as an all-purpose negative rawstock it records faithfully the artistry of high- or low-key lighting technique. E. I. du Pont de Nemours & Co. (Inc.), Photo Products Dept., Wilmington 98, Delaware.

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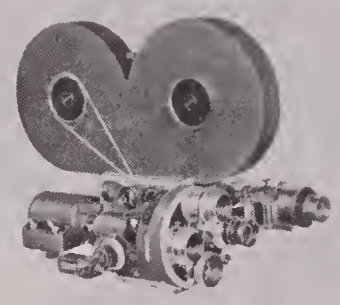

TRUE PROFESSIONAL. 2709-Special. 16mm adaptation of the 35mm camera long popular with Hollywood film studios. Meets the needs of the television field. Four-lens turret accommodates all TTH Speed Panchrotal lenses. Famous B&H fixed-pilot-pin film movement. 170° adjustment shutter with automatic or manual dissolve. 200-, 400-, and 1000-foot B&H 35mm magazines may be adapted. 35mm version also available. Model 2709-D.

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ON THE COVER

PERT DEBBIE REYNOLDS, M-G-M starlet, presents to Robert Surtees, A.S.C., the "Oscar" award of the Academy of Motion Picture Arts and Sciences for best achievement in color cinematography for *King Solomon's Mines.* Academy's presentation ceremonies were held night of March 29th in Hollywood.

AMERICAN CINEMATOGRAPHER, established 1920, is published monthly by the A. S. C. Agency, Inc., 1782 N. Orange Dr., Hollywood 28, Calif. Entered as second class matter Nov. 18, 1937, at the postoffice at Los Angeles, Calif., under act of March 3, 1879. SUBSCRIPTIONS: United States and Pan-American Union, $3.00 per year; Canada, $3.00 per year; Foreign, $4.00. Single copies, 25 cents; back numbers, 30 cents; foreign single copies, 35 cents; back numbers, 40 cents. Advertising rates on application. Copyright 1951 by A. S. C. Agency, Inc.

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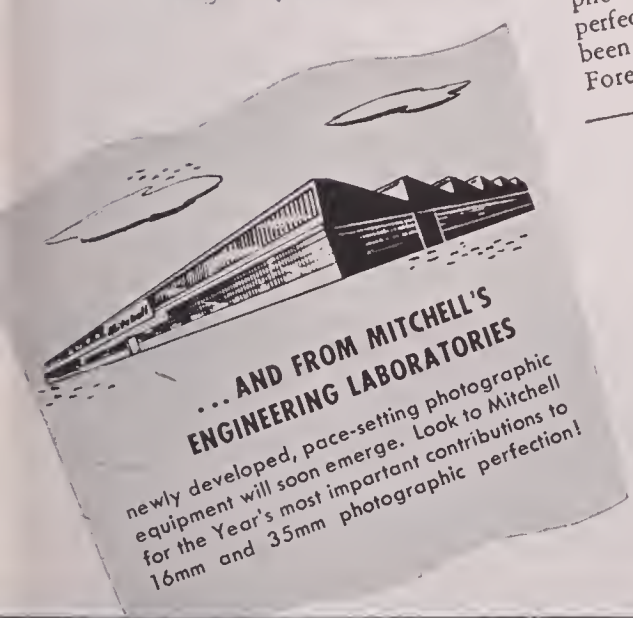

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85% of the motion pictures shown in theatres throughout the world are filmed with a Mitchell

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Metro-Goldwyn-Mayer following ten years of cooperative experimentation and development with Ansco, has launched its first production in Ansco Color. Titled *The North Country* and shot mostly in the state of Idaho, the photography is being directed by Robert Surtees, A.S.C.

The extensive program of color research at M-G-M was conducted jointly by John Arnold, A.S.C., the studio's executive director of photography, and J. M. Nickolaus, head of M-G-M's film processing laboratory.

•

Charles G. Clarke, former A.S.C. president, and one of 20th-Fox's ace directors of photography, returned from Australia late in March after an absence of 8 months, during which time he photographed *Kangaroo* for Fox, using Technicolor Monopack.

•

Karl Struss, A.S.C., upon completion of the photography of *The Secret Sharer,* starring James Mason, took over the photography of *A Lady Possessed,* which also stars Mason and which was begun in England. The picture will be completed in Hollywood.

•

John Boyle, A.S.C., and **Charles G. Clarke, A.S.C.,** directed the photography of a complete film record of the 1950 Academy Awards presentation ceremonies which took place at the RKO-Pantages Theatre in Hollywood the evening of March 29th.

Four Maurer 16mm professional cameras were used to photograph the proceedings in Kodachrome. To provide adequate illumination, Boyle and Clarke devised an ingenious arrangement of carbon arc spotlights fitted with shutters, and a system of telephone intercommunication between the lamp operators and the directors of photography.

Eastman Kodak Company, through the courtesy of Emery Huse, A.S.C., donated the necessary 16mm Kodachrome film. The motion picture, which will be screened for Academy members late this month, was made for Academy archives.

Robert Pratt Young was appointed Manager of motion picture sales for Ansco last month to succeed Kneeland Nunan who resigned to accept a position with RKO's Hollywood studios. Formerly Eastern Sales Manager of Ansco's motion picture division, Mr. Young joined the company in 1945 as a salesman, later became assistant manager of the company's New York City branch. He will maintain headquarters at Ansco's sales office in Hollywood.

•

John Arnold, A.S.C., has developed a new camera heating device for Mitchell and Technicolor cameras. No larger than a cigarette pack, device transmits heat directly to camera's moving parts. Robert Surtees employed one on the camera he used last month at Sun Valley, Idaho, with excellent results. Other units are being made and will be fitted to all cameras on the lot.

•

Joseph Ruttenberg, A.S.C., has been elected a member of the American Standards Association sectional committee on standards for motion pictures. Scope of the committee is to formulate definitions, dimensional standards, methods of test and rating and performance characteristics of materials and devices used in silent and sound motion picture photography and in sound recording.

•

Reno, Nevada will add still another trophy to the parade of photographic awards which have been tendered directors of photography in the motion picture industry. This month, the Reno Silver Spurs Awards Committee will award a plaque and silver spurs for the western film produced during 1950 embodying the best outdoor photography. The award will go to the director of photography of the winning film.

•

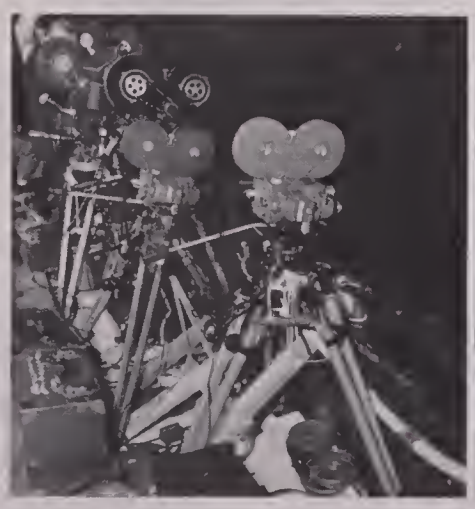
Carl Louis Gregory, veteran cinematographer and motion picture engineer, died at his home in California March 11th. Gregory worked with the old Edison Company in the Bronx as early as 1908, and later photographed *The Million Dollar Mystery,* famous silent film. He was also an ace newsreel cameraman. He was a member of the Edison Pioneers, S.M.P.T.E., American Society of Cinematographers and a Fellow of the Royal Photographic Society. His widow, Marie Gregory, and five sisters survive.

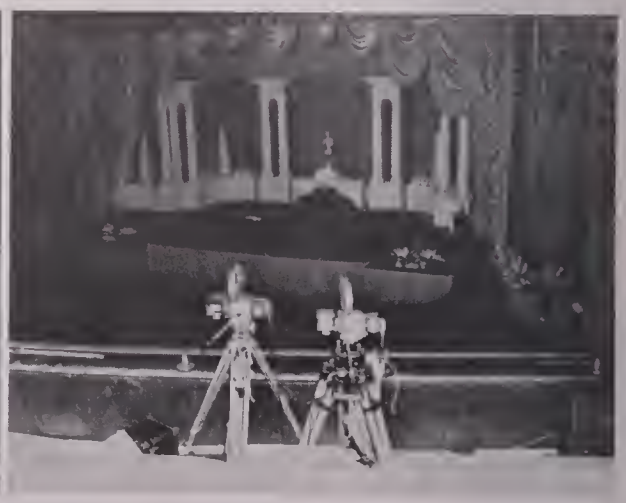
•

Ray Fernstrom, A.S.C., has just completed a series of tests of a new motion picture stereo system called Technorama developed by his brother, Carl E. Fernstrom. Tests were photographed in both black-and-white and color and, according to Fernstrom, no special developing, printing or projectors or special eyeglasses are required. Stereo effect is said to be achieved by the special camera, details of which are a closely guarded secret.

•

S.M.P.T.E. will hold its 69th semi-annual convention April 30 to May 4 at the Hotel Statler, New York City. Industrial, medical, and military applications of motion pictures and television, as well as their more familiar uses for entertainment, will be explored in more than fifty technical reports.





CAMERA SETUPS employed by John Boyle and Charles G. Clarke in photographing the 23rd Annual Academy Awards Presentation Ceremonies at RKO-Pantages Theatre in Hollywood, the evening of March 29th. Battery of four Maurer 16mm cameras was mounted alongside the newsreel cameras at balcony railing. Big arcs at either side of balcony furnished illumination.

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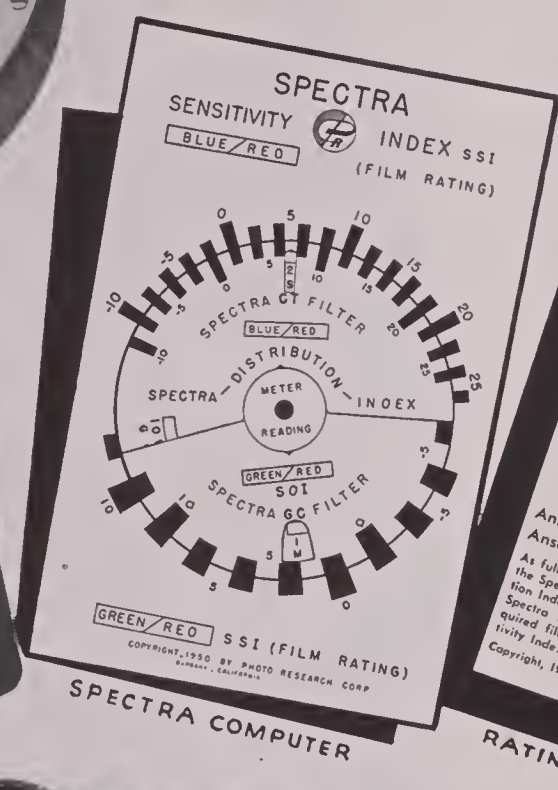

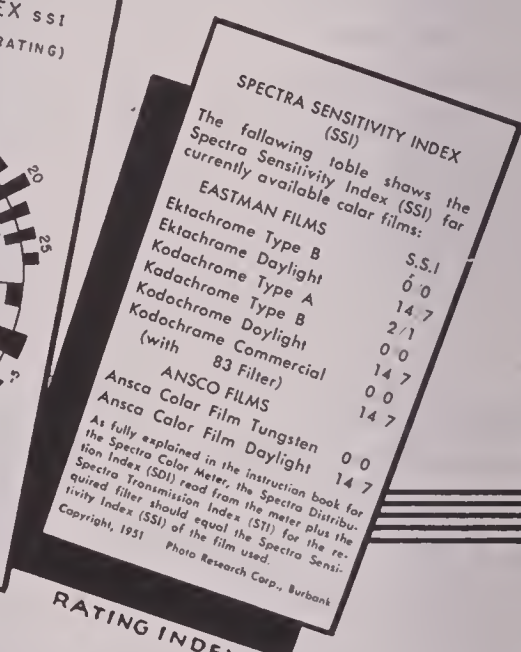

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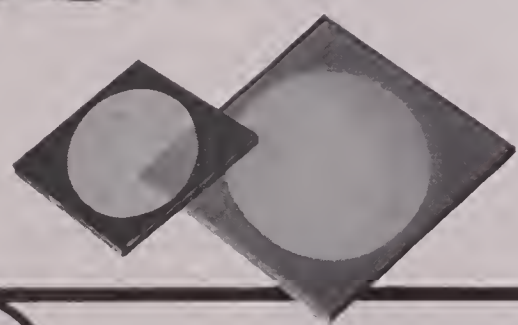

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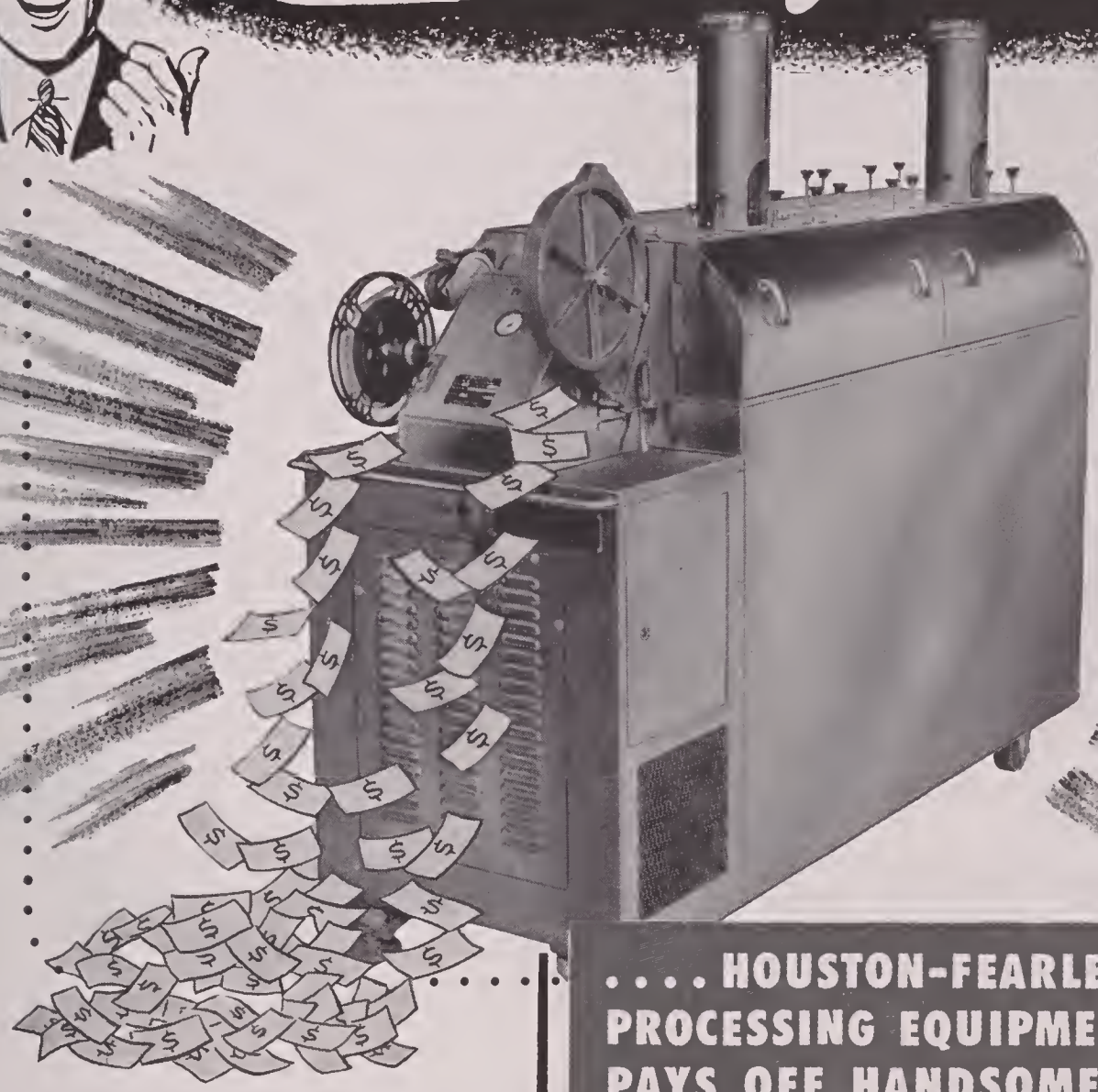

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This portable machine develops 16mm black and white, negative, positive or reversal films. It is self-contained, entirely automatic and easy to operate. Complete refrigeration, re-circulating systems, air compressor and positive temperature controls. Operates in daylight, handling the entire job from camera to screen.

Model 22 is the same high Houston-Fearless quality that has been standard of the motion picture industry in Hollywood and throughout the world for 20 years. Other 16mm and 35mm Houston-Fearless black and white and color equipment to serve your particular requirements.

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WHAT'S NEW
in equipment, accessories, service

• **THE SENSITESTER** long has been famous as one of the most accurate devices for making light test strips and sensitometric strips which are used in the printing of motion picture films.

Art Reeves, 7512 Santa Monica Blvd., Hollywood, has improved the Sensitester with several features, including an electronic timer and a new cold light source.

Supplied with the Sensitester is a set of instructions and a chart which greatly simplifies for the non-technical lab man the procedure for making light test or sensitometric strips.

• **FAST CHANGEOVER** from high to low or low to high camera positions in a matter of seconds is a dominant feature of the Hydrolift Dolly. Camera position may be changed in approximately five seconds. The camera boom arm is actuated by a manually operated hydraulic cylinder pump. The dolly can also

be furnished with an electric pump. It will accommodate any 16mm or 35mm camera, with or without blimp, as well as any TV camera—and withstand up to 250 pounds in camera weight. Dolly is narrow enough to ride easily through ordinary doorway and compact and light enough for easy hauling in station wagon for location use.

Manufacturer is National Cine Equipment, Inc., 20 West 22nd St., New York City.

• **FORGET THE TRIPOD SCREW** when you use the handy Johnson Kam-Lok camera mounting for tripods, which enables cine cameras to be quickly attached or detached from tripod in a jiffy. Kam-Lok is in two parts: one is screwed on the tripod, and is never removed. The top section is screwed into the tripod mounting hole of camera and can be left there. To mount camera on tripod, it is only

necessary to slide the two sections of Kam-Lok together. They lock automatically. To release, simply pull the chain release and slide the camera off. Manufacturer is General Photographic Supply Co., 136 Charles St., Boston, Mass.

• **NEW KODAGUIDES AVAILABLE:** Those handy pocket photographic exposure guides manufactured by Eastman Kodak Company have been completely redesigned and greatly improved for amateur photographers, both still and ciné. One is a Snapshot-and-Flash Kodaguide which incorporates a computer for outdoor picture taking by daylight and indoor photography by flash. The other is the Movie Kodaguide which provides compact, accurate and easy-to-understand data for exposure for both B&W and color films, indoors and out. The new Kodaguides, priced at 25c each, are available at most camera stores.

• **ADAPTER RINGS,** to fit new line of Bolex Kern-Paillard cine camera lenses are available from The Tiffen Mfg. Corp., 71 Beekman St., New York.

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TIL GABBANI, 20th Century-Fox cameraman is shown above in action under water with the new Aquaflex camera, shooting scenes for studio's production of "The Frogmen." This was one of few instances when camera was used without stabilizing wings and vertical fin.

ft. film capacity and interior pressurization. Equally important are the detachable wings and vertical fin which aid greatly in transporting and stabilizing the camera under water. These and other features will be described in more detail later.

Use of the Aquaflex in filming scenes for *The Frogmen* marks the first use of this camera in any Hollywood feature film production. Previously, it had been used by the U. S. Navy in producing a series of deep sea diver training films.

The studio elected me to handle the cinematography for the 2nd unit of *The Frogmen,* which journeyed to the Virgin Islands to shoot underwater scenes for the picture. Several weeks before we left for the islands, I had undertaken a number of practice sessions with the Aquaflex camera in the studio's swimming pool, getting the feel of it under water and learning the difference between underwater and above surface photographic essentials.

Continuing the trials after we reached the Virgin Islands, at first I used weights about my waist when submerging with the camera; however, I gradually found it easier to work without weights altogether after I became more accustomed

Under Water With The Aquaflex

New camera makes Hollywood debut recording scenes for "The Frogmen."

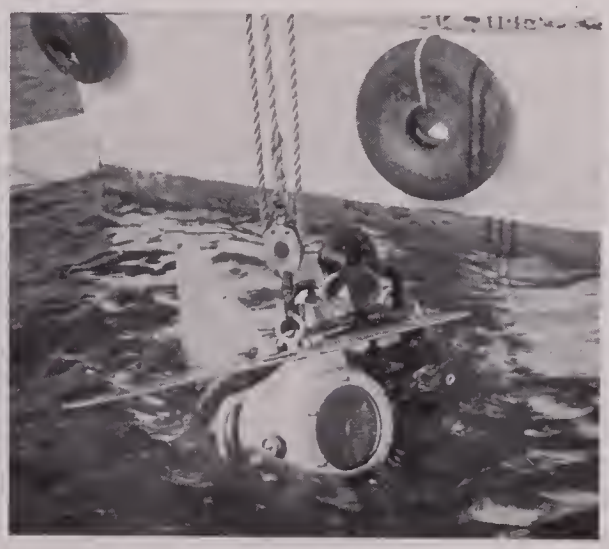
By TIL GABBANI

When 20th Century-Fox Studio wanted to photograph important underwater action sequences for its production, *The Frogmen,* it chose the Eclair Aquaflex camera—the only motion picture camera which seems to meet all the major qualifications for successful underseas photography. Among these are such important features as exterior manual controls, reflex viewfinder, 400

to the balancing and planing qualities inherent in the unusual design of the Aquaflex.

To successfully work with this camera under water, three important accessories

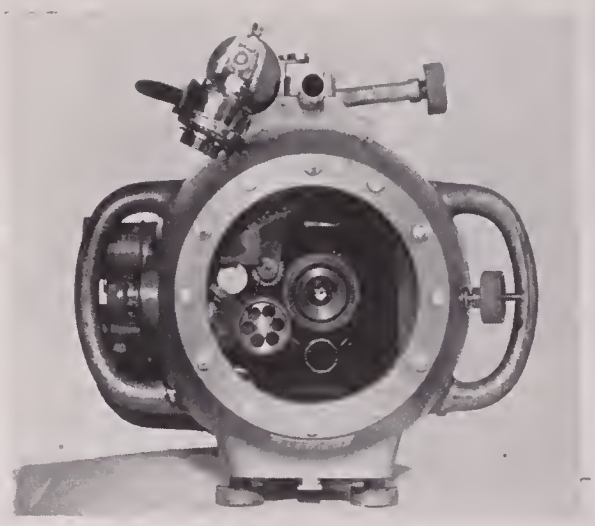
GABBANI, equipped with compressed air diving unit and face mask, makes ready to descend into ocean.



AQUAFLEX camera is lowered into water by tackle as Gabbani prepares to take it below surface.

UNDERWATER, the pressurized camera is buoyant, planes easily, thanks to wings, fin.

VIEW of Aquaflex camera housing out of water and the Eclair camera unit at left.



FRONT view showing plastic photographing port and the control gears inside, and air cylinder on top.

DIAL KNOBS at side control lens settings, motor speed and start and stopping of camera motor.

are required by the diver-photographer: (1) the French Aqualung—a self-contained compressed-air breathing system or diving unit; (2) a Squale face mask, and (3) a pair of Swimfins for the feet.

Over a year ago the Navy had given the Aqualung exhaustive tests and had found it to be a completely automatic and dependable diving unit.

Having a separate mouthpiece and a breathing hose, it is ideally suited for use with the Squale face mask. It is particularly ideal because it leaves the diver-photographer's hands free to operate the camera and his mind free to concentrate on his camera work.

Using this diving unit, I worked with the Aquaflex camera at a depth of around thirty feet. The water near that area of the Virgin Islands (St. Thomas) is extremely clear and perfect for underwater photography. There is a vigorous surge of the water at that depth, however, which made it impossible to make steady camera shots without aid of some sort of body support. To remedy this, we constructed and lowered to the ocean floor a heavy weighted platform with a rigid telescoping upright of tubular steel. To this upright was attached a metal piece in the shape of a U. When I slipped into this, it gave my body the necessary support against the ceaseless surge of the sea. The device thus enabled me to make smooth pan or static shots with the camera where action was to be filmed from the ocean floor.

Of course, other shots called for operating the Aquaflex while moving it through the water. Here the camera's unique arrangement of external wings and vertical fin proved its superiority for underwater photography. The fin and wings make it possible to guide the camera with one hand, using the other to aid in swimming. The wings provide a planing surface sufficient to keep the camera level or on any directed angle under water. Thus, I could focus on my subject through the camera's reflex finder, kick my flippered feet and guide myself by tilting and banking the camera in a manner similar to a plane in the air.

The Aqualung, with its three cylinders of compressed air, enabled me to remain under water for periods as long as two hours. To keep an accurate check on the time while submerged, I wore a waterproof watch. However, the Aqualung provides an automatic indicator which signals when the compressed air supply is running low, and there is a 15-minute reserve supply that can be turned on when this warning occurs.

In order to escape the "bends," an ailment common to those engaged in deep sea diving, I made it a point always to take at least five minutes to rise to the surface after submerging for any length of time. Surfacing too rapidly causes one's blood vessels, which contract under water, to expand too rapidly and take air into the bloodstream, with serious results.

The Eclair Aquaflex is the only camera manufactured specifically as a self-contained, motor-driven, underwater motion picture camera with external controls for the lens and motor, and having interior pressurization. It weighs approximately 107 pounds out of the water. One of its most favorable features is the fact it is entirely independent of air supply lines and electric cables leading to the surface. It is the only underwater camera that carries a maximum supply of 400 feet of film, and the only one affording quick reloading of film. After the camera has been surfaced, it requires less than four minutes to open it, reload it with film

(*Continued on Page 155*)

ON LOCATION scene during shooting of "The Frogmen" underwater sequences in Virgin Islands. Director gives frogmen last minute instructions before they go below to be photographed by cameraman Gabbani.

DEBBIE REYNOLDS, M-G-M starlet, presented Academy "Oscars" to Robert Surtees, A.S.C., (right) for achievement in color cinematography, and to William Milne Guthrie, British Consul attache, who accepted for Robert Krasker, British cinematographer cited for black-and-white cinematography.

1950 Academy Awards

By ARTHUR E. GAVIN

HONORS FOR Academy cinematography awards were divided equally this year between Hollywood and Great Britain. Robert Surtees, A.S.C., who photographed M-G-M's *King Solomon's Mines* in Technicolor, received the Academy's 1950 award for Best Achievement in Color Photography. Robert Krasker, a member of the B.S.C. and who photographed *The Third Man* for Selznick Enterprise-London Films in England, was honored with the 1950 award for black-and-white photography. In his absence, the award was accepted by William Milne Guthrie of the British Consulate in Los Angeles.

For Robert Surtees, the award — his first "Oscar," incidentally — marks the fourth he has received for *King Solomon's Mines*. Following the picture's initial release in Los Angeles, The American Society of Cinematographers cited Surtees for its Picture Of The Month photographic award for November, 1950. Later, he was presented with the Look Award for best cinematography of the year, and subsequently received the Golden Globe Award of the Hollywood Foreign Correspondents' Association for best color photography for 1950. Surtees thus becomes the first director of photography ever to win four cinematography awards for a single motion picture.

The 1950 Award for black-and-white photography is Robert Krasker's first "Oscar." Krasker is a protegé of Georges Perinal and a director of photography in British studios for several years. Earlier he had worked with several American directors of photography in London studios, including Charles Rosher and Harry Stradling. He has a wide reputation for truly imaginative camerawork, and it was the very uniqueness of his lighting and cinematography of *The Third Man* that attracted the Academy's membership which voted him that 1950 award.

Unique is a totally inadequate word to describe the cinematography of *King Solomon's Mines*, yet this picture will be remembered for a long time for its original and unparalleled camera treatment which translated to the screen the virgin, natural atmosphere of a little known land and yet never transcended the personalities of the players or the very story itself. There is a fine balance between the pictorial and the action.

Receiving an Academy Award marks a very important milestone in the career of a director of photography, as it does for others in the industry similarly rewarded. It is generally considered that with an "Oscar" on your mantle, you have at last "arrived." However, Metro-Goldwyn-Mayer heads will tell you that Robert Surtees arrived a long time ago, and that his photography assignments each have proved an outstanding success. To his credit is the photography of such outstanding M-G-M film hits as *Intruder In The Dust, That Midnight Kiss, Big Jack, Act Of Violence, The Kissing Bandit, The Unfinished Dance, Our Vines Have Tender Grapes*, and others.

Surtees has been a director of photography in the major studios only since 1942. Previously he had been a first cameraman for various Hollywood independent producers and an assistant to some of the industry's top directors of photography, including Hal Mohr, Joseph Valentine, Jackson Rose and Charles Stumar. It was inevitable that he should eventually rise to their ranks. When he did, in 1942, he was immediately signed by M-G-M where he has been associated ever since.

Already Robert Surtees has staked a claim on the 1951 Color Cinematography

ROBERT SURTEES, A.S.C., prior to receiving "Oscar" for achievement in color cinematography for his filming of "King Solomon's Mines," already had received three awards for the same picture: the A.S.C. Picture of the Month award, which he is holding; the Look Award (plaque on mantle) and the Golden Globe Award for color photography (also on mantle).

award with his fine photography of M-G-M's *Quo Vadis*, produced in Italy last summer. It will take an unusual competitive production, his associates say, to nose him out of the running when Academy Awards are passed out next year.

In all, ten 1950 productions were nominated for cinematography awards by the Academy — five color and five black and white. The eight directors of photography who also had nominated pictures in the running, each have received a Nomination Certificate from the Academy. These cinematographers are:

Milton Krasner, A.S.C., *All About Eve*, Fox.

Victor Milner, A.S.C., *The Furies*, Paramount.

Harold Rosson, A.S.C., *The Asphalt Jungle*, MGM.

John F. Seitz, A.S.C., *Sunset Boulevard*, Paramount.

George Barnes, A.S.C., *Samson and Delilah*, Paramount.

Ernest Haller, A.S.C., *The Flame and The Arrow*, Warners.

Ernest Palmer, A.S.C., *Broken Arrow*, Fox.

Charles Rosher, A.S.C., *Annie Get Your Gun*, MGM.

"OSCAR"
Annual Trophy Award of the American Motion Picture Industry

All About Eve won the 1950 Academy Award for Best Picture Of The Year. Produced by 20th Century-Fox Film Corp. It was photographed by Milton Krasner, and, as indicated above, was among the black-and-white pictures nominated for a cinematography award. A considerable measure of credit for the success of this picture must go to Krasner, and it is safe to say that it gave *The Third Man* a tough race for photographic honors in the black-and-white class when it came time for Academy members to vote an "Oscar" in this category. The picture won a total of six Academy Awards: Best Picture, Best Supporting Actor (George Sanders), Best Directing (Joseph L. Mankiewicz), Best Screenplay (Joseph L. Mankiewicz), and Best Black-and-White Costume Design (Edith Head and Charles LeMaire).

The Academy made three awards this year for scientific and technical accomplishments in the industry. Normally these awards are granted in three classifications. There were no 1950 awards in Class 1. In Class 2, James B. Gordon and the 20th Century-Fox Camera Department were cited for the design and development of a Multiple Image Film Viewer. This device, too involved to be described fully here, has its application in the Special Photographic Effects Department of studios. Other major studios are reportedly interested in adapting it to their needs.

Also in Class 2 John Paul Livadary, Floyd Campbell, L. W. Russell and the Columbia Pictures Sound Depart-

(*Continued on Page 148*)

★ ★

Frank Planer, A.S.C.--Golden Globe Award Winner

THE HOLLYWOOD Foreign Correspondents' Association, this year, voted the photography of *Cyrano de Bergerac* the best of black-and-white pictures produced during 1950, and subsequently presented Frank Planer, A.S.C., who directed the photography, with the Association's Golden Globe Award.

Planer won a Golden Globe Award last year for his photography of *Champion*, which also was in black-and-white. It marked the Association's initial presentation of awards to the motion picture industry.

Oddly enough, although *Cyrano* was considered for nomination for a photography award by the Academy of Motion Picture Arts and Sciences in the initial balloting, it failed to be nominated, although José Ferrer's performance in the picture was nominated and subsequently cited for an award.

In his acceptance speech the night the awards were presented in Hollywood, Ferrer, speaking from New York, lauded Frank Planer, among others, for contributing to his success in the role which won him an Oscar. It goes without saying that Planer's meticulous cinematography contributed no little to José Ferrer's success in a magnificent screen role. And besides he has a Golden Globe Award to show for it—and two in a row to prove he's in a winning stride.

An intense and extremely conscientious little man, whose cinematography career began in the motion picture studios of Europe, Planer came to Hollywood in 1939 and for years was a director of photography for Columbia Pictures. More recently he has free-lanced. That it has paid off is evidenced by his winning two Golden Globe Awards in a row.

FRANK PLANER, A.S.C., Filmed "Cyrano."

★ ★

TWO SHIPS were used by DeVinna in filming flight scenes for "Air Cadet"—an F80 Jet and a B45 Bomber. Above photo shows how camera was mounted in door of the B45.

CAMERA, mounted in the trainer version of an F80 Jet, is shown at right. This required addition of heavy dural bar bolted to frame of ship to resist terrific increase of gravity in flight.

Aerial Photography--1951

An old hand at filming air scenes, Clyde DeVinna surmounts some interesting problems photographing jet planes for U-I's "Air Cadet."

By CLYDE DeVINNA, A.S.C.

"THEY WENT THAT-A-WAY!" — a familiar statement credited as a stock dialogue phrase for early-day "westerns," has a brand new and most interesting application these days in the photography of jet planes. How aptly it fits occurred to me when filming air sequences for Universal-International's *Air Cadet*, a timely story about jet plane pilots and the men who train them. Behind a camera mounted in one of Lockheed's famous Shooting Stars and later in one of the even faster flying Boeing B45 jet bombers, I photographed jet trainers in all manner of maneuvers, including sensational aerial acrobatics.

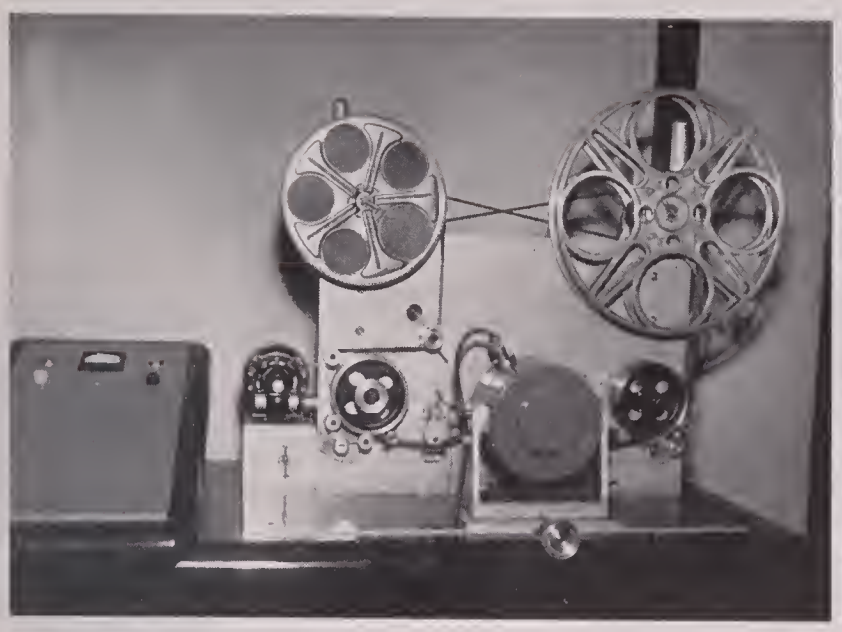
Most of the exterior and aerial scenes were photographed at the U. S. Air Forces' three principal training bases. Open sequences showing the indoctrination and primary training of Air Cadets were filmed at Randolph Field, long known as the West Point of the air. There the old reliable T6 trainer is used. We spent about ten days getting the necessary air shots and process plates required in the opening sequences of the picture. Lt. Earl Bryant, USAF, piloted the camera ship and did a magnificient job.

We then moved to Williams Air Force Base, near Chandler, Arizona, the locale of the majority of the story. Here we got our first look at the Lockheed F80, the formidable jet fighter which has set a magnificient record in Korea. Here Major Bruce Carr, USAF, was assigned to pilot the camera ship. Not only did his kindliness and understanding of our problems make the task easier, but he contributed a great deal in ideas and suggestions in the many planning sessions held before shooting started. His remarkable camera knowledge and grasp of camera angles was a pleasant surprise,

(*Continued on Page 150*)

DeVINNA and jet pilots flew many hundreds of miles in search of a "buttermilk" sky against which to stage the jet plane formations. The cloud contrast was necessary to point up the planes' speed.

FILMING the Acrojets proved the most interesting and exacting part of this assignment for DeVinna. So precise is the handling of the jets in these manuevers that wing tips are often not more than 18" apart.



MODULATION WRITER designed by Loren L. Ryder, which traces pattern of sound recording modulation on surface of magnetic film or tape as aid to editing. Tracing is made after tape is recorded.

SCRIBER, working on principle of ball point pen and shown at (1), scribes visual sound on magnetic film in the form of a varying amplitude ink line (2) in exact sync with the original modulation.

Editing Magnetic Sound

New modulation writer scribes sound track pattern on magnetic film or tape, making editing as simple as with optical sound tracks.

By LOREN L. RYDER, A.S.C.

Director of Recording and Engineering, Paramount Studio.

VISUAL SOUND on magnetic film has not only simplified editing, but it has made editing faster and less expensive. New techniques make the film immediately available, eliminate tedious mechanical procedures and improve the sound quality.

The basic techniques described in this article apply to all sprocket driven magnetic films — namely, 35mm, 17½mm and 16mm. For reasons of economy and convenience in handling, the writer recommends the use of 17½mm magnetic film to accompany 35mm picture and 16mm magnetic film to accompany 16mm picture. However, many completely satisfactory 35mm releases have been made from 16mm magnetic film, and 17½mm magnetic recordings are used to accompany 16mm pictures. In some cases and for certain steps in the procedure, the writer also recommends the use of ¼" magnetic tape synchronized by the Fairchild PicSync process (described in American Cinematographer, January and February, 1951).

The production example used in this article is a twenty-eight minute television show photographed on 35mm film and recorded on 17½mm magnetic film traveling at 90 feet per minute. It is assumed that production shooting will involve 10,000 feet of magnetic film, 5,000 feet of print takes and the show will edit down to 2,500 feet for release.

Upon completion of each day's shooting, the editor using a magnetic sound reader or magnetic Moviola, will break out and splice together all print takes. The technique at Ryder Services is to protect the original recording by making a ¼" synchronous tape duplicate recording which is stored and used for reprints. The next step is to run the roll of print take original through the modulation writer. This scribes visual sound on the film in the form of a varying amplitude ink line in sync with the original modulation.

The editor synchronizes the picture daily to the previously spliced roll of scribed magnetic original. The picture and sound can then be edge coded and the film is ready for editing. The editing procedure, except for the manner of splicing, is the same as editing photographic film. The editorial cutting print is in all cases used for dubbing as it is not subject to quality and dirt deterioration from handling.

In the case of telephone line recordings or rush work the protection and scribed film can be ready for editing within an hour following shooting. It is always available before picture daily. Reprints from the ¼" tape are immediately available by the simple procedure of electrical transfer. This eliminates the cost of a sound negative, negative processing, negative cutting and the dubbing print.

Shown below are comparative costs:

Old Photographic Negative-Positive Process			
10,000 ft. 35 mm. photographic sound negative	@	.0182	182.
10,000 ft. 35 mm. photographic sound negative processing	@	.0175	175.
5,000 ft. 35 mm. photographic sound contact print	@	.03728	186.
2½ reels 35 mm. negative matching	@	20.	50.
2,500 ft. 35 mm. photographic dubbing print	@	.03728	93.
Total Cost			$686.
Ryder Magnetic Film Method			
5,000 ft. 17½ mm. magnetic film out takes, film used 10 times	@	.0026	13.
5,000 ft. 17½ mm. magnetic film print takes, film used 2 times	@	.013	13.
5,000 ft. transfer to ¼" tape	@	.0055	28.
4,170 ft. ¼" tape @ 15" per minute, tape used 10 times	@	.000264	1.
5,000 ft. modulation writing	@	.0028	14.
Total Cost			$121.

(*Continued on Page 156*)

TYPICAL TV film production scene at the Jerry Fairbanks Studio in Hollywood, which is currently one of the busiest video film producers on West Coast. Here the famous Fairbanks' Multicam system is shown in use in which several cameras shoot scene at same time but each in a different camera movement.

Ten Basic Factors Of TV Film Production

A summary of proven procedures for making television films of top photographic quality.

By ARTHUR L. MARBLE*

So much of what has been written about the techniques of video film making must of necessity be tentative, for few scientific fields are changing so fast and so steadily as television. Following the relatively short period which comprises the history of the television film industry, survivors of this exploratory period agree that there are certain fundamentals now well established which should be followed in making a film for TV that will register satisfactorily on the home receiver. This is important not only to the men who photograph such films, but to the producers and the script writers of TV film productions.

*Producer, *Hollywood Sports Show* and *The Pride of Palomar* TV films.

If television has taught film makers nothing else, it has made it abundantly clear that there is a marked difference in many of the techniques that apply to photographing films for video compared to making movies for the theatre. The result of a recent analysis of the most advanced techniques followed by present day TV film makers is boiled down in the following brief summary which comprises ten guides for making films for television. The first five apply more to general principles, while the remaining five deal more with the specific items of television film production, especially the photography:

1—*The Special Film Requirements of Television* should be carefully studied before production is started on any films for the medium. Television is enjoyed mostly by families in the informal atmosphere of the living room. Thus TV films should be geared, psychologically, more to the interests of the individual and small groups rather than to crowds, as in the theatre. The special requirements for video films may be studied in a number of ways: A—become a television fan yourself, along with the kiddies—but of course on a higher, more critical level; B—read everything you can in books and technical publications dealing with the subject; C—talk with experts in the field, including other cinematographers and television studio engineers; and D—make one or more short experimental TV films, based on your studies, and submit it to rigid criticism before undertaking full scale TV film production.

2—*Make Sure of Distribution Facilities:* There are a great many excellent motion pictures which have been made for TV that have never been given general release because proper distribution facilities were not available, or—to put it in other words—they lacked a commercial sponsor. Without a sponsor or a distribution tieup, a commercial TV film is a dead item. Too many producers have gone into the production of TV films without having a definite outlet for their product, with the result that their careers were cut short, often before their talents for the undertaking were given a fair chance to develop.

LESTER MANNIX, ace TV newsreel cameraman for WPIX, New York, readies his camera for a shot in corridor of Brooklyn courthouse. Mannix uses Filmo 16mm camera and latest type portable light unit.

3—*"Movies For TV Are Just Good Movies,"* is a statement too often made and one not wholly true. While motion pictures, whether for the theatre or TV, are essentially only light and shadow on the screen, the basic principles of photography for theatrical films cannot be followed entirely for television. The technical problems of transmission inherent with TV have raised new problems of lighting and of camera handling in making TV pictures. There is an excellent discussion of the vital subject of lighting for TV films, as well as other related subjects of importance, in John H. Battison's new book, *Movies For TV*, (Macmillan).

4—*Professional Equipment Gives Best Results* in producing motion pictures for television. Experienced cinematographers will recognize the importance of this statement; but so much amateur camera work has marked the production of early TV films, that it is extremely important for those about to undertake TV film production as a career to understand its importance, too. Even though today the screens of most TV receivers are relatively small, screen size is expanding as new sets appear on the market. As screen size improves, it is imperative that the standards of TV picture quality improve also. Thus, anyone planning a future in the production of films for TV should consider only the very best camera, sound and lighting equipment for such productions to insure that film image and sound quality keep pace with receiver improvements.

5—*Knowledge of Screen, Stage and Radio Techniques* will go a long way to insure success for the TV film producer or cameraman. To a considerable degree, television combines all three of these theatre arts, and presents problems that can properly be solved only through knowledge of how to blend the techniques of the three fields in making a motion picture that resembles, yet differs as widely from the three close relatives, as a child may differ from its parents.

We cannot agree, therefore, with John Battison when he claims that "every person, once he has been in television a year or more, is somewhat of an expert if he has only common sense and powers of observation." Such "experts" may acquire some knowledge of the technique of making video films in one year, but to master the new art takes as long as it takes to master stagecraft, theatrical film photography or radio techniques—perhaps a lifetime. There is a difference between becoming a mere technician and a master of any field.

6—*16mm Film is Adequate* and in many ways preferable for television.

(*Continued on Page 148*)

Television Film Production

By LEIGH ALLEN

The Growing Use of Films on television is clearly indicated in the schedule of films released recently for the week of March 25th in Los Angeles, which included a total of 58 motion pictures which were televised during the folowing seven days by that area's seven TV stations. Most of the films were major features.

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Richard Moore, manager of KECA-TV and director of television for ABC's western division, speaking before members of the American Society of Cinematographers March 4, said his company very soon will launch an extensive schedule of TV film production, using the facilities of its vast television center in Hollywood — the former Vitagraph Studios of silent picture days.

In direct contrast to views expressed earlier by other TV executives, Moore told the Cinematographers that there very definitely is a future for films in television, citing the success of film programs on ABC television stations. He also pointed out that at present 14 of the nation's top TV programs are regularly presented via motion pictures, and said that he was being very conservative in estimating that 5000 hours per year of TV films will be required in the not too distant future.

ABC's old Vitagraph lot is the scene of many "firsts" in motion picture history—the first "talkie" made in Hollywood was filmed there. Now it is about to undertake production of the first films for television made by a television studio.

Already, ABC has drawn upon the motion picture industry for the first of its technicians. Sometime ago it signed William O'Connell, A.S.C., as director of lighting.

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Attributes and Characteristics of DuPont motion picture films, both 16mm and 35, adaptable to the peculiar needs of television are explained in a data sheet recently released by DuPont Photo Products Department. The company offers for picture production in 16mm its Type 330 rapid reversal panchromatic film. In 35mm, Types 104, 126 and 127 are recommended. For sound recording in 16mm, DuPont recommends its Type 802-A — comparable to Type 201 in 35mm. For release prints, Type 825-A (16mm) and Type 825-B (35mm) are the DuPont recommendation.

RESOURCEFULNESS is a prerequisite for TV newsreel cameramen, as demonstrated by this shot of Nicholas Sorrentino, WPIX TV newsreel cinematographer, filming scenes in hastily improvised morgue following eastern train wreck. A stepladder, and a tablecloth to protect his clothing, enabled Sorrentino to climb high in the rafters to secure dramatic shots from elevation free from the chaos and milling rescue workers on the floor.

Television in Mexico is making great strides, according to Benjamin Berg, U. S. Representative for Eclair-Paris, who recently returned from Mexico City. He reports that Don Emilio Azcarraga, one of principal owners of Churubusco motion picture studios in Mexico City, is presently constructing a TV studio and transmitter which will be one of the largest in the world, and entirely General Electric equipped. Azcarraga declared he expects to draw heavily on the motion picture industry for his technicians, because he feels that television is more closely related to motion pictures than it is to radio. His plans call for extensive use, and production of, films for his station's TV programs, which also will be made available to other Latin-American TV stations.

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Camera Assignments: The following are some of the directors of photography who were engaged in photographing major television films in Hollywood during the month of March:

Harold Stine, Jerry Fairbanks Prodns.

Lester White, A.S.C., Jerry Fairbanks Prodns.

(*Continued on Page 161*)

Vital Tool Of Engineering Labs

Motion picture cameras record effect of stress and strains on critical apparatus and parts in laboratory tests, thus aiding engineers in designing more rugged equipment.

By RALPH LAWTON

UNITED STATES industrial progress has been greatly accelerated in recent years through the increasing application of motion picture photography in the analysis of motion—motion beyond the perception of human vision or motion so rapid it must be slowed to permit normal visual study.

For this specialized work, almost every type and make of motion picture camera, both 16mm and 35mm, has been employed. The preferred camera for this work, however, is the ultra-speed motion picture camera such as the Fastax or the Eastman High-Speed. Either will record pictures at 3,000 frames per second or more.

High speed motion pictures have greatly speeded up production because they have speeded up research, which invariably precedes all major industrial production. Thus, instead of waiting months for a test model of some apparatus or instrument to complete a field test or to be observed over a prolonged period under normal working conditions, the stress and strains to which such equipment is normally subjected is reproduced in the engineering laboratory under the critical eye of a high speed motion picture camera. The film record is available for almost immediate study on the motion picture screen. Projected at normal speed, it affords a visual study not possible by other methods.

The demand for this type of production study has been greatly accelerated by our current defense preparations. Speed is so vital there is not the time for field tests. Manufacturers supplying our Armed Services with war equipment must know the answers now—and these answers are coming fast through the medium of motion pictures.

One interesting industrial application of motion picture photography is that employed in the Aircraft Department of the Westinghouse Small Motors Division at Lima, Ohio. The problem was how to study the effect of intense vibration on complex electrical equipment which the company makes for aircraft. It was solved by subjecting the equipment to approximate vibration conditions in the company's laboratory while a Fastax high-speed camera recorded, highly magnified, the complex electrical mechanism during the vibration period.

A small circuit breaker, which the company now has in production, was recently subjected to this vibration test. As shown in accompanying photos, this was mounted on a substantial base with free lateral movement. Suspension was found the best method of mounting. The circuit breaker was subjected to from 20 to 1,600 impulses a second from a special generator.

The principle of operation is as follows: By means of an electrical frequency oscillator, an alternating voltage is produced in the frequency range 20 to 1,600 cycles per second. This voltage is impressed on a vacuum tube amplifier whose output is delivered to the vibration motor, which converts electrical oscillations into magnetic vibration.

(Continued on Page 154)

WESTINGHOUSE Electric Corporation employs motion picture photography to aid its engineers in testing complex electrical equipment. Shown at right is engineer recording a vibration test with a Fastax high speed camera. Equipment being tested — a small circuit breaker for aircraft electrical systems — is shown above at (2) being subjected to high frequency vibration by generator (1). The action, recorded at high speed, is then screened in slow motion for engineers' study.

J. E. BRULATOUR, INC.

Congratulates

The Directors of Photography
NOMINEES
Best Photography Color 1950

CHARLES ROSHER, A.S.C.
Metro-Goldwyn-Mayer
"ANNIE GET YOUR GUN"

ERNEST PALMER, A.S.C.
Twentieth-Century Fox
"BROKEN ARROW"

GEORGE BARNES, A.S.C.
Paramount
"SAMSON AND DELILAH"

ERNEST HALLER, A.S.C.
Warner Brothers
"THE FLAME AND THE ARROW"

The Winner —

ROBERT SURTEES, A.S.C.

METRO-GOLDWYN-MAYER

"KING SOLOMON'S MINES"

OPERATIVE CAMERAMEN **JOHN SCHMITZ - FRANK PHILLIPS**

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ROBERT KRASKER, B.S.C.

Best Black-and-white Photography — "THE THIRD MAN"

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and

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for

OUTSTANDING ACHIEVEMENT IN CINEMATOGRAPHY

for

1950

●

WINNERS OF ACADEMY AWARDS

for

Best Color Photography

and

Best Black-and-White Photography

Respectively

★

QUICKLY improvised reflector made of cardboard panel and sheet of aluminum foil aids Long Beach Cinema Club group in shooting a scene on location. The reflected light softens shadows on player's face.

The Use Of Reflected Light

Reflectors become important accessories for the serious cineamateur seeking professional quality in his camera work.

By CHARLES L. ANDERSON

Supervisor Shoreview Productions, San Francisco

PROFESSIONAL reflectors vary in style and manufacture. Shown here is a particularly rugged type made of sheet metal with tubular metal frame. One side is surfaced with aluminum paint, the other with metal foil.

REFLECTORS supply booster light where electric lights could not be used for the purpose—filming a scene on a lake. Shown are the standard type reflectors coated on both sides used by most Hollywood studios.

In Hollywood, every exterior scene is shot with the aid of booster light. This is supplied either by reflectors, which reflect sunlight into the shadow areas of the scene or subject, or by booster lights, which are regular studio lights moved to the outdoor location to supply additional illumination to smooth out the shadows. Before studio lights were introduced for this purpose, the studios used reflectors; and even today reflectors are still used in remote locations where it is impractical to use studio lamps.

Eventually, every amateur movie maker adopts the use of reflectors in shooting scenes out of doors in sunlight. And he should, if he aims to achieve the photographic quality of the professional; for there is no surer label of a neophyte's photography than shots of people made out of doors with heavy shadows obscuring facial features, or of scenes made in shade where the color is greatly distorted because of lack of proper light intensity, which sometimes affects the color temperature and consequently the final screen result.

Perhaps the reason more amateurs fail to employ reflectors is because they are not generally for sale as standard photographic equipment in camera stores. But this need not deter the ambitious movie maker, for he can easily construct his own. Basically, a reflector is a panel of rigid material, such as plywood, wallboard, etc., coated with a highly reflective material such as aluminum foil, aluminum paint, flat white paint, etc. Its purpose is to reflect sunlight, and it should do this in a semi-diffused manner and without creating hot spots.

Many cine amateurs will start with nothing more than a sheet of white cardboard, perhaps for reflecting light into a subject's face for a closeup. The next step is to paint one side of a panel of cardboard with aluminum paint. Then, once results are noted on the screen, reflectors become a must for all future outdoor photography. It generally follows that

(*Continued on Page 158*)

IF YOU record your own sound track on magnetic tape or film, you can dub in the background music, using two recorders as did Louis Barnett for Cincinnati Movie Club's first sound film.

KIT OF sound effects records is available from Sears, Roebuck & Company, which affords wide range of musical fanfares, background music, you can rerecord for your sound films. Also included are numerous sound effects—all on 78 rpm discs.

Music For Films

How to meet the problems you will encounter when adding music to your first sound film.

By CHARLES LORING

MUSIC FOR FILMS becomes increasingly important to the advanced amateur as he progresses in serious film making. Any effort to present his films in a professional manner suggests the need for sound accompaniment of some sort, and music, of course, is the simplest of all these to manage. Besides, music does something substantial in lifting even a mediocre film to a higher plane of screen presentation.

As for the neophyte commercial film producer, music is all important, and because his efforts are commercial, there are certain problems confronting him that do not apply to the amateur when music is to be wedded to his films.

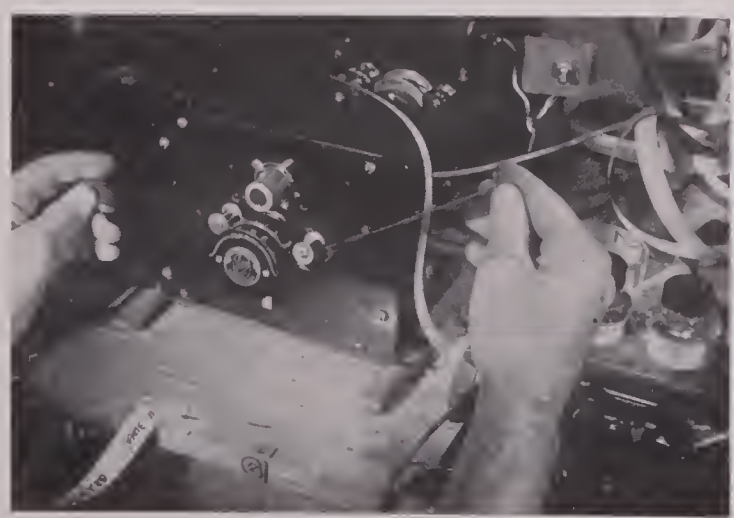
The amateur's problem is where to locate the desired music, whereas the man embarking on a commercial film venture is faced with the problem of royalty payments for music used or finding music in the public domain he can use plus the means of playing it for recording on his film at the least possible cost. These problems, then, along with others, are the subject of this article and it is hoped that film makers in both categories will derive some benefit from the information that follows.

From the very beginning of motion pictures it was recognized that music played a most important part in setting the mood of a picture. It helped to build up the drama of situations and enhance emotional effects. Certain sure-fire compositions became associated with particular types of action to the point where they became musical cliches, but the effect on the audience was not to be minimized. "Hearts and Flowers" was certain to jerk more tears for a sad sequence, and the ponderous menace of the "William Tell Overture" was a *must* for storm sequences.

In the years that followed, and especially with the introduction of sound-on-film, music became increasingly important to the motion picture. It became standard procedure to compose full length symphonies as background music to underscore feature films. Today some of the most original American music is composed for the screen by such outstanding composers as Max Steiner, Dimitri Tiomkin, Miklos Rosza, Victor Young, Aaron Copland, and Franz Waxman. Many of their scores have received enthusiastic acclaim in the concert halls.

Just as music has become essential to the feature film, producers of commercial, educational and documentary films have come to realize that well-tailored musical scores can add much to their product,

(*Continued on Page 152*)



IF YOU plan to edit your initial sound film, a sound reader and a synchronizer will be required. These are pictured left and right above respectively, are both homemade, and were used by Arthur H. Smith in editing his sound-on-film production, "The Mirror."

• GORDON ENTERPRISES •

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MITCHELL ACCESSORIES CARRYING CASE, compartmented for view finder, matte box, motor, extra equipment.....$ 29.50
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BLUE SEAL 35MM SOUND RECORDING UNIT, galvanometer type with two microphone preamplifiers, (Type 26A), 10" monitoring speaker, mixer (Type 88A), and recording head. Variable area. Accommodates 1000' B & H or Mitchell magazines $650.00
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HOUSTON K-1A (SIMILAR TO MODEL 11) 16mm automatic film processing unit. Each step controlled for proper exposure and solution temperature; self-contained unit requiring no extra equipment; processes black and white, negative, positive, or reversal at speeds up to 20' per minute. Like New.....$3,450.00
HOUSTON 16mm COLOR MACHINE, Model ASCM, Color, positive, negative, and reversal. Fifteen feet per minute reversal. Thirty-five feet per minute positive and negative..$5,950.00
HOUSTON 35mm FILM DEVELOPER. Complete film processing unit, the standard of all 35mm automatic developing outfits. Processes black and white, negative, and positive at speeds up to 90' per minute.....$10,750.00
DEEP TANK for processing 16mm or 35mm film, two racks per tank, accommodates 200' of film each; Grade 1 select Cypress.....$35.00
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STINEMAN 16mm or 35mm collapsible drying rack; 4' x 4' set up; capacity 200'. Ambient air dryer. New.....$8.50
MORSE A-8 (M-30) for 8mm, 16mm or 35mm x 50' capacity. Hand-operated by winding film onto areated collapsible reel. Ambient air dryer. Complete with carrying case.....$16.50

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Reel or can 16mm x 400 ft. used.....$ .50
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MITCHELL 12-VOLT DC variable speed motor $295.00
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WALL A9 Camera Motor, 12 & 24-V. D. C. $275.00

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(MORE GORDON SPECIALS ON PAGE 154)

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ACADEMY AWARDS

(*Continued from Page 135*)

ment were cited for the development of a Multi-Track Magnetic Recording System.

Loren L. Ryder, A.S.C., and the Paramount Studio Sound Department won the third award in this class for the first studio-wide application of magnetic sound recording to motion picture production.

There were no awards in Class 3.

In capturing the Academy 1950 cinematography awards Robert Surtees and Robert Krasker now add their names to a long list of "Oscar" winners for cinematography which began in 1928 when Charles Rosher, A.S.C., and Karl Struss, A.S.C., won the first awards presented by the Academy for photographic achievement in the Academy's initial presentation ceremonies. This was for the photography of *Sunrise* on which Rosher and Struss collaborated. From that date, other "Oscar" winners have been as follows:

1929—Clyde DeVinna, A.S.C., *White Shadows of The South Seas.*

1930—Joseph T. Tucker and Williard Van der Veer, *With Byrd at The South Pole.*

1931—Floyd Crosby, A.S.C., *Tabu.*

1932—Lee Garmes, A.S.C., *Shanghai Express.*

1933—Charles Lang, A.S.C., *Farewell To Arms.*

1934—Victor Milner, A.S.C., *Cleopatra.*

1935—Hal Mohr, A.S.C., *A Midsummer Night's Dream.*

1936—Tony Gaudio, A.S.C., *Anthony Adverse.*

1937—Karl Freund, A.S.C., *The Good Earth.*

1938—Joseph Ruttenberg, A.S.C., *The Great Waltz.*

1939—Gregg Toland, A.S.C., (Black-and-White) *Wuthering Heights.*
Ernest Haller, A.S.C., and Ray Rennahan, A.S.C., (Color) *Gone With The Wind.*

1940—George Barnes, A.S.C., (B&W) *Rebecca.*
Georges Perinal, (Color) *The Thief of Bagdad.*

1941—Arthur Miller, A.S.C., (B&W) *How Green Was My Valley.*
Ernest Palmer, A.S.C., and Ray Rennahan, A.S.C., (Color) *Blood and Sand.*

1942—Joseph Ruttenberg, A.S.C., (B&W) *Mrs. Minniver.*
Leon Shamroy, A.S.C., (Color) *The Black Swan.*

1943—Arthur Miller, A.S.C., (B&W) *The Song of Bernadette.*
Hal Mohr, A.S.C., and W. Howard Green, A.S.C., (Color) *The Phantom of the Opera.*

1944—Joseph LaShelle, A.S.C., (B&W) *Laura.*
Leon Shamroy, A.S.C., (Color) *Wilson.*

1945—Harry Stradling, A.S.C., (B&W) *The Picture of Dorian Gray.*
Leon Shamroy, A.S.C., (Color) *Leave Her To Heaven.*

1946—Arthur Miller, A.S.C., (B&W) *Anna And The King of Siam.*
Charles Rosher, A.S.C., Leonard Smith, A.S.C., and Arthur Arling, A.S.C., (Color) *The Yearling.*

1947—Guy Green, (B&W) *Great Expectations.*
Jack Cardiff, A.S.C., (Color) *Black Narcissus.*

1948—William Daniels, A.S.C., (B&W) *Naked City.*
Joseph Valentine, A.S.C., William Skall, A.S.C., and Winton Hoch, A.S.C., (Color) *Joan of Arc.*

1949—Paul Vogel, A.S.C., (B&W) *Battleground.*
Winton Hoch, A.S.C., (Color) *She Wore A Yellow Ribbon.*

The Awards Presentation of the Academy of Motion Picture Arts and Sciences is an annual affair. Its purpose is to hold up to the artists and technicians of the world's motion picture industry a genuine incentive for achievement and improvement. The gold "Oscars" they receive as a result of their achievements have come to be recognized as the symbol of the world's best attainments in the science and art of motion picture production.

TEN BASIC FACTORS

(*Continued from Page 139*)

While there are undoubtedly solid arguments for preferring 35mm for TV films, 16mm comes much nearer to being standard for that purpose, and of course is considerably cheaper. Also, more than two-thirds of the nation's television broadcasting stations have 16mm projection equipment only. A recent Weed survey disclosed that while 105 operating TV stations presently have 16mm film projection equipment, only 27 have also 35mm machines. Most video engineers agree that 16mm films of maximum quality will give results on television equal to the best quality 35mm films on the present TV band width of 4 megacycles. Very few, if any, engineers sitting before their receivers can guess correctly the width of the film being televised. This, of course, applies to films made expressly for TV—not old motion pictures.

7—*Maximum Detail in Halftones A Must:* While it is true in the present stage of development of TV, that extremely fine detail is lost in the lightest and darkest areas of scenes, negatives should be exposed to obtain the maximum of detail wherever possible; otherwise some figures and objects in the scene may appear as silhouettes on the receiver screen.

Television film photography does not require violation of any of the established rules for good photography, including those for composition and exposure, but special handling of the camera *is* necessary in making films for this medium. For instance, shooting into the sun may produce some striking scenes for theatre films, but the result would be poor indeed on TV. Dark scenes, such as those picturing a burglar working in semi-darkness, dramatic though they might be on a theatre screen, would probably appear as a dark blot on the TV receiver.

8—*Contrast Between Main Subject and Background Important:* Main objects or important subjects will receive stronger pictorial emphasis and the effect of greater depth will be achieved, if the cameraman will aim for ample contrast between subject and background. The opposite extreme of this desirable quality is the type of picture often seen on television, where the subject appears to merge into the background. To the video viewer, this result is both confusing and hard on the eyes. The desirable difference in tone between objects and background or in areas of the background itself is sometimes referred to as *checkerboard contrast* in which the overall pattern is alternately light and dark areas.

9—*Quick Fades or Lap Dissolves Best for Transitions:* Whenever a fadeout appears on the theatre screen it goes dark rather gradually. But for television fadeouts and fadeins made like those for theatrical films leave the TV screen blank for so long, viewers may think something has gone wrong with their set. For this reason, the modern technique for TV films is to make the fade almost a flash—not more than one-half the accepted length for feature films.

10—*Close Cooperation With Film Laboratory* is highly important in order to obtain prints of your films that are best suited for television. First of all, it is important that only those laboratories experienced in TV film production develop and print your television films. Such labs will know, for example, that the average film for TV should be printed one or two points lighter in density than films made for the theatre. There is a tendency in the transmission of TV films to reduce detail in the whole scene if part of it is extremely dark.

"Your new 16 mm Auricon-Pro Camera has fulfilled our best expectations as the ideal sound-on-film camera...has given 100% service without a single check during the first 30,000 feet which we shot."
Norman Alley
National Television Newsreels
Hollywood, California

"Auricon Cine-Voice Camera is sensational... found far above average, extremely simple to operate, completely portable... should be in every home having a sound projector."
H. E. Hanson
Harold's Photography
Sioux Falls, S. Dakota

"Did the first tests making some publicity films with Cine-Voice and the results are marvelous."
E. Van Calck
Berchem-Anvers Belgium

"I own one of your new Auricon 16 mm sound recording Cameras. It has been giving me very good service and I certainly enjoy using it."
A. M. Pate, Jr., Vice President
Panther Oil and Grease Mfg. Co.
Fort Worth, Texas

"We have been using Auricon equipment for the past year by renting. We are now in the market to purchase equipment and we prefer Auricon."
Don Cooper Photography
Detroit, Michigan

"I have used Auricon equipment and have been very well satisfied and pleased with the results obtained."
R. Duhem
Duhem Motion Picture Mfg. Co.
San Francisco, California

AURICON ?

"Since receiving the Cine-Voice.Camera several weeks ago we have been using it daily in our television work. Frankly it's a very good camera..."
John Faber
WAFM-TV Birmingham, Alabama

"We have been using your Auricon-Pro Camera for the past few months and are delighted with the results. We find the Camera perfectly adapted to our needs and are especially happy with the quality of the sound."
Herb A. Lightman, Prod. Director
KOTV-Cameron Television Tulsa, Oklahoma

"I have completed the initial tests with the Auricon Cine-Voice and I am pleased beyond words."
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Wellsley Hills, Mass.

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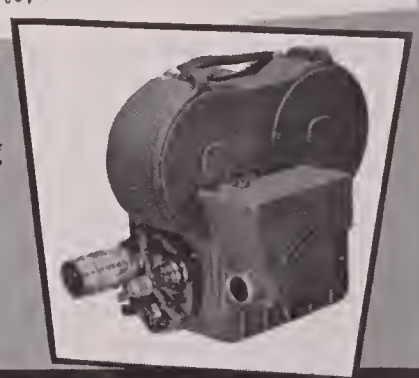

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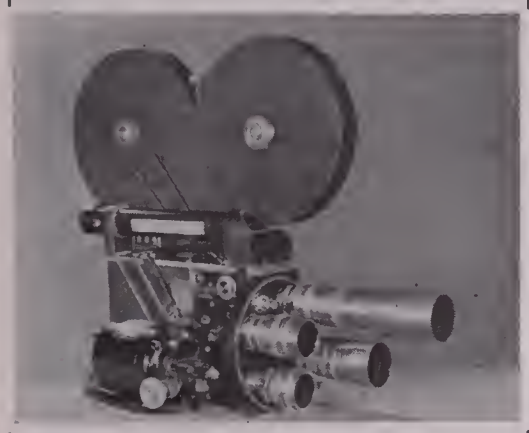

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The preceding ten points are intended merely as a guide to the important steps in the production of television films. It is not intended that they should be the "directions on the label" which, once read, magically prepare the reader for the exacting job of making a film for television. More thorough instruction and guidance may be had by reading the many informative books which have only recently been published on the subject of television. Among these, in addition to Battison's *Movies For TV*, referred to above, are *Television Programming and Production*, by Richard Hubbell, (Rinehart & Co., Inc.), and *Here Is Television*, by Thomas H. *Hutchinson*, (Hastings House). All contain much data of importance to both the cinematographer and the producer of television films.

AERIAL PHOTOGRAPHY

(Continued from Page 136)

and at first a little puzzling. Later, I learned that during World War II his guns had spelled finis for 23 German planes. After all, there isn't much difference in the knowledge and tactics required to keep the other fellow in your sights, whether you're using a gun or a camera.

The camera ship was a T33, the trainer version of the F80 jet fighter modified to provide two seats but retaining every characteristic of the latter. The mounting of the camera in this plane presented several problems: space is decidedly limited and the problem of mounting the camera to cope with all the mechanical requirements and still remain operable was considerable. Stanley Horsley, A.S.C., head of the studio's photographic effects department, and Bill Clothier did considerable pioneering work on the problem.

The mount, installed in the rear compartment, consisted of a heavy dural bar securely bolted to the frame of the ship. To this was fitted a sliding mount providing a quick shift of the camera from one side of the ship to the other. This arrangement served quite well for most of the scenes, but the mounting used when making straight ahead shots was somewhat more involved. Here the space available is even more restricted. In addition there was the problem of having to shoot through the three-inch bullet-proof glass which forms the front part of the canopy. We found it necessary to suspend the camera in an inverted position in order to bring the lens sufficiently near the canopy glass. In addition, it was necessary to allow about 40% increase in exposure to compensate for the light absorption of the glass.

The principal handicap in all of the aerial photography, however, was what technical men call the "G forces"—the sharp increase in the effect of gravity which occurs when doing maneuvers at high speeds. This added stress often amounts to seven or eight times the normal pull of gravity. Thus a person normally weighing 180 pounds becomes the equivalent of 1,260 pounds in a fast dive in a jet plane. The camera normally weighing about 60 pounds must be securely mounted to withstand a pull of some 420 pounds. Operating and adjusting the camera under the same conditions also becomes a problem; raising one's arm requires tremendous effort.

I wore the usual flyer's gear including a sturdy crash helmet to protect my head when sharp gyrations of the ship tossed me about. Another important item was the oxygen mask. Much of our flying was done at altitudes of from ten to thirty thousand feet.

As usual, when tough assignments come along, the sturdy and old reliable Bell & Howell standard 35mm camera was also chosen for this assignment. Here the very latest in modern engineering, exemplified by the Lockheed jet aircraft, and the Bell & Howell camera, engineered and put into production 37 years ago, formed a perfect team. Mechanically, each did its part without a hitch.

The aerial production shots and process plates required careful preparation and skillful planning in order to preclude occurrence of accidents. It is a credit to all concerned that we put in some 100 hours of flying jet aircraft without a single serious mishap.

The action highlights of the picture occur in the sequences depicting the Acrojets displaying a combination of flying skill and equipment, which is sensational, to say the least. Acrojets are acrobatic jet planes, or more properly, jet planes flown in acrobatic maneuvers by crack Air Forces' flyers. Four of the F80 jets are flown in close formation through an intricate set of maneuvers. In some instances scarcely 18 inches separate wing tips from those of adjoining planes. Such maneuvers are not conducted to show off flyers' skills, but are a specialized form of training in precision flying to teach perfect coordination and team work.

The Acrojet team at the Williams Base performed for a sequence in *Air Cadet*. All the pilots are top flyers.

Leader of the group is Capt. Michael Smolen. He acted as technical advisor on the production.

Not all of the photography of the jet planes was done from the T33 camera ship. We also used a B45 bomber. This is a four-jet giant which is even faster than the F80 fighter. The side door of this ship was removed and a regular freehead mounted on the floor near the open door. The air blast was partially alleviated by the spoiler flaps just forward of the opening. These are normally used only in case of bail-out. Due to the additional hazard presented by the open door, a safety harness was devised which held me securely within the ship. It was quickly detachable in case there was sudden need for ditching the plane.

Weather conditions were an important factor in filming the jets in action. We discovered early that in shooting these fast planes against clear blue sky, there was not sufficient contrast between the two to make the planes sufficiently distinguishable on the screen. What we needed for most satisfactory results was a "buttermilk sky"—a mottled cloud formation.

To point up the teriffic speed of the jets, it was necessary to have high clouds in the sky for pictorial contrast. Even though each second of flight takes a jet through 80 feet of space—top speed is approximately 500 miles per hour—this is not evident when the plane is seen against clear skies.

Clear days with empty, blue skies prevailed at the Williams location; so after we completed all scenes which had to show the terrain adjacent to Williams, we checked national weather reports in order to locate weather conditions in which the right cloud formations prevailed. Such, we were informed, could be found in Florida. So we left immediately for Tyndall Field, near Panama City, Florida. The six jets made the trip in exactly three hours and 30 minutes flying time, which is covering a lot of country rather fast.

To accent the speed of the planes, we altered the camera speed in many instances. Depending on angles, the distances between the ships and the clouds and the relative speed of the camera ship had to be taken into consideration, with the result that camera speed often varied brom 8 to 48 frames per second.

Clouds are elusive things, even in Florida, and we often found ourselves chasing them all over the state. Once on a trip in search of clouds, we were looking down at a great expanse of water which I took to be the Gulf of Mexico. Our pilot, Major Carr, informed me that we were looking down into the Atlantic Ocean—an example of how

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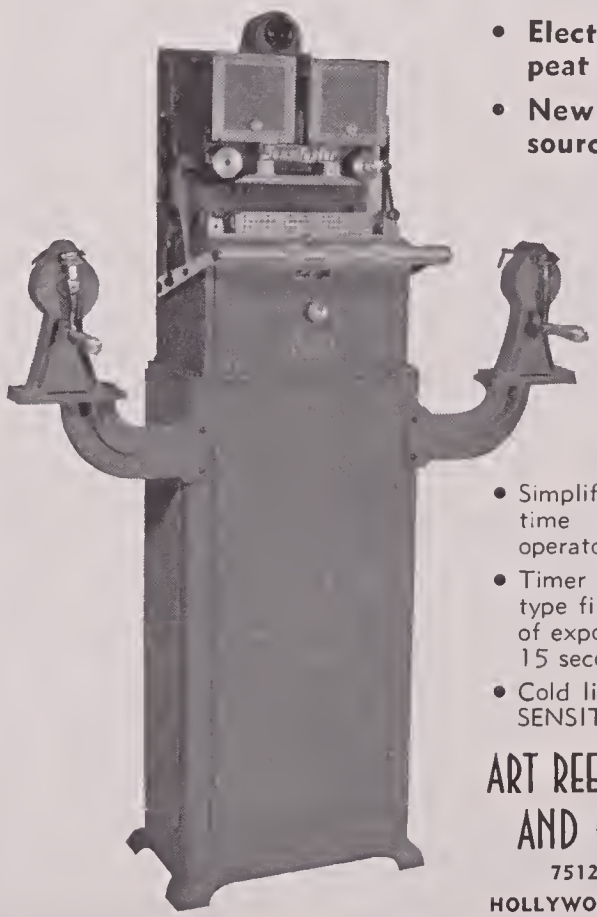

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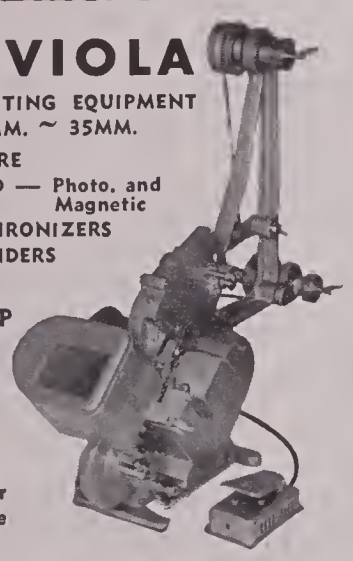

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far one can travel in a short space of time in a jet plane.

A considerable measure of credit for our success in this aerial photography assignment is due the USAF personnel who assisted us or participated in the production. In addition to Lt. Bryant, Capt. Smolen and Major Carr, already mentioned, there were Capt. Harry Chapman, Capt. Eldon Klapal, and Captains Dale Goodermote and William Brockmire—pilots of the Acrojets.

Cliff Stine, A.S.C., of course directed the photography on the major part of the picture—a masterful job, particularly in his handling of the many effectively natural but difficult interiors photographed on location. His camera work gives the production a pleasing semi-documentary flavor.

One of the pilots at Williams said that he'd rather fly a jet than kiss his best girl—more kick to it! Be that as it may, certainly the kick is there. Jet flying leaves memories entirely pleasant and unforgetable; but photographing jets, especially from a jet, is a provocative assignment for any cameraman.

MUSIC FOR FILMS

(*Continued from Page 146*)

also. Aside from setting mood and building up dramatic effect, music does much to give such films a professional finish. By means of proper musical transitions, a smoother flow is created from sequence to sequence and jumps in continuity, which would be very glaring without background sound, become considerably softened.

Music does much to build a sequence, setting the mood oftentimes before the visual picture conveys any unified idea. Gradually building in such a sequence, it carries the emotional response of the audience onward and upward until the climactic scene is reached. Similarly, a change from one mood to another may be effected by fading from one type of music to another as the visual transition between sequences is made on the screen. These principles apply not only to the dramatic feature, but to the documentary, commercial and educational film as well. There is drama in industry and commerce, and these elements can be especially pointed up in films on these subjects through the proper use of background music.

The type and quality of music used in a film depends mainly upon the available budget. For the advanced amateur, semi-professional or small-scale industrial film producer, the budget factor assumes real importance and it is necessary to decide first how much money is available for music before methods can be decided upon.

Let us deal first with the professional film maker undertaking his first commercial production, and assume that there is unlimited, or at least substantial budget available for the finest type of musical scoring. The ideal way to add music to his picture is to have an original score composed and played to exactly complement the action of the film. Being the best method, it is also the costliest—but it is often possible to cut costs by intelligent planning.

For an original music score, it is important to select a composer with visual imagination, one who can work within the more or less restricted confines of film footages. Composers who have done no previous work for motion pictures may find this very confining at first, but most of them are able to adapt to the medium if they formulate a proper working method. Much of the actual creative work can be done before the film is finally edited. By studying the script, the rushes, and the rough-cut workprint of photographed sequences, the composer can absorb the mood and atmosphere of the subject. He can develop his motifs and themes accordingly, formulating musical ideas and phraseology that can be timed precisely to scenes and sequences when the final cut is approved.

Using a workprint of the finished footage, the composer makes a chart showing in footages (as well as in minutes and seconds) the length of scenes and sequences that need orchestration as separate dramatic units. He also notes where climaxes of action occur that are to be pointed up with appropriate musical punctuation. Working on the film sequence by sequence he uses a Moviola or small projector on which to run the film so that he can check his music against the subject matter as he goes.

The professional method of recording an original score is to have the orchestra set up on a stage equipped with screen and glassed-off projection facilities. The score is recorded in segments up to a full reel, with the screen placed at the rear of the orchestra so that the conductor can watch the action and time the music to it accurately. This enables him to hit all of the musical transitions and climaxes at the precise moments.

If the budget will allow an original score, but not a full orchestra, it is often possible to use a small but effective combination of instruments or a single instrument such as the piano or Hammond organ. The latter instrument is very versatile and is capable of many imaginative sound effects when played skillfully. In most cases standard union recording rates will prevail, and in the case of a single instrument the musician is paid

according to leader's scale, which is twice the amount paid to a single musician playing in a combination or orchestra.

Where the budget will not allow an original score, the next best thing is a specially cut recording track. Emil Velazco, Inc., in New York City is one of several organizations which provides original music for non-theatrical as well as professional film makers. Working from a library of music recorded on film, one of the organization's music cutters will study the producer's workprint, select appropriate themes, and cut the music to exactly fit individual scenes and sequences, all for a surprising nominal fee.

Most sound-on-film recording studios have available libraries of original music, such as that put out by the English firm of Boosey & Hawkes. This is available for re-recording as film background music. The cost is a small royalty per selection. This library is quite extensive and is constantly being enlarged. Moreover, since it consists only of original music, there is no danger of using themes that will sound too familiar.

The best, though more expensive, way of using this disc recorded library music in order to get the precisely cued track is to re-record the music on film or tape and use the individual themes to cut a score tailored exactly to the work print. This cutting should be done by an experienced music cutter with a knowledge of film construction as well as music technology. He will know how to punctuate a sequence properly, how to cut several musical segments together smoothly, how to point up dramatic climaxes, etc. In this type of scoring, a positive print from the negative original is used in re-recording. Thus the producer can build a library of music negative which he can use in future films.

The least expensive way of scoring a picture, and the one most frequently used by advanced amateurs is to re-record narration directly against disc music piped in to the recorder, using what is known as the "radio method." This has the advantage of lower cost in a sense, because one need not pay the extra material, lab and recording fees of first recording the music from disc onto film. However, it is not as precise as the other method, takes longer to rehearse, and is more subject to "fluffs" which can prove expensive, since studio re-recording or "dubbing" is usually done on an hourly basis.

In recording an original score according to the method suggested earlier, each segment or reel is cued visually so that the conductor will know exactly when to begin. The best way to do this is to punch the white leader three times in the picture

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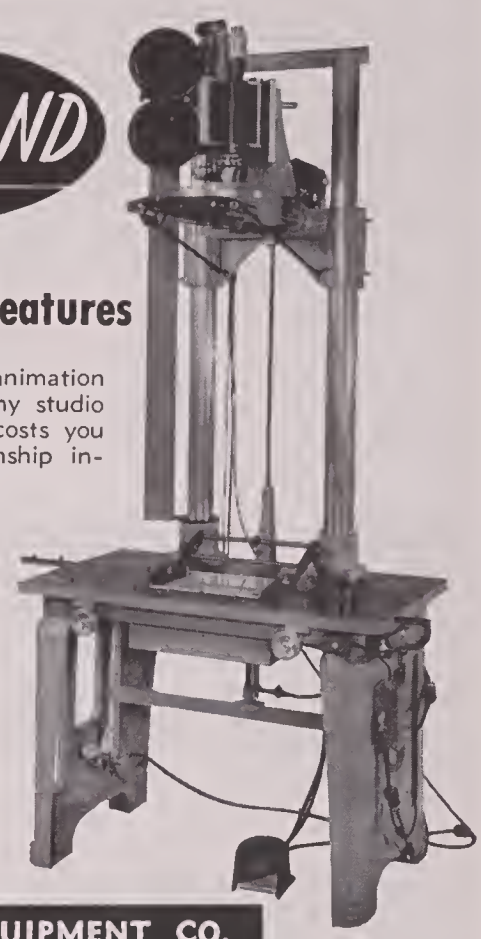

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area and at about 1-foot intervals just prior to the start of the picture itself. A grease pencil mark extending from the last punch mark down to the first frame of the picture will help further to warn the conductor, as he watches the film on the screen, so that he can give his downbeat on the precise instant that the first frame of the picture appears.

In the case of a specially cut score composed of individual recordings dubbed off of disc onto film, it is important that the track be carefully edited to coincide with the picture. It is wise to set up the track in "A" and "B" rolls so that dissolves or *segues* can be made smoothly from one piece of music to the other. Using a synchronizing machine, the first piece of music (which usually begins with a fanfare or dominant chord) is lined up with the first frame of the titles on the work print. Both footages are then carried on down to the point where the next music cut or dissolve is indicated.

Where a straight cut is indicated, it is ideal for the second piece of music to begin on an approximate level and key that is similar to that on which the first piece of music ended. This insures a smoother continuity between the two pieces of music.

In the case of a dissolve, especially if there is a considerable change of tempo or mood, it is better if the actual changeover is "hidden" under dialogue or narration. In the case of a piece of music that is too long for the sequence which it accompanies, and yet it is desired that the natural ending of the music coincide with the end of the sequence, it is possible to work from both ends of the sequence, cinching up the excess music either at a point where a natural cut can be made or by dissolve hidden under voice. A similar technique is followed in matching a musical climax with a climax of action. These two points should be paired up, with the rest of the music being cinched up as above.

Music that builds to a climax is extremely effective when matched with action that also builds to a climax—but this type of music should never be used where the action does not follow suit, because the audience will be carried along with the music only to feel cheated when the promised action climax does not materialize. This principle also follows when "menace" or suspense music is used in sequences where the action does not warrant its use.

Now if you are new at this business of adding music to your films—by means of a sound track, that is—there are certain vital things you must remember. If you produce the film for profit, if you are going to sell copies of the film, then be sure your music is first "cleared," both for copyright and Petrillo. Do not dub music from commercially issued American recordings (phonograph records) for background music or otherwise. If you do, you are liable to suit.

As a rule the amateur, whose films will not be used in any commercial manner, may employ music dubbed from records without fear of legal action. This is being done regularly. Such films may be exhibited in contests and at cine clubs without liability, just as long as no rental or admission fees are derived from such showings. Where the film maker has any doubts, he usually can secure permission to use music from commercial records in amateur film showings, by writing the record manufacturer who usually holds the copyright.

For the amateur who records his music and sound on tape, all of the procedures described above may also be applied in recording and editing music on tape. He becomes the orchestra leader and it is he especially who will benefit by the cue marks on the film. These will aid him in starting and stopping or fading his records in recording the complete musical score, netting a very professional result when both tape and picture are synchronized.

VITAL TOOL OF LABS

(Continued from Page 140)

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Besides intricate electrical equipment, this testing method may also be applied in testing the durability of welded or riveted light sheet metals, such as used in aircraft.

Ultra high-speed photography of such tests enable engineers to observe the progressive deterioration of materials and equipment on the screen with the motion greatly decellerated, thus aiding them in designing more rugged equipment.

The Fastax sigh speed camera used by Westinghouse was developed during World War II. Its greatest contribution was in making photographic records of atom bomb tests; in recording short dura-

tion phenomena such as the explosive effect of ammunition, jet propulsion and the jamming action of machine guns.

The first Fastax camera to be designed employed 16mm film and exposed it at 4,000 pictures per second. A later model used 8mm film and operated up to twice the speed—8,000 pictures per second; When a wider angle of picture was desired for ballistics study a third Fastax camera was designed using 35mm film and recording pictures on half a frame. This camera records pictures at speeds of 3,500 per second. A rotating prism replaces the conventional rotary focal plane shutter, and an exposure slit is provided before and behind the prism. Light rays picked up by the lens pass through the prism and are focused on the surface of the film as it passes over the central driving sprocket. Speed of the camera is governed by varying the voltage applied to the motor.

Both black-and-white and color film may be used successfully for high speed photography. Polarized light also has been used in conjunction with the camera to study the stress and impact conditions in transparent materials.

THE AQUAFLEX

(*Continued from Page 133*)

and have it under water again, ready to shoot.

Still another important feature, and an exclusive one, is its reflex finder which enables the operator to observe the action through the taking lens as it is being filmed. This eliminates all problems of parallax, which is highly important, in view of the tremendous difference in the refraction index under water.

The Aquaflex is essentially an Eclair Camerette with a revamped film magazine that has the film rolls in tandem order, instead of one above the other, and is contained in a two-piece underwater housing. Dial knobs located at either side near the hand grips, permit changing lens focus and diaphragm settings under water, also to change the camera motor speed. A conveniently located switch permits starting and stopping the camera motor with the same ease as with cameras used above surface. The motor speed control is an important feature which makes it possible to maintain consistent camera speed regardless of the water temperature or when voltage starts to decline. Low temperature of sea water at great depths has a tendency to affect the battery, reducing its voltage output. In such instances it becomes necessary to increase the camera motor speed, as indicated by the camera's tachometer, which is always visible through a small

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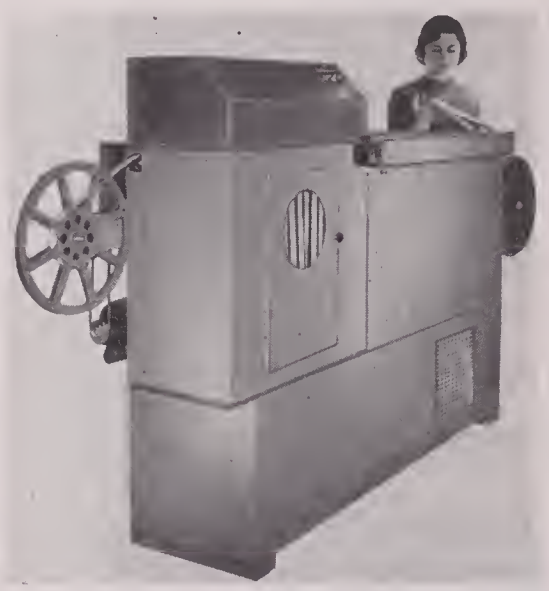

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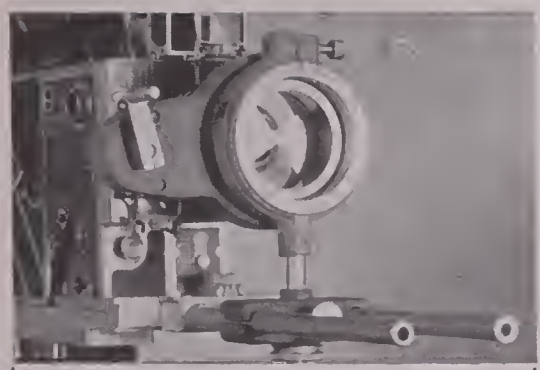

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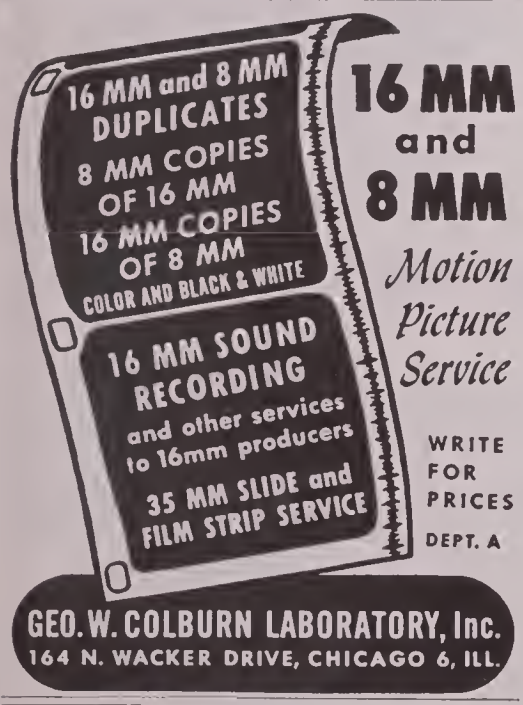

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glass-covered porthole. The camera is driven by a 6-8 volt, 7 amp. motor powered by a compact, non-spillable wet battery. The camera shutter is variable and may be set at any desired opening from 200° to 40°, thus affording an exposure choice from 1/14 second at 8 fps, to 1/415 second at 40 fps.

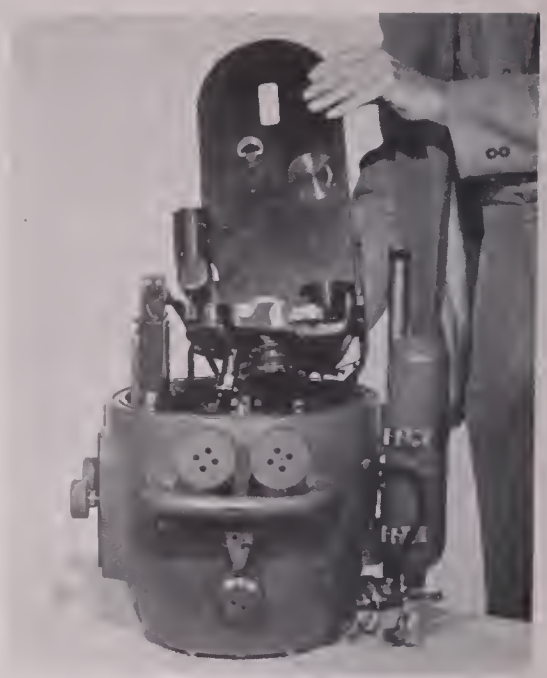
The external Aquaflex housing is in two sections. The front section contains the plastic photographing port, the control gears and camera mount, the batteries and wiring, the pressure gauges and exposure meter, plus all the mechanisms for controlling the camera under water.

The rear section covers the 400-foot film magazine, contains the three smaller viewing ports, and the water-tight sealing device. On the outside is mounted one of the three compressed air cylinders supplied with the camera. This is connected to the interior pressure control mechanism. The compressed air valve is so regulated that the camera housing under water contains about 3 psi over the sea pressure at any depth the camera may be used. As the camera is descending, the demand valve increases the interior pressure to equal the depth pressure, plus 3 psi. When the camera is raised to the surface, the demand valve automatically closes and excess air pressure escapes through the relief valve.[1] In short, the Aquaflex automatic pressurization system works the same as in the Aqualung diving unit.

In the camera housing are located small lights to illuminate the built-in exposure meter, film speed tachometer, internal-external pressure differential gauge, and the film footage indicator. These lights go off automatically when the camera starter switch is turned on, thus enabling the motor to receive the maximum of battery current.

Although the built-in exposure meter is an ideal feature of the Aquaflex, I found that with a little experience it was possible to figure exposures under water much the same as when above surface. In the Virgin Islands area, working in 25 feet of water, the exposure norm ran consistently one-half stop more than would be normal above surface. Also, water presents a magnification problem of about 27%. Thus, if I used a 28mm lens on the camera, I would get results comparable to that when a 40mm lens is normally used above surface. The Aquaflex, incidentally, is normally supplied with 28mm, 40mm, and 75mm coated f/2 Kinoptic lenses.

Now, with the recent introduction of the combination 16/35mm Eclair Camerette, it is possible also to otain the Aquaflex in the combination model to take either 16mm or 35mm film interchangeably. The use of 16mm film, which affords a greater film load on a per frame ratio basis, permits a maximum underwater shooting interval of 11 minutes.



MOUNTING the Aquaflex camera in its two-piece housing. Gear rings on lenses merge with gears of external controls.

Although we were working in tropical waters where barracuda, eels, octupus and sharks abound, none of these bothered either me or the frogmen who were our underseas actors. Several times a barracuda would approach, but kept a safe distance, appearing merely curious.

The frogmen, of course, all wore protective rubber suits along with Swimfins, face masks and compressed air tanks with the breather unit. These men, looking not unlike giant frogs in the water, are the specialists trained by the Navy for underwater demolition tactics and other unique wartime maneuvers, some of which are depicted in 20th Century-Fox's production, *The Frogmen,* soon to be seen on the nation's theatre screens.

[1]R. R. Conger, Journal of the S.M.P.T.E., December, 1950.

EDITING MAGNETIC SOUND

(Continued from Page 137)

NOTE: Experience to date indicates that production magnetic film can be used ten or more times and the edited film can be used at least twice. The preceding write-offs of magnetic film are on this basis.

By using and editing magnetic film the producer can save $565.00 and at the same time gain the best possible sound quality. If the above picture were to be recorded with the old 16mm negative-positive process, the cost would be

$201.00 and if the Ryder magnetic method were used with 16mm magnetic film the cost would be $79.00; a saving of $122.00.

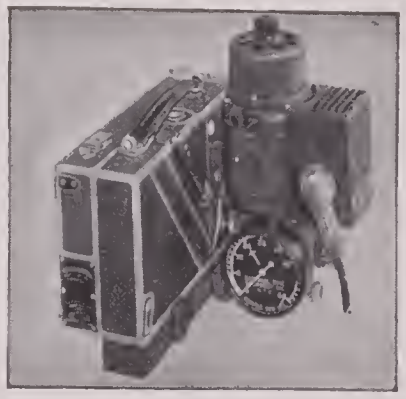
If the original recording is made with Fairchild synchronous ¼" tape and the 17½mm magnetic film for editing is obtained by transferring, the cost would be $109.00 in place of $121.00. If the original recording is made with the Fairchild synchronous ¼" tape and 16mm magnetic film for editing is obtained by transfer, the cost would be $74.00 in place of $79.00.

All of the above has been in regard to a twenty-eight minute television show. In the case of a feaure-length 35mm production using 100,000 feet of sound recording, 60,000 feet of print takes and having a release length of 10,000 feet, the old negative-positive cost would be $5,683.00. Using the Ryder 17½mm magnetic film method the cost would be $1,261.00 and the cost using Fairchild synchronous ¼" tape for production would be $1,200.00. Many combinations of procedures can be used and in certain cases alternative procedures are recommended. A complete study of all possible cost combinations has been prepared and specific answers to any cost question will be furnished upon written request to the writer.

Loren Ryder and the Paramount Studio Sound Department were awarded an "Oscar," at the Academy's 1950 Awards ceremonies, for technical achievement in the first studio-wide application of magnetic sound recording to motion picture production.

It should be pointed out that some television producers are changing from 16mm to 35mm film because of complaints received about 16mm sound quality; 16mm sound quality can be completely satisfactory and any producer that is changing to 35mm film for this reason will be spending hundreds of dollars that could be saved by a proper use and handling of 16mm.

Magnetic readers and magnetic reproduction heads are available for modification of Moviolas. Some review rooms have been equipped for reproducing magnetic film, projection review room rental service is available and more review rooms will be equipped at an early date. At present most magnetic film is hand spliced, which is slow. Splicing service is available and low-priced mechanical splicing equipment will soon be on the market. The assembly of print takes and certain other splices can be made by any



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of the standard photographic splicing methods.

The pictures accompanying this article show a modulation writer in service. The sound from the magnetic film is picked up by a magnetic reproducer, thence amplified, and made to drive a special reproducer which mechanically moves a ball point pen in accordance with the original modulation. The pen writes on the oxide side of the film. The first writing is down the center of the film, the second and subsequent writings are displaced from the center line.

The position of the magnetic recording on all Paramount and Ryder 35mm magnetic recording is in the so-called negative position with the center line of the recording halfway between the center line of the film and the inside of the sprocket holes. The magnetic recording on 17½mm magnetic film is in the same position as for 35mm magnetic film and can play interchangeably on many equipments. The center line of 16mm magnetic recording is in the center of the film with respect to the two edges. This applies to both single and double perforated film. The width of the recording is in excess of 100 mils.

The writer recommends strongly against off-speed recordings, as alternative standard speed methods can effect an equal saving and at the same time avoid the confusion which is already resulting from off-speed recordings.

The first attempt at magnetic cutting will seem awkward, largely because it is different. It should be expected that some of the steps will be new and some of the steps slightly more complex than photographic film. However, with experience, magnetic editing should be found to be faster, and in the over-all simpler and much less expensive than previous procedures.

USE OF REFLECTED LIGHT

(*Continued from Page 145*)

the photographer acquires or makes a number of durable reflectors, compact in size and easily carried along with camera and tripod.

Professional reflectors, such as used in the Hollywood studios, vary both in size and in reflective material. Many of the studios have a range of reflectors, each with surfaces of different reflective intensities. Still others have made up dual reflectors having both surfaces coated—one bright, the other soft. The brighter the surface, the stronger and harsher the reflected light. These are employed where the light must be reflected a considerable distance. Reflectors of this type are covered with silver or aluminum leaf, sheet aluminum foil, or sheet metal. The aluminum leaf is best because the small squares break up the reflected beam of light and do not throw a concentrated hot beam as does sheet metal. Where sheet foil is used, it is crumpled slightly as it is applied to the reflector surface, the result being that the reflected light is broken up into a myriad of beams instead of a single "hot" beam.

For a softer reflected light, aluminum or chrome paint is applied to the reflector surface. Reflectors of this type can be used fairly close to a subject to throw fill light into the shadow side of the face or scene. Where light of still lesser intensity is desired, then a reflector surfaced with flat white paint is the most satisfactory.

Because more than one reflector is usually required in augmenting lighting for the average outdoor scene, it is advisable to design your reflectors for portability and space saving. You'll want to be able to pack them into the trunk compartment of your car, along with the rest of your equipment, so let's plan them from that point of view.

First a very simple reflector, but highly efficient nonetheless, can be made from an ordinary window blind, say 30 to 36 inches in width and shortened in length to about 36 inches. Paint one surface—the inside surface—with aluminum or chrome paint. This reflector may be unrolled when needed and hand-held to throw sunlight into a scene or a group of subjects to produce a more natural pictorial result.

Because the average cine amateur usually works alone without camera assistants, the ideal reflectors are those which are rigid and can be propped up. Once set at the proper angle, you can devote all your attention to your camera and subjects, shifting the reflector angles only when position of the sun has changed sufficiently to require it.

One such reflector can be made by taking two panels of heavy cardboard, wallboard or quarter-inch plywood 15 by 30 inches in size and hinging them together. The cardboard and wallboard panels may be hinged with bookbinder's cloth tape, which is gummed on one side and is easily applied. Small hinges should be used on the wooden plywood panels. Thus a "book" is formed, when opened becomes a flat panel 30 by 30 inches square—a fair sized reflector surface. Coat the inside surfaces of this folding, book-type reflector, using any of the materials previously mentioned. Choice, of course, will depend upon the intensity of the light you will need. You will find it advisable to make at least three reflectors—two with hard reflector surfaces, and one with a soft surface.

A means should be provided for holding the reflectors opened flat, and at an angle. Two lengths of 1" square wooden material will suffice for this: one piece to be temporary nailed or tacked across the back of reflector, while it is open, and the other to act as a prop to hold the reflector at the desired upright angle.

If your cinematorgraphy is to be fairly extensive, then a more rugged type of construction should be followed. In this instance, the quarter-inch plywood material should be used. The panels should be applied over frames made of ¾ by 1½" material securely nailed and braced. A wooden prop can be attached to each reflector by means of a small hinge, so that it is always in readiness for use. Small drawer handles can be attached to the two open edges of the reflector to facilitate carrying when folded.

The most common error resulting from use of reflectors by beginners is "washing out" natural shading. The neophyte, irritated by seemingly over-contrasty tones in his subject, often cancels out tonal effects in an effort to get away from the uncorrected condition. But this practice should be avoided unless the footage is being shot especially to match that previously made on an overcast day. Some cinematorgraphers hold that completely flat lighting has no character and this seems to be the best way of denoting its lackluster quality. Light from reflectors should bet concentrated on subjects out of doors only to obtain a pleasing balance.

Balance the lighting by eye or with the aid of an exposure meter. Either method has arguments in its favor. You can make a choice after trying both and studying results on the screen. Matching by eye assures that resultant tones harmonize with the rest of the scene. The background and nearer areas are automatically taken into consideration when the cameraman views his scene from camera position. For example: a medium shot in a mountain setting may contain a jagged rock formation in the background that has deep shadow patterns. If someone standing before it were illuminated with a very strong reflected light coming not from the angle of the sun, the result might appear quite unnatural. The subject would be lit out of key with the natural illumination of the surroundings. The problem would be to lighten up the overall scene, if possible, with very soft reflected light being used on the shadow side of the subject.

The reasons for using a light meter in lining up reflectors are formidable. Many cinematographers work for a controlled quality from one shot to the next, and ratios that are checked with a meter are sure to remain constant. A picture

(*Continued on Page 161*)

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Columbia

• HENRY FREULICH, "Son Of Dr. Jekyll," with Louis Hayward, Alexander Knox, Jody Lawrence, Lester Matthews. Seymour Friedman, director.

• WILLIAM SNYDER, "Ten Tall Men," (Harlburt Prod.) with Burt Lancaster, Jody Lawrence, Gilbert Roland, Mike Mazurki. Willis Goldbeck, director.

Independent

• ELWOOD BREDELL, "Skid Row," (Jos. Bernhard Prod.) with Sterling Hayden, Viveca Lindfors, Thomas Mitchell, Ludwig Donath. Stuart Heisler, director.

• HAL MOHR, "Chuck-A-Luck," (Fidelity Pictures) with Marlene Dietrich, Arthur Kennedy, and Mel Ferrer, Fritz Lang, director.

Lippert

• ERNEST MILLER, "Little Big Horn," with John Ireland, Lloyd Bridges, Marie Windsor, Reed Hadley, Jim Davis. Charles M. Warren, director.

• JACK GREENHALGH, "Savage Drums," with Sabu, Lita Baron, Sid Melton, and Margia Dean. William Berke, director.

• JACK GREENHALGH, "Yes, Mr. Bones," with Flounoy Miller, Slim Williams and Emmett Miller. Ron Ormond, director.

• JACK GREENHALGH, "That's Show Business," with Jimmy and Mildred Mulcay, The Diacoffs, Paul Gordon and Jean Carroll. Ron Ormond, director.

• JACK GREENHALGH, "G. I. Jane," with Jean Porter, Tom Neal and Iris Adrian. Reginald LeBorg, director.

M-G-M

• RAY JUNE, "Strictly Dishonorable," with Ezio Pinza, Janet Leigh, Millard Mitchell, Gale Robbins. Norman Panama and Melvin Frank, directors.

• ROBERT PLANCK, "Texas Carnival," (Technicolor) with Esther Williams, Red Skelton, Howard Keel, Ann Miller, Keenan Wynn. Charles Walters, director.

• ROBERT SURTEES, "The North Country," (Ansco Color) with Stewart Granger and Wendell Corey. Andrew Marton, director.

• JOHN ALTON, "People Against O'Hara," with Spencer Tracy, Pat O'Brien, John Hodiak, Diana Lynn, Dick Anderson. John Sturges, director.

• GEORGE FOLSEY, "Rain, Rain Go Away," with James Whitmore, Nancy Davis, Jean Hagen and Ralph Meeker. Fred M. Wilcox, director.

• HAROLD LIPSTEIN, "Banner Line," with Sally Forrest, Keefe Brassele, Lionel Barrymore, Lewis Stone, J. Carrol Naish, Spring Byington. Don Weiss, director.

• PAUL C. VOGEL, "The Angels and The Pirates," with Paul Douglas, Janet Leigh, Keenan Wynn, Donna Corcoran, The Pittsburgh Pirates. Clarence Brown, director.

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Monogram

• WILLIAM SICKNER, "Casa Manana," (L. Parsons Prod.) with Robert Clarke, Virginia Welles, Carol Brewster, Spade Cooley. Jean Yarbrough, director.

• WILLIAM SICKNER, "Father Takes The Air," with Raymond Walburn, Gary Gray, M'liss McClure, Barbara Brown and George Nokes. Frank McDonald, director.

Paramount

• VICTOR MILNER, "My Favorite Spy," with Bob Hope, Hedy Lamarr, Francis L. Sullivan, Arnold Moss, Marc Lawrence and Iris Adrian. Norman Z.. McLeod, director.

• GEORGE BARNES and PEVERELL MARLEY, "The Greatest Show On Earth," (Technicolor) with Betty Hutton, James Stewart, Cornel Wilde, Dorothy Lamour, Gloria Grahame, Charlton Heston and Lyle Bettger. Cecil B. DeMille, director.

• DANIEL FAPP, "The Stooge," with Dean Martin, Jerry Lewis and Eddie Mayehoff. Norman Taurog, director.

• LEE GARMES, "Detective Story," with Kirk Douglas, Eleanor Parker, William Bendix, Cathy O'Donnell, Horace McMahon. William Wyler, director.

• LIONEL LINDON, "Rhubarb," (Pearlberg-Seaton Prod.) with Ray Milland, Jan Sterling, Gene Lockhart, Orangey Murray. Arthur Lubin, director.

• CHARLES LANG, "Peking Express," (Hal Wallis Prod.) with Joseph Cotton, Corrine Calvert, Edmund Gwenn. Dick McWhorter, director.

• HARRY STRADLING, "My Son John," with Helen Hayes, Van Heflin, Robert Walker, and Dean Jagger. Leo McCarey, director.

R.K.O.

• FRANK PLANER, "Androcles And The Lion," with Jean Simmons, Robert Newton, George Sanders, James Donald. H. C. Potter, director.

• WILLIAM V. SKALL, "Half-Breed," (Technicolor) with Robert Young, Janis Carter, Jack Buetel, Barton MacLane. Edward Ludwig, director.

• JAMES WONG HOWE, "Behave Yourself!" (Wald-Krasna Prod.) with Farley Granger, Shelly Winters, Francis L. Sullivan, William Demarest, Hans Conried, Sheldon Leonard, Margalo Gilmore. George Beck, director.

• FRANK PLANER, "The Blue Veil," (Wald-Krasna Prod.) with Jane Wyman, Charles Laughton and Katharine Locke. Curtis Bernhardt, director.

Republic

• ELLIS W. CARTER, "Havana Rose," with Estelita Roderiquez, Hugh Herbert, Bill Williams, Florence Bates. William Beaudine, director.

• WALTER STRENGE, "Secrets Of Monte Carlo," with Warren Douglas, Lois Hall, June Vincent, Steven Bekassy. George Blair, director.

• KARL STRUSS, "Lady Possessed," (Portland Prod.) with James Mason, June Havoc, Pamela Kellino, Steve Dunne. William Spier and Roy Kellino, directors.

• WALTER STRENGE, "Rodeo King and The Senorita," with Rex Allen, Mary Ellen Kay, and Buddy Ebsen. Phil Ford, director.

20th Century Fox

• CHARLES G. CLARKE, "Kangaroo" (Technicolor) (Shooting In Australia), with Maureen O'Hara, Peter Lawford, Finlay Currie and Richard Boone. Lewis Milestone, director.

• NORBERT BRODINE, "The Frog Men," with Richard Widmark, Dana Andrews, Gary Merrill, Jeffrey Hunter, Robert Wagner and Warren Stevens. Lloyd Bacon, director.

• LEO TOVER, "The Secret Of Convict Lake," with Glenn Ford, Gene Tierney, Zachary Scott, Ethel Barrymore, Ann Dvorak, Helen Westcott and Barbara Bates. Michael Gordon, director.

• LEON SHAMROY, "Friendly Island," (Technicolor) with William Lundigan, Jane Greer, Gloria DeHaven, Mitzi Gaynor, David Wayne, Jack Paar and Gene Lockhart. Edmund Goulding, director.

• Harry Jackson, "Anne Of The Indies," (Technicolor) with Louis Jordan, Jean Peters, Deborah Kerr, Herbert Marshall, Thomas Gomez. Jacques Tournear, director.

• Joseph LaShelle, "Mr. Belvedere Blows His Whistle," with Clifton Webb, Joanne Dru, Hugh Marlo and Zero Mostel. Henry Koster, director.

• Milton Krasner, "The Dr. Praetorius Story," with Cary Grant and Jeanne Crain. Joseph Mankiewicz, director.

Universal-International

• Russell Metty, "Fiddler's Green," with Shelly Winters, Richard Conte, Stephen McNally, Charles Bickford and Alex Nicol. George Sherman, director.

• Maury Gertsman, "One Never Knows," with Dick Powell, Peggy Dow, Joyce Holden, Charles Drake, William Vedder. Lou Breslow, director.

• Irving Glassberg, "The Cave," (Technicolor) with McDonald Carey, Alexis Smith, Victor Jory, and Hugh O'Brian. William Castle, director.

• Charles Boyle, "Fine Day," (Technicolor) with Howard Duff, Mona Freeman, Josephine Hull, Craig Stevens. Joseph Pevney, director.

Warner Brothers

• Robert Burks, "Tomorrow Is Another Day," with Ruth Roman, Steve Cochran, Lurene Tuttle and Wallace Ford. Felix Feist, director.

• Ernest Haller, "Moonlight Bay," (Technicolor) with Doris Day, Gordon MacRae, Jack Smith, Mary Wickies, Rosemary de Camp, Leon Ames.

• Ed Dupar, "I Was A Communist For The F.B.I.," with Frank Lovejoy, Dorothy Hart, James Millican and Konstantin Shayne. Gordon Douglas, director.

• Wilfred Cline, "Painting The Clouds With Sunshine," with Dennis Morgan, Virginia Mayo, Lucille Norman and Gene Nelson. David Butler, director.

• Ted McCord, "Force Of Arms," with William Holden, Nancy Olson, Frank Lovejoy, Gene Evans, Dick Wesson. Michael Curtiz, director.

• Sid Hickox, "Distant Drums," with Gary Cooper and Mari Aldon. Roaul Walsh, director.

WINNERS

IN

AMERICAN

CINEMATOGRAPHER'S

1951 AMATEUR

FILM COMPETITION

Will Be

Announced

In the

MAY

I S S U E

TELEVISION FILM

(*Continued from Page 139*)

Paul Ivano, A.S.C., Green Film Corp.

Allan Seigler, Jerry Fairbanks Prodns.

Kenneth Peach, A.S.C., Jerry Fairbanks Prodns.

Benjamin Kline, Bing Crosby Enterprises.

Joseph Biroc, A.S.C., Snader Telescriptions.

Fred Jackman, Jr., A.S.C., Ralph Edwards' "Truth or Consequences" show.

James Van Trees, A.S.C., "Groucho Marx Show."

•

Karl Struss, A.S.C., has been invited to serve on the committee of judges which will evaluate entries for the annual Sylvania TV Awards.

USE OF REFLECTED LIGHT

(*Continued from Page 159*)

will project much smoother if the shots all have the same contrast ratio in common, although individual takes may not always be as effective as desired. A meter will also help secure more flattering skin tones when filming in color. A balance of 2:1 or 3:1 is usually a good standard for lighting with color film. A flatter lighting tends to add weight to your subjects, while a contrastier one often emphasizes unattractive features.

Controlled fill light, with the aid of reflectors, is perhaps most important in color photography where a darkened area appears even more separated from the highlight portions because of its deep color concentration. Shade or underexposure seems to transform colors to a new set of hues of much brighter saturation. In black-and-white photography, a dark area in a scene may be only a dark area on the screen, but with color film it becomes a deep concentration of some very particular color. Too, scenes filmed in color in shaded areas tend to show a blue overcast and a decided blue in the highlights.

Reflectors, properly used can easily brighten these dark areas and eliminate or subdue the bluish effect. Daylight actually is a mixture of sunlight (yellow-red) and the skylight (blue). Thus, the use of reflectors project the warmer sunlight into the shadow areas of subjects and scenes not directly illuminated by the sun, furnishing needed balance in the lighting and, where color film is used, a measure of color correction, too.

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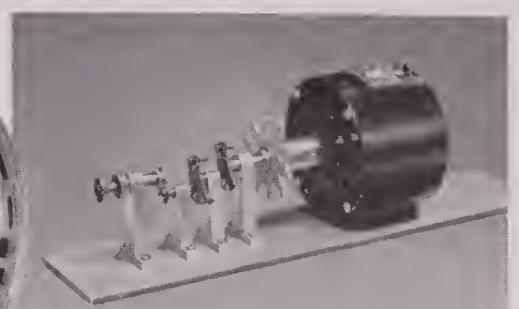

The film advance mechanism of the Eastman 16mm. Projector, Model 25, with its own independent motor drive. Illustration shows, from left to right: sprocket; geneva star and driver; two balanced off-center accelerators; synchro-gears; and motor.

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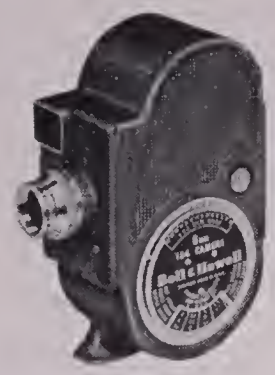

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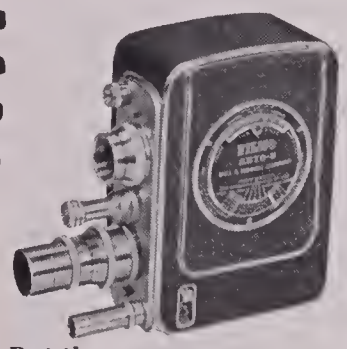

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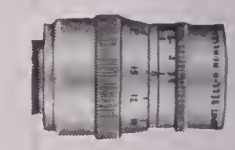

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Cinematographer

THE MAGAZINE OF MOTION PICTURE PHOTOGRAPHY

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- **Hollywood Knowhow in TV Film Production**
- **American Cinematographer Awards Winners**

MAY
1951

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MAY 18 1951

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Here's what the Jones Twins say about their Bell & Howell Cameras in a letter to Robert McCormick of NBC: ". . . We try to ship or shoot 500 feet per day. The Bell & Howell is a rugged little camera. Both of ours have been damaged in combat . . . but we've managed to have them repaired by Signal Corps people."

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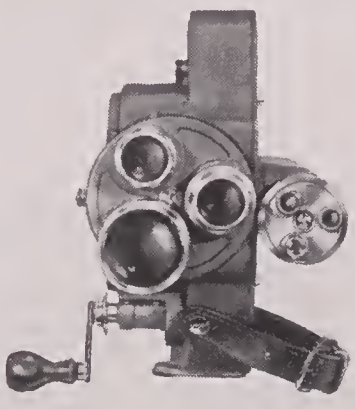

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ON THE COVER

DIRECTOR Frank Strayer briefs John Archer, Marjorie Lord and Steve Brody before starting the camera on a scene for a dealer training film produced by Roland Reed Productions, Los Angeles, for Standard Oil Company. At far right is associate-producer Guy Thayer. Next to him is Walter Strenge, A.S.C., who directed the photography and whose story on the filming of Roland Reed productions appears in this issue. Seated on camera crane are operator George Clemens and assistant Keith Smith.

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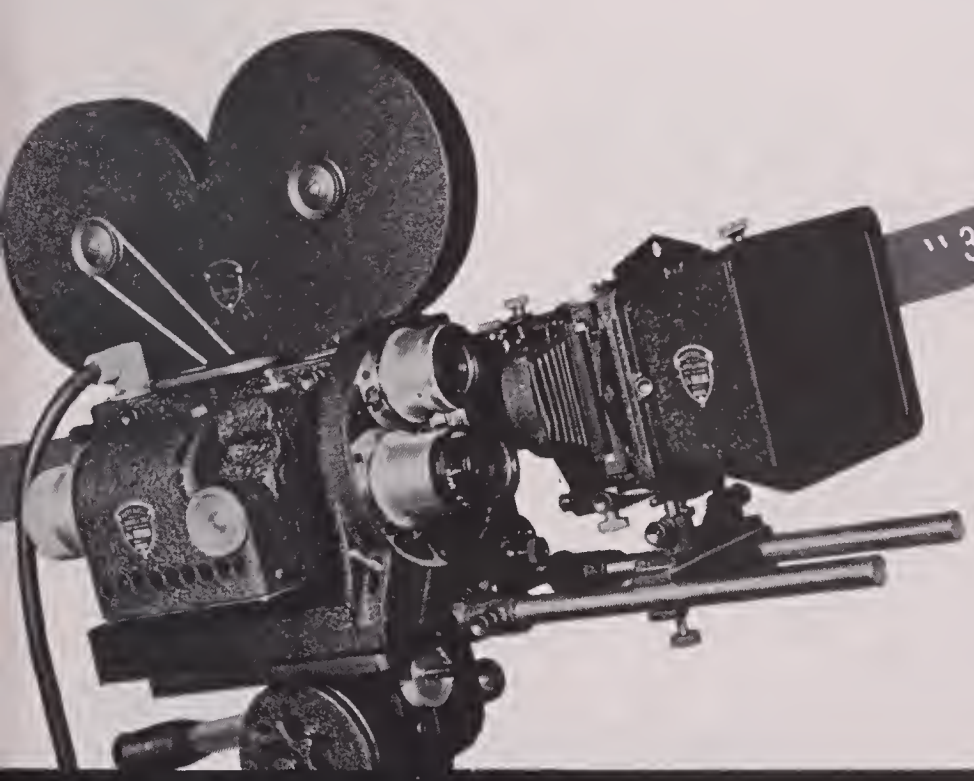

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RAY RENNAHAN
A.S.C. Prexy

THE AMERICAN Society of Cinematographers, last month, re-elected Ray Rennahan its president to succeed himself for a second term. Other officers also re-elected are Fred W. Jackman, executive vice-president; John W. Boyle, secretary; and Charles Rosher, sergeant-at-arms. New officers elected are Hal Mohr, 1st vice-president; Arthur Edeson, 2nd vice-president; Charles G. Clarke, 3rd vice-president, and William V. Skall, treasurer.

The 1951 Board of Governors includes, in addition to the above officers, George Folsey, Lee Garmes, Alfred Gilks, Milton Krasner, Victor Milner, Leon Shamroy and Joseph Walker. Alternates are Arthur Arling, Joseph Biroc, Robert deGrasse, Paul Eagler, Sol Halprin, Stanley Horsley, Ernest Miller, Sol Polito, Walter Strenge and Phil Tannura.

Rennahan, who joined the Society in 1938, is considered one of the industry's top Technicolor cinematographers. A two-time Academy Award winner, he received his first "Oscar" in 1939 for the photography in Technicolor of "Gone With The Wind," in association with Ernest Haller, A.S.C. In 1940 he received his second Academy Award for the direction of Technicolor photography of "Blood And Sand," in association with Ernest Palmer, A.S.C.

In unanimously re-electing Fred W. Jackman executive vice-president of the Society—for his eighth term in office—the Board of Governors reaffirmed the Society's confidence in his management of its affairs. Having retired several years ago from directing the photography of motion pictures, he has since devoted his efforts to the welfare of A.S.C. members, programming its monthly meetings, and chairmanning the Editorial Advisory Board of the *American Cinematographer*.

As a result of the A.S.C. 1951 elections, Hal Mohr, currently directing the photography of Marlene Dietrich's current starring vehicle, "Chuck-A-Luck," was advanced from 2nd vice-president to 1st vice-president. Arthur Edeson, who was 1st VP during 1950, swapped places with Mohr—is now 2nd VP. Charles G. Clarke, president of the Society during 1948 and 1949, was returned to the roster of Officers as 3rd VP. William Skall, 3rd VP last year, is the Society's treasurer for 1951.

•

New Members elected to membership of American Society of Cinematographers last month include Benjamin Berg, American representative for Eclair-Paris, Hollywood; William J. Wade, camera department head of Republic Studios, Hollywood; and Robert P. Young, who recently succeeded Kneeland Nunan as manager of professional motion picture sales for Ansco in Hollywood.

•

Nominated for the 1951 election of the Board of Governors of the Academy of Motion Picture Arts and Sciences, to represent the industry's cinematographers, are Charles G. Clarke, Lee D. Garmes, Winton Hoch, Milton Krasner, Victor Milner, Hal Mohr and Joseph Ruttenberg—all members of the A.S.C. Ballots have been distributed to AMPAS members to elect twelve new members to the Board. Voting deadline is May 10.

•

John Arnold, A.S.C., has improved the camera rotor, described in the February issue of *American Cinematographer*, so that it now may be driven by electric motor, either induction or sync. According to Arnold, it is now possible to use rotor in making process shots, turning the camera a second time in step with pattern of camera travel on the first take.

•

Silver Spurs Award for best photography of a western outdoor motion picture will be made by Reno, Nevada, Chamber of Commerce in mid-May. Governor Charles Russell of Nevada will present the award, along with others for best achievement by western actor and best direction of a western picture. Presentation ceremonies will climax a three-day celebration and banquet in Reno in honor of western films and their makers.

•

John Boyle, A.S.C., will leave for the High Sierras first week in May to photograph sheepherder's activities for a new short subject he is producing in 16mm Kodachrome.

•

Ray Fernstrom, A.S.C., between picture assignments, is designing new toys for children, following the acceptance of his design for a Hopalong Cassidy horse attachment for kid's tricycles.

•

Lee Garmes, A.S.C., recently received a fan letter from a woman theatre-goer who only recently saw "Shanghai Express," filmed over 20 years ago and starring Marlene Dietrich. Letter complimented him highly on the lighting and photography.

•

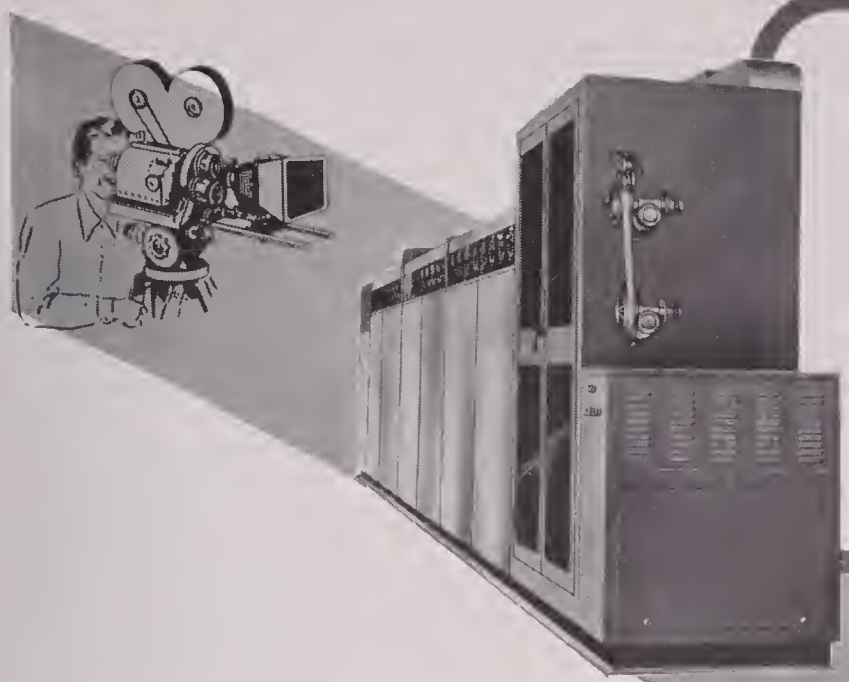
Methods of photographing and projecting high-speed and time-lapse three-dimensional motion pictures, and techniques developed for making X-ray motion pictures by photographing fluoroscopic images were on the agenda of the 69th Semiannual convention of the Society of Motion Picture and Television Engineers which opened in New York at Hotel Statler April 30.

•

Walt Disney has a standing offer to purchase good 16mm Kodachrome footage shot by amateurs, semi-pros or professionals of unusual nature subjects, for the company's series of nature and wildlife short subjects. Both "Seal Island" and "In Beaver Valley," each an Academy Award winner, were shot by independent 16mm cameramen. Company

(*Continued on Page 206*)

THIS CUT of James D. Gordon, A.S.C., was reluctantly omitted from the picture layout of Academy Award winners in last month's issue, due to a misplaced photo and the press of deadline which made it impossible to secure another. Gordon, director of photography at 20th Century-Fox, received the award for Special Achievement in design and application of a multiple image viewer for simplifying special effects for black-and-white and color photography.



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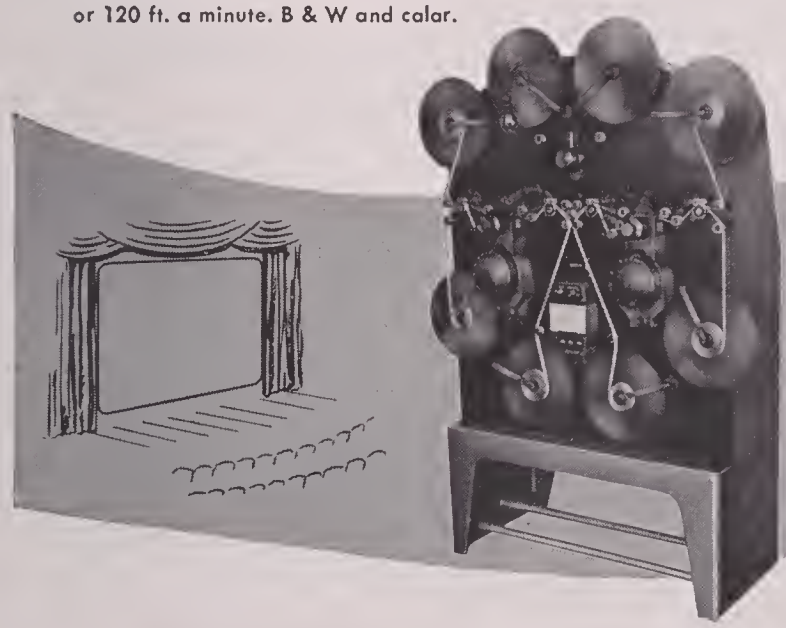

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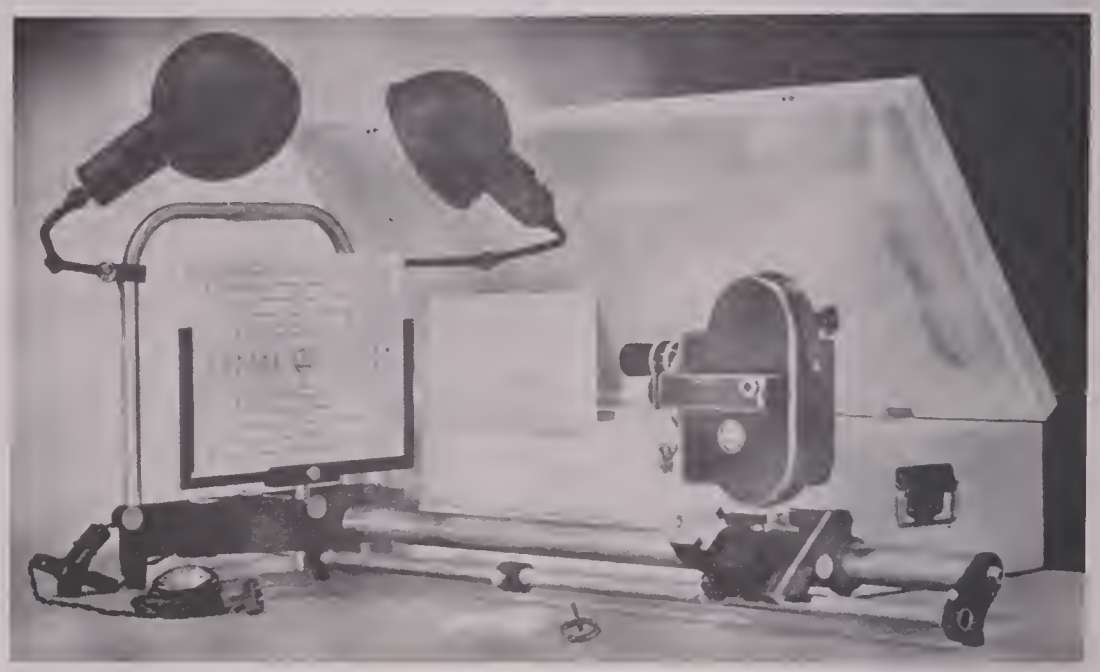

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• **MAKING MOVIE TITLES** of real professional quality, is a simple matter with the new Paillard-Bolex Movie Titler. Its ingenious design speeds up and simplifies the operator's work considerably, making titling for the first time a truly "fun" part of the movie making hobby.

The titler's comprehensive set of components makes it extremely adaptable for making scientific and advertising films and animated cartoons. The titler can be set up either vertically or horizontally. It is supplied either alone, as a basic titling set intended chiefly for making simple titles, or equipped with accessories for the most complicated trick effects.

Twin reflectors mounted on jointed arms take photoflood lamps to give necessary title card illumination. A spring-mounted metal tape measures automatically the distance between title card and plane of film in camera.

The accessory kit provides for scroll, revolving and flop-over titles; animation and animation effects, and a special miniature stage provides for filming at close range small objects—a valuable adjunct in making TV commercials and advertising films.

Basic titler in compact case, weighing 60 lbs. in all, sells for $180.25. Data and prices on additional equipment may be had by writing Paillard Products, Inc., 265 Madison Ave., New York 16.

• **IF YOU'VE NEVER USED** more than one lens on your cine camera nor tried a filter for outdoor movies, better read the latest of the "Tips" booklets just published by Bell & Howell Company, Chicago, Ill.

Tips On Movie Camera Lenses and Filters, a 32-page booklet, explains in non-technical language why, where and when to use lenses and filters.

Copies are available from all Bell & Howell dealers, or from the company, 7100 McCormick Road, Chicago '5, Ill. The cost is a mere nickle . . . and worth many times more.

• **FAST FINGERTIP** film roller release and positive film roller contacts are two of the advantages claimed for the Syncrometer film synchronizer, manufactured by National Cine Equipment, Inc., 20 West 22nd St., N. Y. City.

A high-quality precision instrument for measuring either 35mm or 16mm film, additive type assembly permits any combination of 16mm and/or 35mm sprockets. Unit is of the foot-linear type,

(*Continued on Page 174*)

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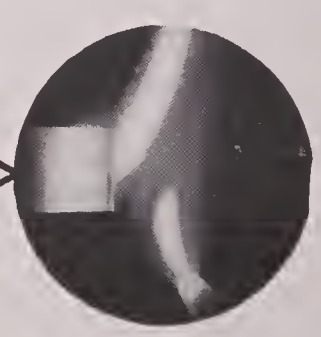

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(Continued from Page 172)

graduated and engraved for 40 frame divisions of the 16mm sprockets and 16 frame divisions on the 35mm sprocket. Film tripper shoes are a feature which prevents film creeping under sprockets. Veeder counters operate both forward and reverse, adding and subtracting the film footage. Finish is attractive gray hammertone with polished aluminum trim.

• **FOR TELEVISION**, a new light control has been developed by J. G. McAlister, Inc., Hollywood, Calif., Tradenamed the Telitrol, 2-unit apparatus provides complete control of set lighting, including dimming, from midget remote control. For use with illumination units operating on AC current only, apparatus

provides individual and master control, preset control and douser control.

Unit pictured is made up of five 2,000 watt Powerstat voltage controls in a single all-metal cabinet 15x15x60 inches in size. A single multi-conductor cable runs to the control cabinet, 9½x13 inches in size. Each voltage control will black out any lamp from 10 to 2,000 watts. There are six of these — five for the individual controls and one master-switch that interlocks and permits operating the other five as a single unit.

Equipment is the first introduced to the industry offering light control facilities in such compact unit and with a separate light-weight remote control switching panel.

Manufacturer states Telitrol units have been installed in KLAC and CBS television stages, and that units are also adaptable to set lighting control for TV film production.

• **ESSENTIAL EQUIPMENT** for editing movies, professional or amateur, are the smooth, soft rayon tricot Tenplus Gloves which protect films from finger marks, fuzz, etc. White, washable and specially

designed, they are made in three sizes: small (7-8), medium (8½-9), and large (9½-10½). Manufacturer is The Tenplus Company, 43A, Garden Drive, Roselle, New Jersey.

• **ANY FIELD OR STUDIO** camera — 35mm or 16mm — may be used as an animation camera, when mounted on the Ani-Stand, new animation stand manufactured by Motion Picture Printing Equipment Company, 8136 N. Lawndale Ave., Skokie, Ill.

Camera carriage is adjustable up and down, employing an Acme screw which is motor-driven in either direction; it may also be manually operated. Carriage is of turntable type, rotates a full 360 degrees. Camera may also be moved 5 inches north or south of plateau optical center.

Platen is compressed air operated. Air pressure may be controlled at various degrees from 5 pounds up. Size of animation table is 26 inches wide by 43 inches in length. Height from floor is 32 inches. Standard registration pins are used. Descriptive brochure is available.

• **NEWS BRIEFS** — Joseph H. Tanney, head of S.O.S. Cinema Supply Corp., New York, has donated a 5-ton refrigeration plant to the Israeli Government. . . . Kinevox, Inc., makers of synchronous magnetic recorders and equipment, move to their new building opposite Warner Brothers Studio in Burbank May 10th . . . Fairchild Recording Equipment Corp., Whitestone, New York, has appointed Ray F. Crews vice-president in charge of sales .

New Bolex TV Film *Titler* has so many professional features!

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A superlative movie titler for all 16mm and 8mm movie makers.

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Roller screen, horizontally mounted

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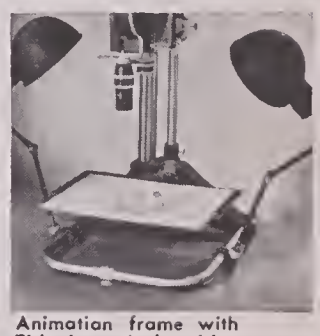

Animation frame with Titler in vertical position

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Kit may be purchased separately: it includes—

1. Multi-purpose frame
2. Roller screen for horizontal or vertical operations
3. Turntable for operation in horizontal or vertical position
4. Drum for horizontal or vertical work
5. Transparency, screen and mirror frame
6. Animation frame with registration pins
7. Hand-crank calibrated drive
8. Tilting or pivoting plates for horizontal and vertical flip-flaps
9. Additional stem for three-plane work

Above Accessory Kit, weight 10 lbs., including F.E.T. $165.00. Basic Titler and Accessory Kit, wt. 70 lbs., inc. F.E.T. $345.25

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Transparency screen frame

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THE USE OF BALLET form was a natural and almost inevitable part of the production plan, since it was the producers' intention to illustrate "Tales Of Hoffman" cinematically, rather than film a theatrical production of the opera. All sets are simple, consisting mostly of vast draperies, plaster props and cellophane.

"Hoffman" Sets New Pattern In Film Making Technique

Filming of famous opera followed new conception of production, which saw conventional sets eliminated and cinematic effects made with camera on the set.

By CHRISTOPHER CHALLIS, B.S.C., F.R.P.S.
As told to
FREDERICK FOSTER

THREE YEARS AGO, British film makers Michael Powell and Emeric Pressburger presented ballet on the screen in an entirely new way. Their film, *Red Shoes,* in Technicolor, confounded critics by winning international acclaim among balletomanes and laymen alike.

Conducting the music for the *Red Shoes* ballet was Sir Thomas Beecham. It was his first association with the cinema for many years, and his first association with Powell and Pressburger. Sir Thomas suggested that if they were thinking of putting opera on the screen in color as they had ballet, *The Tales Of Hoffman* would be an ideal choice. They agreed. Then production designer Hein Heckroth, who had executed set designs for eight stage productions of *Hoffman* in Germany added his voice. Heckroth has long had the idea that detailed lath and plaster set construction, generally believed to be the hallmark of an important feature film, is unnecessary. As did Hamlet, he says "The play's the thing!"

Likening his film set designs to a Rembrandt portrait which merges into a dark background, Heckroth believes that on the screen, too, audiences focus only on the actors. Backgrounds should be merely non-distracting "settings" which set the mood but do not clutter the eye. Thus most of the sets for *The Tales Of Hoffman* are mainly huge gauze drapes, dyed and decorated to suit the setting. A classic example is the set designed for Olympia's bedroom in Act 1. An ornate swinging bed hung in the middle of a completely circular room. Walls were of yellow dyed muslin; the entrances a clever arrangement of drapes. Two yards away hung a further circular sweep of muslin. At the back again a yellow-painted backcloth. The impression of depth through the gauzes, and of reality to the cellophane chandeliers hung between the two layers was achieved by the lighting.

Thus all the simplicity and the economy of Heckroth's style of theatrical stage settings were employed in the making of *The Tales Of Hoffman.* Obviously, this radically new cinematic technique called for a new approach in photography. Happily there were few insurmountable problems for me due, mainly, to my being able to work with Mr. Heckroth in the early stages of planning the sets. He decided that we would strive to get every possible effect with the camera on the floor, and not resort to special effects. An example is the third act. This is a Venetian scene with a gondola moving on the placid waters of a canal. Instead of flooding the stage with water and using a real gondola, we produced the desired effect by illusion. The gondola, for the most

CHRIS CHALLIS (in checkered jacket) shown with crew that aided him in the Technicolor photography of "Tales Of Hoffman." Others, from left to right are: Bill Wall, George Minassian, Fred Francis, Sydney Streeter and John Kotz. Challis was associated with Jack Cardiff in photographing "Red Shoes," made by producers of "Hoffman."

SCENE in Act I of "Hoffman" which typifies Heckroth's technique for simplicity in set design. He believes backgrounds should be simple, permitting audience to concentrate on players.

WATER was not employed for this setting of lily pond for the Dragonfly Ballet. Instead, layers of painted gauze, cleverly decorated, produced the desired illusion. Effect scene required no major set construction.

ANOTHER example of simple set construction for "Hoffman." Background is huge circular diorama. Trees are cutouts, such as are employed in theatre sets. Careful lighting contributed to the illusion.

IT WAS THE producers' belief that the magic quality of the camera, unbound by stage and sides of a set, as in the theatre, should be used to enable audience to get close to the dancers, see pattern of dance.

part is a cutout; the water, yards and yards of dyed gauze stretched across the stage and sprinkled with brilliant sequins. The effect on the screen is startling and in keeping with the fantasy scheme of the production itself. Here again, new applications of lighting coupled with Heckroth's stagecraft enhanced a relatively simple and old established stage technique.

The Tales Of Hoffman perhaps is the first feature production made around a sound track. The Royal Philharmonic orchestra and our singers recorded the entire score before a camera turned. There is no dialog anywhere in the picture. The dancers in leading roles had to sing along in synchronization with the playback of the sound track and to make lip movements coincide with the music. This is reversing the usual order of film making, but logically in an opera film the music is of prime importance.

When the recording on film was completed to his satisfaction, Sir Thomas Beecham's active participation in the film ended. The recording was transferred to discs, to be played back on the set during production, and for use by the music coach whose job it was to familiarize the actors with their part. It was impossible to script the film in the conventional way. As a corollary to the libretto, Powell and Pressburger wrote a broad treatment, but detailed action had to be worked out closely.

Since it was the producers' intention to illustrate *The Tales Of Hoffman* cinematically, rather than film a theatrical production of the opera, the use of ballet form for this purpose was a natural and almost inevitable part of the production plan. Frederick Ashton was appointed choreographer. In planning the ballets, Ashton made full use of the plasticity of the film medium which he finds most exciting. He believes that the magic quality of the camera, which is unbound by a stage and three sides of a set as in the theatre, should be used to enable the audience to get close to the dancer and see the patterns of the dance from different angles. Designer Heckroth's simple settings fitted this concept exactly.

In many instances, no real sets were built at all. We simply used a painted backdrop of gauze, with spots highlighting the important props in the scene.

(*Continued on Page 194*)

ON SUCH MOUNTAIN ponds as this, dolly shots for "Across The Wide Missouri" were made by mounting the camera on a reinforced rubber life raft, which was drawn or tethered securely with aid of stout ropes (arrow). Raft proved remarkably stable, netted highly effective shots.

No Time For Weather

Neither rain nor snow nor sleet nor clouds stopped this camera crew on its appointed task of filming "Across The Wide Missouri."

By WILLIAM MELLOR, A.S.C.
As told to
JAMES MERRICK

When Director Bill Wellman and I climbed into a plane some months ago to film *Across the Wide Missouri* on location in the Colorado Rockies, I had the feeling it would be different from our previous association.

It was.

The last time Bill and I were together at Metro-Goldwyn-Mayer on *The Next Voice You Hear*—we worked almost entirely on one stage, slightly cramped but level. The prospects of working right in the heart of the Rockies sounded intriguing.

It was Bill's idea, aided and abetted by Robert Sisk, our producer, to recapture the primitive atmosphere in which the Mountain Men worked in the 1830's. Our locations, between Durango and Silverton on the Animas River, were authentic. Local records reveal that the streams and lakes we photographed had been trapped by a St. Louis fur company as late as 1831.

Well, the place hasn't changed. About the only advantages we had over those early trappers were a camera and walkie-talkie-cum-telephone connection with Culver City.

Locations had been selected ahead of time. But Bill Wellman, perfectionist and part mountain goat, later commandeered a jeep and found sites which I doubt even the Mountain Men trod. (He was driven by studio driver Gil Casper, who got his basic training for this sort of thing spearheading Patton's tank drive across Europe!)

For one sequence we went in the way the trappers did, hacking a path with axes. Cables, lights, and the Technicolor camera were packed in on muleback. I figured lights would be necessary because of the dense green foliage. Extreme contrast caused by sunlight could be avoided by use of arcs. As it turned out, the sun never even hit once where we worked.

Normal camera problems faded before the basic "physical" aspect of *Across the Wide Missouri*. Without the "Blue Goose" we would have been helpless in the rugged terrain of that two-mile high elevation.

The "Blue Goose," described in a previous edition of the "Cinematographer," is a new innovation in camera cars that does everything but play canasta. It navigates seemingly impossible terrain. The car, which makes possible boom shots

MOBILE camera car, dubbed the "Blue Goose," made possible the use of heavy Technicolor camera in the most remote and rugged mountain locations. Car will go anywhere a jeep can be driven, according to director of photography William Mellor, A.S.C., seated at rear of camera.

admit a "shooting in the dark" feeling without rushes.

We saw none. But Bob Sisk, Dore Schary and others back at the studio wired daily praise; I would cheerfully have traded all the trout in Colorado for a look at one set of dailies. (Bob Surtees tells me he experienced this same "empty" feeling while shooting *King Solomon's Mines* in Africa.)

With our main locations at altitudes ranging from 9,000 to 14,000 feet — at Red Mountain Pass, which we learned was the point of origin for all Rocky Mountain storms! — we soon adjusted ourselves to the daily routine of rain, sleet and snow. Invariably we encountered such weather every day half-way through lunch, regardless of what time we broke!

When storm clouds gathered, Bill Wellman would check with me on light, and even if we were in the middle of a long scene, he would switch to another sequence, picking up the interrupted shot later when light conditions matched. We worked all the time on this basis, with two stand-by set-ups. While we worked at "A," grips would be setting up "B" and "C" sites, giving us flexibility of choice. We had two portable generators on trucks. At some sites we had to "mush" in the generator on large wooden sleds.

(*Continued on Page 199*)

ABOVE rugged timberline in Colorado Rockies, crew had to transport lights, cables and camera equipment to shooting location on horseback. High elevation added to difficulties, also.

anywhere a jeep can go, is essentially a 4-wheel-drive war surplus weapons carrier. On the front has been mounted an hydraulic lift capable of hoisting any weight up to three tons to a height of 20 feet. The hydraulically operated platform holds camera, crew and lights rock-steady at its maximum height or 2½ feet below ground level, as when shooting over river bank or downhill. Since we returned from Colorado, George Dye and Howard Cooley, its designers and builders, have revamped their baby, giving it 16 speeds forward, a self-contained tape-recording unit, and parallels over cab and body to accommodate three cameras. Cameras now may be pointed directly overhead or straight down, while maintaining absolute rigidity for process shots.

Supplementing the "Blue Goose" were Navy life rafts. On these we rigged camera platforms for lake-to-shore shots. The rafts stay level, eliminating the need for building camera tracks out into the water and attendant loss of time when the tracks must be removed for reverse shots. (Rafts, too, make excellent lunch hour "fishing barges." Grab a sandwich and rod, and you have fresh trout for dinner.)

Operating a thousand miles from base, as it were, in a completely self-contained unit housed in a tent city, I must

HERE grips replace horses to carry camera (arrow) on a litter to location for shooting. Scene is Indian village high in the Rockies where important action for "Across The Wide Missouri" was staged.

BATTLE OF PHILIPPI was staged on desolate shore of Lake Michigan. Here the starkly uncivilized character of the nightmarish landscape appears as a backdrop fashioned by Salvador Dali. Such intelligent employment of existing locales by David Bradley testifies to his unique genius.

"Caesar's" Hollywood Triumph

The film capital acclaimed this 16mm motion picture and gave opportunity to its maker to become one of its professional film producers.

By HERB A. LIGHTMAN

DAVID BRADLEY gave citizens of Winnetka, Illinois, their first taste of film making on a professional scale when in 1937 he cast a number of the town's most personable and talented citizens in his first ambitious 16mm motion picture — a feature-length production of *Treasure Island*. Even more ambitious were his 16mm versions of *The Christmas Carol, Emperor Jones, Oliver Twist* and *Peer Gynt,* which followed with professional regularity.

Following advent of World War II, Bradley journeyed to Hollywood to enter Army Signal Corps training for combat cameraman. The schooling was conducted by some of the motion picture industry's top directors of photography. After his discharge from the Army, and with a considerable education in professional movie making now under his belt, Bradley returned to Winnetka and resumed his picture making. He beat his ex-schoolmate, Orson Welles, to the draw by producing a creditable version of *Macbeth* in 16mm. The production enjoyed wide circulation and spurred Bradley to greater accomplishment. His next undertaking was *Julius Caesar,* in 16mm sound. This picture served to bring his exceptional talents to the attention of Metro-Goldwyn-Mayer Studios. The result — Bradley was summoned to Culver City where he is currently being groomed for a berth as producer-director on MGM's formidable production staff.

For Bradley, this is a long cherished dream come true. Here, as a result of his extraordinary 16mm movie making talents, he has achieved a goal sought by countless non-professional film makers which few, indeed, attain. For among the nation's seemingly talented cine filmers, very few possess the imagination and the initiative necessary to the production of mature theatrical films. Bradley's case proves there are exceptions, of course, and that recognition of non-professionals by Hollywood *is* possible.

Bradley's *Caesar* is a thoroughly pro-

PRUDENT use of reflectors enhanced the photography throughout the entire production of "Julius Caesar." A Cine Special and a 16mm Filmo were employed on most exterior locations.

NEO-ROMAN architecture of Chicago's Museum of Science and Industry, Soldier's Field, and Elk's Memorial enabled Bradley to achieve backgrounds for his picture vastly more imposing than any studio sets.

fessional production. It owes its smooth dramatic and filmic mounting to the wealth of research and careful preplanning that went into its conception. Long before a camera turned, the script was carefully edited (but not rewritten); scene sketches were made for each composition in the story board manner; and long passages referring to off-stage action in the play were tightened up and presented as flashback action sequences. The entire treatment of the film was developed strictly in screen terms, rather than as a filmed version of a stage play.

The stylization of the film has a unity which extends to direction, acting, photography, special effects and editing. Complementing the ominous undercurrents of the play itself, these elements combine to give the events portrayed a mood of immediacy and political portent. The viewer feels that not only are the events significant in a social sense, but that they belong to no one age — that with a slight change of costume and idiom they might be happening today. The successful conveying of this idea is a tribute to Bradley and his fellow technicians.

The acting in Bradley's *Julius Caesar* is generally very good, although in a few cases dramatic ability had to be sacrificed in favor of securing the correct physical types. Harold Tasker, former Princeton Triangle Club player who is now a Chicago advertising executive, played the part of *Caesar* quite capably. Charlton Heston, who had appeared with Katherine Cornell in *Antony and Cleopatra* and who now is in Hollywood, joined the cast to deliver a virile and sensitive performance as Mark Antony. Bradley himself took time off from his producer-director chores to create a well-modulated and skillfully underplayed portrayal of Brutus.

Particularly well-handled are the mob scenes, especially those in the Forum-Oration sequence. The burning of Rome and the mob murder of the poet Cinna surrounded by a ring of fire are very forcefully depicted. Calpurnia's nightmare sequence, full of storm and symbolism, is something of a mood masterpiece.

The photography in *Caesar* is outstanding. Departing from the Hollywood style in which modeled lighting predominates, director of photography Louis McMahon made fine use of natural light sources, letting the light fall

(*Continued on Page 196*)

IN BRADLEY's "Caesar" granite looks like granite, and marble is unmistakeably marble. Natural settings permitted camera to move back for long shots of magnificent scope and power.

BRADLEY's costuming matched the professional quality of his lighting, staging and photography. Those costumes not made by members of his company were rented from costume supply houses.

TYPICAL PORTABLE installation of Westrex magnetic film recording equipment is pictured above. At left is shown units of the Westrex 1035 system; recorder, soundproof inverter case, motor control unit and customer's monitor and playback amplifier. At right, Earl Snyder of United-International Productions, operates mixer on tailgate of station wagon.

The Westrex Magnetic Film Recording Systems

Western Electric subsidiary offers both portable and fixed studio systems using 35mm, 17½mm or 16mm film.

By RALPH LAWTON

RALPH LAWTON'S article is the first of a series to be published describing the various magnetic film and tape recording systems now on the market for professional use. Publication of the series is in answer to reader demand for information on this equipment which is finding wider use day by day both in the major studios and among producers of industrial and television films. The equipment of another leading manufacturer will be described in the June issue.—EDITOR.

BESIDES THE many other advantages which magnetic film recording holds, it has greatly eased production problems of industrial and television film producers as well as those of the major studios by making possible sound recording at lower cost.

Among the factors contributing to this lowered cost are (1) the relatively inexpensive magnetic recording film stock, which can be used for and amatorized over a number of film productions; (2) the fact each take can be played back immediately, if necessary, and bad takes erased and the film re-recorded; and (3), the advantage of eliminating the re-recording for printing of all but the best take.

Interest in magnetic recording, which has been increasing for the past three years, crystalized into action in many major studios last year following the introduction of the Westrex Series 1000 magnetic film recording system. The Westrex Corporation is a subsidiary of the Western Electric Company and has its own subsidiary, Sound Services, Inc., in Hollywood which is equipped to service local radio, television and motion picture studios with Westrex magnetic film recording.

There are two Westrex magnetic recording systems: (1) the fixed studio and (2) the portable location recording system. Both will record on any of the three sizes of magnetic film. A reverse rewind is provided operating at three times the forward recording speed. Each complete system includes two dynamic microphones, a microphone floor stand, a two-input position mixer and transmission unit, a magnetic recorder, a power control unit, a complete set of spare glassware and fuses, and all interconnecting cables for operating from a single phase, 50 or 60 cycle, 115-volt power source.

The RA-1385-A Mixer-Amplifier Unit is a small portable unit containing all of the amplifier and equalizing transmission equipment, except that associated with the film monitor circuit, and provides two microphone input positions, each with a mixer control and separate variable dialogue equalizer. Variable mid-range intelligence equalization is provided in the plug-in equalizer unit of the main amplifier. A high speed volume indicator is included as well as high-quality, low impedance, headset

(*Continued on Page 200*)

SERIES 1000 portable unit in use in Spain. Here equipment is mounted in passenger car and the mixer operates from car's trunk rack.

M-G-M used the Westrex 1035 portable magnetic film recorder in the production of "Teresa," filmed high in the Apennine Mountains of Italy.

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TRANSLUCENT photo backgrounds augment standard set construction for series of half-hour TV mystery films being produced in Hollywood by Louis Weiss, veteran film maker, and photographed by Elmer Dyer, A.S.C. (left). Dyer brings to Weiss' productions all the photographic knowhow gained in more than thirty years experience as Hollywood studio cameraman.

Hollywood Knowhow In TV Film Production

Top quality photography essential in bringing to TV screens the best in a good script and capable cast.

By LEIGH ALLEN

IF THE END PRODUCT itself is the gauge by which all phases of a television film producer's operations must inevitably be judged, then the series of half-hour Craig Kennedy mystery films currently being produced in Hollywood by Louis Weiss must inevitably place this producer near the top of the list of quality TV film makers. Quality is what earned for his early-day feature films the solid reputation that gained him recognition as one of the film industry's leading low-budget and serial film producers. Weiss, who brought to the screen many of the early-day Tarzan films, is said to have launched Columbia Pictures in its profitable serial film business. He now brings to television a talent for quality-economy film production that successful TV film making demands.

While quality is the watchword that guides the scripting, set designing, casting, and the photography of Weiss' television films, it is with the photography we are chiefly concerned here. To direct the photography of this initial series of TV films, Weiss has chosen a veteran of the motion picture studios, Elmer Dyer, A.S.C. Dyer, who built a reputation in the late 30's as a standout aerial cinematographer, probably has photographed as many different types of motion picture productions as any man in the business. Of the old school, Dyer has a flair for getting his lighting and setups done with a minimum of delay. His camera crew moves through scores of pages of script in the course of a day, enabling Weiss to turn out one complete half-hour TV film every three days. Some TV film producers are doing the same thing in two, but Weiss prefers to take the additional day, which is made economically possible by savings skillfully effected all along the way.

One example of how economies are effected is the use of the late model Mitchell BNC 35mm camera instead of older type cameras. The BNC, with its built-in blimp and improved mechanism, clips minutes from the time required in making new setups, loading of film etc.

Still another and important economy is the use of magnetic film recording. Weiss utilizes the services of Glen Glenn Sound Company which has its facilities piped direct to the sound stage. It is only necessary for Weiss' sound crew to plug the microphone cable into a wall receptacle on the sound stage. Thus the sound mixer and his equipment is eliminated from the set, affording more room for crew, cast and the camera to move about.

Every set is constructed in the pattern of standard studio sets; there is no sloughing off with painted sets, as has been the practice with some producers of TV films, following the pattern set by so many live TV shows. Because there is considerable need for semi-exterior effects, such as the skyline of a big city, or the view of buildings from large windows or a tenement rooftop, photo enlargements of actual city buildings and skylines are used as backings and dioramas, instead of painted backdrops. Known in the industry as Adelite backgrounds, these are produced on large translucent plastic sheets and illuminated from the rear by reflected light. "Adelite backgrounds make my lighting problems simpler," said Dyer, "and pictorially they are far more realistic and effective than others we might use."

Dyer describes his set lighting as "not flat, but predominately round." In the beginning, when first he undertook the photography of films for television he followed the proved lighting techniques for the medium set down by Eastman Kodak engineers in a booklet on the subject which that company issued a year ago.

Proper makeup, Dyer has found, is a factor that is just as important as in feature film photography, and is closely tied in with his lighting scheme. On his recommendation, all male players use

the same type and grade of makeup; the same goes for all women in the cast, except that the makeup is 3 points lighter than that used by the men. Result of all this is that set lighting is simplified and there is less need to provide special lighting for players who might otherwise appear on the set wearing their "pet" makeup formula.

Weiss' film editor, also new to the TV film business, had trouble with Dyer's films in the beginning, because they were down scale and quite grey. But, Dyer points out, this is a laboratory requisite where films are made for television that demands a print of lighter contrast than those used for theatre exhibition. Each film in the series is carefully checked for print quality by Louis Weiss in a closed-circuit TV projection at ABC'S studio in Hollywood.

Dyer shoots as much of the story in closeups and medium shots as possible, which is essential for the limited viewing area of TV screens. He keeps the camera mounted on a dolly at all times, and dollies in or out or "follows" on nearly every shot—keeping in close, following the players around at close range. In this respect, Weiss and his script writers leave the procedure pretty much to Dyer, rather than make it a fixed demand in the script itself.

Earlier, however, Dyer has greatly influenced the camera pattern of each production in pre-planning confabs held by the producer along with his script writer, director and art director. Dyer's camera knowhow cuts many production corners, saves money for the company. As a result, when the company goes on the stage, shooting of the production moves along smoothly and at a surprising rapid pace.

Weiss reiterated the view of many others in the TV film business when he said that the industry's big need is more technicians — cameramen, film editors, sound technicians, etc.—with the "feel" for the television medium. The transmission system of television, its screen size limitations, and the viewing habits of TV set owners themselves all have a very decided effect in shaping the techniques of making films for the medium. The men who work in it must recognize and understand these problems and—more important — understand what it takes to cope with them successfully.

Weiss cited the difficulty he had in getting a film editor that had the necessary "feel" for television. With TV films, it is important to come to the point quickly; there is not the time for the dramatic buildup generally followed in feature films. With so-called "half-hour" TV films, there is only 26½ minutes in which to tell the story. (The

(*Continued on Page 199*)

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MANUFACTURERS OF SOUND-ON-FILM RECORDING EQUIPMENT SINCE 1931

MODERN equipment speeds the job for Walter Strenge, A.S.C., (left) director of photography for Roland Reed Productions.

MITCHELL 16mm camera is used on crane in shooting color film for Standard Oil Co. Permanent gas station set in background is full scale, complete in every detail.

In The Best Professional Manner

System of fixed sets, permanent light rigging, and use of major studio facilities key to successful industrial film production.

By WALTER STRENGE, A.S.C.

USE OF THE well-equipped Hal Roach Motion Picture Studios in Culver City by Roland Reed Productions affords this prominent industrial and television film producer every professional facility necessary to the making of top-quality 35mm films and 16mm color films for its many clients.

The studio only a few years ago was devoted to turning out Harold Lloyd and Charlie Chase comedies. Mack Sennett made some of his last comedies there. Today, films for industry and TV films for some of the nation's biggest national advertisers are being produced on Roach sound stages. Reed's films are made following the high production standards long established by major producers for feature films.

Because of its extensive commitments for making promotional and dealer training films for Standard Oil Company and the popular *The Trouble With Father* series of television films for General Mills, Roland Reed Productions holds a long term lease on space on stages 5 and 6 on the Roach lot.

For economy reasons, fixed sets have been erected on both stages, which are used continuously by the company for pictures produced in both series. Only in the production of related films in series is such a plan possible, and it contributes immensely to trimming production costs. Set construction and the rigging for overhead lights can be amortized over a number of productions. The permanent light rigging, incidentally, is a big factor in saving illumination costs. The overhead rigging remains fixed, as do the lights, with lamp changes being made only occasionally to accommodate some unusual extension of the scene or set.

All this is directly related to the *photography* of Roland Reed productions, of course, for anything that contributes toward simplifying set illumination obviously saves time for the director of photography and materially speeds up camera setups and the process of getting scenes "in the can."

Most interesting is the series of integrated sets built permanently on stage 5 for the *The Trouble With Father* television films. Sets representing the complete 5-room home of the Stu Erwins have been erected there so that by moving wild walls it is possible for the camera to dolly, in one continuous take, from the Erwin's front door, through the house and out the rear door into the backyard, if necessary. Here, also, is built the Erwin's two-car garage and the adjoining street, all full scale. It is virtually unnecessary to go off the lot to film exteriors for either the Stu Erwin or Standard Oil films. Utilizing the ex-

(Continued on Page 200)

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The

TOP TEN

WINNERS IN

AMERICAN CINEMATOGRAPHER'S 1951 ANNUAL AMATEUR COMPETITION

★

AH! WILDERNESS
Charles H. Benjamin

KING BOOKIE
John F. Cowart

MONARCH BUTTERFLY STORY
William and Claire Anderson

OUR FRIENDLY ENEMIES
Ralph E. Gray

PARADISE HONOLULU
Nobuo Miyaoka

RINGLING BROTHERS,
BARNUM & BAILEY CIRCUS
Oscar H. Horovitz

SEA THEME
M. R. Weinstein, J. C. Couffer, Conrad Hall

SYMPHONY OF THE VILLAGE
Bert Seckendorf

TUMBLING WATERS
Leo J. Heffernan

WATER–WILD ANIMAL OF THE MOUNTAINS
Fred Hudson and Donal Michalsky

American

A DISTINGUISHED jury of six Hollywood directors of photography—all members of the American Society of Cinematographers—have chosen ten amateur motion pictures entered in the *American Cinematographer's* 1951 Annual Amateur Competition for Trophy Awards. Ten additional films, runners-up in the competition, have been cited for Honorable Mention.

The Top Ten award winners are:

Ah! Wilderness, 400 feet 16mm Kodachrome, with music score on records, entered by Charles H. Benjamin, Brooklyn, New York.

King Bookie, 700 feet 16mm black-and-white, with sound on tape, entered by John F. Cowart, Atlanta, Georgia.

Monarch Butterfly Story, 382 feet 16mm Kodachrome, sound-on-film, entered by Major William A. and Claire Louise Anderson, Arlington, Virginia.

Our Friendly Enemies, 800 feet 16mm Kodachrome, silent, entered by Ralph E. Gray, F.P.S.A., F.A.C.L., Mexico City, Mexico.

Paradise Honolulu, 800 feet 16mm Kodachrome, silent, entered by Nobuo Myiaoka, Honolulu, Hawaii.

Ringling Brothers and Barnum & Bailey Circus, 800 feet 16mm Kodachrome, silent, entered by Oscar H. Horovitz, Newton, Mass.

Sea Theme, 675 feet 16mm black-and-white, sound on film, entered by M. R. Weinstein, J. C. Couffer, and Conrad Hall, West Hollywood, Calif.

Symphony Of The Village, 700 feet 16mm Kodachrome, with music score on records, entered by Bert Seckendorf, Brooklyn, New York.

Tumbling Waters, 400 feet 16mm Kodachrome, silent, entered by Leo J. Heffernan, New York City, N. Y.

Water—Wild Animal Of The Mountains, 300 feet 16mm black-and-white, sound on film, entered by Fred Hudson and Donal Michalsky, Los Angeles, Calif.

Cited for Honorable Mention are:

Ants In The Doughnuts, 380 feet 16mm Kodachrome, with sound on discs, entered by Aubrey H. Widson, Seattle, Washington.

How To Catch A Burglar, 240 feet black-and-white, sound on film, entered by Donald S. James, London, England.

Joint Account, 650 feet 16mm Kodachrome, sound on film, entered by Leo Caloia, Los Angeles, Calif.

Cinematographer Award Winners

Lily Was A Lady, 380 feet 16mm Kodachrome, silent, entered by Roy C. Wilcox, Meriden, Conn.

My Sierra Hideaway, 800 feet 16mm Kodachrome, with sound on tape, entered by Leon Paddock, Inglewood, Calif.

Nature Of Life, 550 feet 16mm black-and-white, with sound on tape, entered by Giuseppe Della Noce, Trieste, Italy.

Of Kings And Queens, 360 feet 16mm Kodachrome, sound on film, entered by C. Richmond Lawrence, Los ngeles, Calif.

Reportaje Grafico Nacional, 400 feet 16mm black-and-white, sound on film, entered by Alvaro Chavarria Nunez, San Jose, Costa Rica, Central America.

The Mirror, 800 feet 16mm black-and-white, sound on film, entered by Arthur H. Smith, Richmond, Calif.

There Runs No River, 150 feet 8mm black-and-white, with sound on tape, entered by Francis J. Barrett, Seattle, Washington.

Some interesting facts highlight the competition this year, which was sponsored jointly by the *American Cinematographer* and the American Society of Cinematographers. First was the tremendous increase over last year of films entered with sound; over 51 percent had sound on film, on magnetic tape or on discs. Of these, 24 percent had sound tracks combined with the film. Of the total films entered, one-third were 8mm, and it is surprising that among these, only one—*There Runs No River,* entered by Francis J. Barrett of Seattle—placed in the competition. This film received Honorable Mention.

Among the winners for 1951 are several other movie makers who were in the winners' circle last year: Ralph E. Gray and Bert Seckendorf were 1950 Certificate Award winners; John F. Cowart and Oscar H. Horowitz received Honorable Mention last year.

Brief descriptions of the winning films follow:

AH! WILDERNESS: The stark beauty of remote mountain and plains areas, as yet untouched by the unrelenting surge of modern civilization, has been caught by Charles Benjamin's camera and Kodachrome film. Adapted from the book *Stone Dust,* by Frank Ernest Hill, Benjamin's film opens with scenes of mountain peaks and passes in winter—peaks mantled in snow, and trickling brooks that somehow have evaded the wintry grip of Jack Frost. The picture progresses in a like manner through Spring, Summer and Autumn, rendering a pictorial account of the ever-changing seasons in one of the few remaining wilderness areas of America.

The picture discloses skillful camera handling as well as a talent for building interesting continuity through artful editing and titling.

KING BOOKIE: John Cowart set himself a tremendous goal in undertaking the production of this dramatic film, which has to do with bank robbers. But thanks to his zeal, his all around ability in movie making, the sincerity and cooperation of his amateur cast, and the cooperation of local merchants who happily contributed the use of their business establishments for locations, he has turned out a highly creditable production.

The picture opens with a girl, unwittingly involved in the robbery, relating to an attorney events of the story which is pictured in retrospect. King Bookie is an underworld character who plots the crime, involves several others, some of whom meet death by his gun when the proceeds are retrieved from one gang member who sought to double-cross King Bookie. Narration, dialogue

(*Continued on Next Page*)

AMERICAN CINEMATOGRAPHER AWARD

Pictured above is new "Oscar" of American Cinematographer which is to be annual award for makers of Top Ten amateur films entered in yearly competition. Ten of the trophies were awarded to cine amateurs in contest just concluded.

"WELL, I think that other film shows superior camera work!" Ray Rennahan (right) discusses merits of film entries with Fred W. Jackman during a screening of films entered in American Cinematographer's 1951 Amateur Motion Picture Competition.

MEMBERS of American Society of Cinematographers who acted as judges in competition are, from left to right, Fred W. Jackman, Ray Rennahan, Archie Stout, Phil Tannura and Tom Tutwiler. Sixth member, Joseph Biroc, was absent during this session.

and musical score are a commendable effort of sound-on-film recording.

MONARCH BUTTERFLY STORY: This film, with its carefully written and recorded narration, is equally meticulous in its photography which chronicles the life-cycle of the Monarch butterfly from egg to adult. Major Anderson and his wife Claire Louise have collaborated in producing one of the finest studies of insect life ever produced by a non-professional film maker, and already one large educational film distributor is negotiating for its purchase.

Employing two Bolex H-16 cameras, the Andersons have produced several excellent sequences in time-lapse photography aided by equipment home-made for the purpose by Mr. Anderson. The picture opens with scenes showing adult Monarchs in natural habitat. Interesting facts regarding the butterfly are told in the narration. Then the egg-laying period is shown, followed by closeups of the egg, hatching of the pupa, and its ultimate growth to an adult through the various stages of metamorphosis natural to the Monarch.

It is the meticulous ultra-closeup photography and the perfectly executed time-lapse camera work that gives this production its class, and easily makes it one of the best 16mm color films of the year.

OUR FRIENDLY ENEMIES: This unique title has its origin in the fact that the Seminoles are the only native American Indians who have never signed a peace treaty with the government. Ralph E. Gray has chronicled in color with his 16mm Cine Special camera the contemporary life of the Seminoles living in Florida, picturing their activities against the backdrop of modern-day living and habits. Gray's reputation for camera artistry moves a step forward with this picture, and his usual knack for title composition and execution is again demonstrated. Skillful editing and integrating of the titles have resulted in one of the better films in Gray's career as an amateur movie maker.

PARADISE HONOLULU: Nobuo Miyaoka, using a Cine Special camera and Kodachrome film, has documented contemporary life in Honolulu as have perhaps few cine cameraists in recent years. The picture is essentially newsreel in style and depends upon titles to convey that which is not clear in the pictorial action. But interest is sustained in the careful selection of subject matter and the manner in which it has been photographed. A highlight is the fine night photography in color of Honolulu's annual lantern parade.

RINGLING BROTHERS AND BARNUM & BAILEY CIRCUS: This picture, in its original 1600 foot length, was selected by *Movie Makers* as one of the Ten Best in its 1950 competition. Oscar Horovitz has completely re-edited it, compressing it to 800 feet for what, we are sure, is a greatly improved picture. Certainly it is one of the best film documents of a circus ever seen by *American Cinematographer's* reviewers in many years, and we are sure that Cecil B. DeMille, who currently is producing a picture on circus life, would agree on the merits of its photography.

Horowitz's camera—a Bell & Howell 70-DE—has caught the atmosphere of Circus Day with colorful scenes, both inside and outside the tents, beginning with the Sideshows and continuing inside the big top where he recorded all the big spectacles from a variety of angles. It is evident that making this picture required Horovitz to visit the circus on several different occasions, for it shows careful study and preplanning and a wise choice of positions for setting up his camera. The interiors, made under the big top with its attendant inferior lighting for photography, are commendable and offer a fine example of what can be done with Kodachrome film in the hands of a skillful cine photographer.

SEA THEME: M. R. Weinstein, J. C. Couffer and Conrad Hall have collaborated in the production of a thematic and quite pictorial account of a young couple with a sailboat at sea. The variety of moods are enhanced by the carefully-chosen musical score, which has been combined with the film. The picture begins by showing the youth and girl loafing in the sun on the ship's deck. A breeze springs up and they go into action setting sails and the wheel for a cruise in the bay. The camera follows the craft, both in long shot and intimate medium on-deck shots as it churns through the water, runs into a calm, then again bends to the breeze and returns to port at dusk.

Consistency of photographic quality is a highlight and the sound recording is quite professional. The picture was filmed with a Bolex H-16 camera and a variety of four lenses.

SYMPHONY OF THE VILLAGE: Bert Seckendorf and his Cine Special camera have caught the colorful activities of Greenwich Village in one of the best color documentaries on this subject made to date. This famed New York spot, with its renowned artists, artisans and craftsmen, is revealed in all its gay, Bohemian color as the camera chronicles the activities of sidewalk artists, potters, ceramists, wood carvers and makers of

(*Continued on Page 192*)

New SPECTRA 3 COLOR METER

THE ONLY METER THAT MEASURES ALL LIGHT SOURCES— INCLUDING *DAYLIGHT*, ACCURATELY

For a true color picture, there must be a correct relationship between the color content of the light and the color sensitivity of the film. SPECTRA 3 Color Meter measures the proportionate amounts of all three primary colors present in the light source, and indicates the filters necessary for positive color correction.

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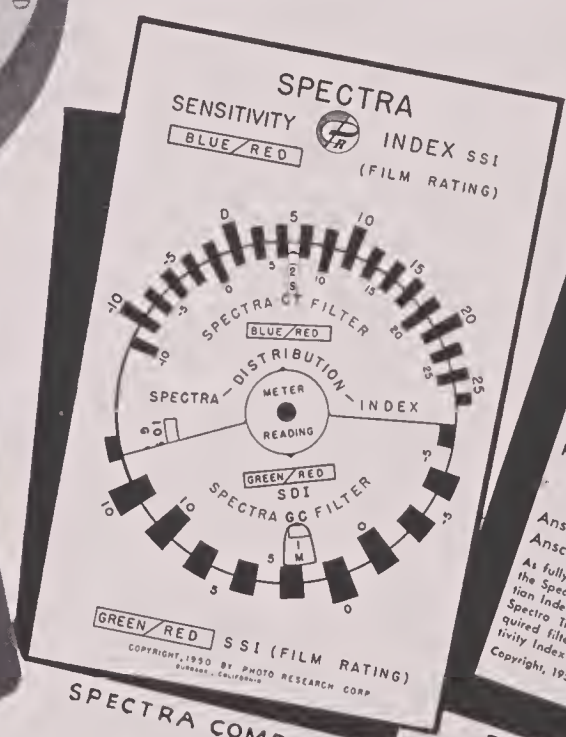

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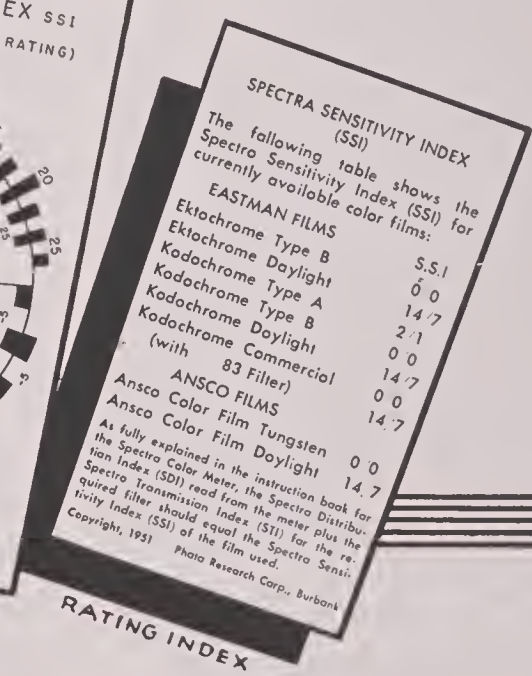

SPECTRA SENSITIVITY INDEX (SSI)

The following table shows the Spectra Sensitivity Index (SSI) for currently available color films:

	S.S.I
EASTMAN FILMS	
Ektachrome Type B	0 0
Ektachrome Daylight	14/7
Kodachrome Type A	2/1
Kodachrome Type B	0 0
Kodachrome Daylight	14/7
Kodachrome Commercial (with 83 Filter)	0 0
ANSCO FILMS	14/7
Ansco Color Film Tungsten	0 0
Ansco Color Film Daylight	14/7

At fully explained in the instruction book for the Spectra Color Meter, the Spectra Distribution Index (SDI) read from the meter plus the Spectra Transmission Index (STI) for the required filter should equal the Spectra Sensitivity Index (SSI) of the film used.

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RATING INDEX

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CT (Color Temperature) GC (Green Correction)

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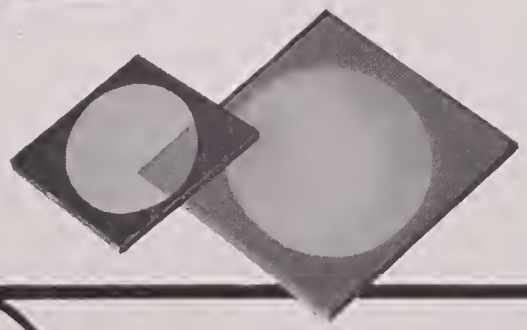

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AWARD WINNERS

(*Continued from Page 190*)

novelty jewelry. The excellent titling knits together all the scenes and sequences into another top-notch picture for which this filmer has become famous in amateur circles.

Tumbling Waters: This 16mm Kodachrome picture, which documents the scenic beauty of Niagara, has previously won several awards. It is a near-perfect job of cine photography, and reveals the filmer's vision and ability for shooting semi-static pictorial material in continuity for the utmost impact on the screen. Leo J. Heffernan has pursued with his camera the tumbling waters of Niagara from what might be its origin to the base of the falls where he recorded the activities of tourists in the thrilling journey amid the swirling mists of the Cave of The Winds. Highly interesting are the shots made with the camera lens obviously receiving the impact of the spray, no doubt with the camera protected by suitable waterproofing and glass port for the lens.

Water — Wild Animal Of The Mountains: Fred Hudson and Donal Michalsky of Los Angeles combined their talents to produce on black-and-white film the origin of a mountain storm and its eventual metamorphosis as a turbulent stream of water. The storm is depicted in gathering clouds moving swiftly among mountain peaks, thanks to ultra-speed photography. Highly artistic shots of the first raindrops falling on a pool indicate the break of the storm, and the camera then records in excellent rainfall shots the progression of the storm, forming of rivulets and their eventual building up to a mountain stream. The various moods are enhanced by the theme music of the sound track, excellently recorded.

Ants In The Doughnuts: This humorous-sounding title suggests nothing of this film's content which has to do with a vacuum cleaner salesman and his tribulations when he is forced to pose as a woman, when a girl friend's husband arrives home unexpectedly. Both the exterior and interior shots are carefully exposed and a moderately good editing job combines to make this a better than average effort.

How To Catch A Burglar: British cine amateur Donald S. James aided by Maureen Cottle has produced a tightly-knit comedy depicting three methods of capturing a burglar. In each episode, the same burglar enters the same home, but in each case, different methods are taken by the householders to effect his capture. The low key lighting is very effective and good editing has resulted in very professional results on the screen. Narration and sound effects on the recorded track round out the superior treatment of this better than average amateur effort.

Joint Account: Leo Caloia unlimbered his new Auricon sound camera to produce much of this picture and all of its sound track, but tighter editing as well as better direction would have greatly improved the result. The continuity has to do with a couple, seen washing the supper dishes, discussing a proposed vacation, for which they have been putting money in a joint bank account. As they discuss the various places they would like to visit, there follow a number of scenes of each, then the camera cuts back to the discussion. The wife is summoned to the door by the mailman, receives a bill from a sporting goods store. She questions her husband about it and he confesses to having spent the proceeds of their bank account for a new set of golf clubs.

Lily Was A Lady: Roy C. Wilcox failed to state what camera he used in filming this fine study of the habits of Lily, a praying mantis, but both his color photography and his editing skill have netted a highly interesting film about one of nature's queerest insects.

My Sierra Hideaway: Leon Paddock, using a Bolex H-16 camera and a variety of four lenses, has produced a fine pictorial account of the beauties of the High Sierra mountains in California. The sound, on magnetic tape, enhances the film's presentation which gets off to a fine start with excellent titles.

Nature Of Life: From far away Trieste, Giuseppe Della Noce sent this 550 foot black and white sound film, which represents tremendous effort, both in the photography and in the sound recording. Displaying the sensitive poetic talents of its maker, *Nature Of Life* is by way of revelation of life itself. The opening shots, conceived with great imagination, suggest the beginning of time, the settling of the earth and its eventual population. The mating instinct is portrayed in a childhood friendship that ripens into love and finally marriage, and the picture goes on from there to show the progression of life symbolized finally by an old couple slowly plodding up a mountain path, while two frisky youngsters pass them coming down the mountain. Unfortunately choice of narrator for the commentary was not the best and the narration, on which much of the picture's continuity and effectiveness depends, falls far short of its goal.

Of King And Queens: This Kodachrome entry endeavors to explain the game of chess to a little girl watching it being played by her father and a friend. Moving in close to the chess board, the camera shows in detail the various chess men and their relation to the game, as an off-stage voice explains this relationship to the girl. C. Richmond Lawrence employed his Bolex H-16 camera with great skill in photographing this film, and the narration on the sound track is of high calibre.

Reportaje Grafico Nacional: Alvaro Chavarria Nunez, who aspires to producing newsreels in his native Costa Rica, presents in this entry a typical effort. The picture is a newsreel of several national events held in his country, and while it displays aggressive camera work, the film result, a dupe print, suffers a great deal because of inferior laboratory work, and therefore the true quality of the photography could not be properly evaluated. Nunez recorded the sound track, using his Auricon film recorder.

The Mirror: This picture was described in considerable detail, as was the steps involved in its making, in our March issue. (See pg. 102.) Arthur H. Smith and Wolfgang Schubert photographed this mystery drama which is comparable in scope, if not in quality, to the average feature film production. Unfortunately, inconsistent exposure and cast limitations detracted substantially from the otherwise overall good quality of the picture, but left it with sufficient points to rate it an Honorable Mention award.

There Runs No River: Francis J. Barrett, who entered one of the top prize winning films in our 1950 competition, again displays his fine camera technique in this 8mm black-and-white narrative of contemporary life in drab surroundings. An excellent music and sound recording on tape enhances the presentation of this commendable amateur effort.

The jury of judges entrusted this year with evaluating the films entered in the Competition, was chairmanned by Fred W. Jackman, executive vice-president of the American Society of Cinematographers. Assisting him were Ray Rennahan, president of the Society, and A.S.C. members Phil Tannura, Archie Stout, Tom Tutwiler, and Joseph Biroc. All are cine camera owners, know the problems of the amteur movie maker, and have a high appreciation for the amateur's efforts to improve his photographic skill.

To those who submitted films that failed to place in the winners' circle, *American Cinematographer* earnestly extends an invitation to compete again next year. The invitation, of course, applies also to the winners. END.

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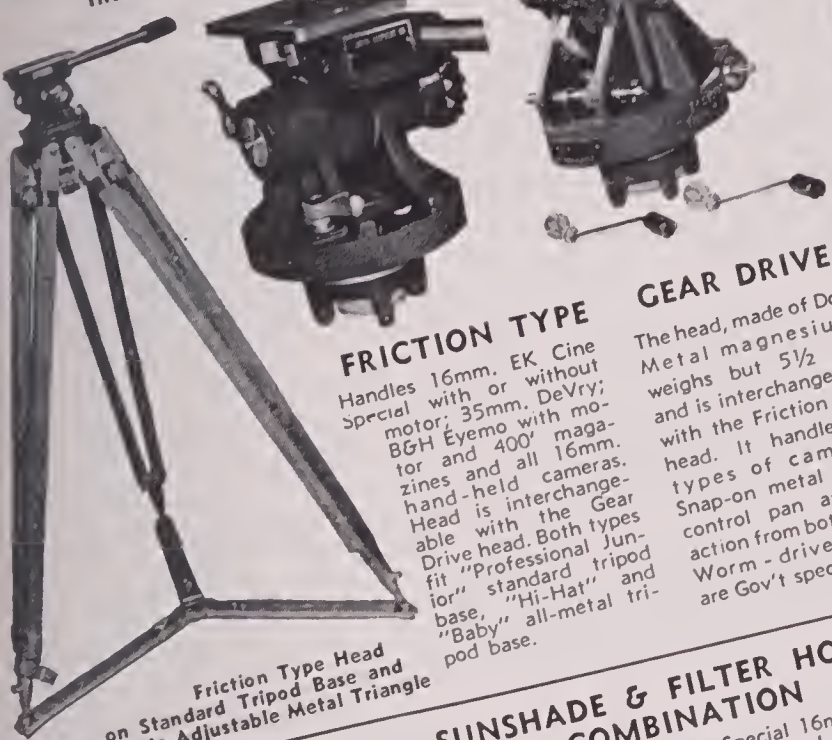

Friction Type Head on Standard Tripod Base and Collapsible Adjustable Metal Triangle

FRICTION TYPE

Handles 16mm. EK Cine Special with or without motor; 35mm. DeVry; B&H Eyemo with motor and 400' magazines and all 16mm. hand-held cameras. Head is interchangeable with the Gear Drive head. Both types fit "Professional Junior" standard tripod base, "Hi-Hat" and "Baby" all-metal tripod base.

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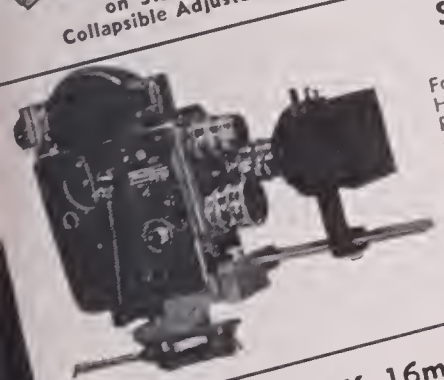

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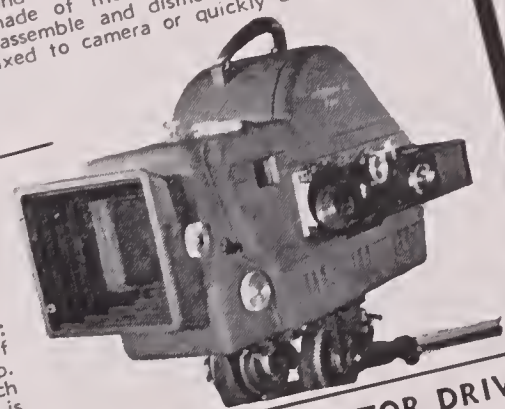

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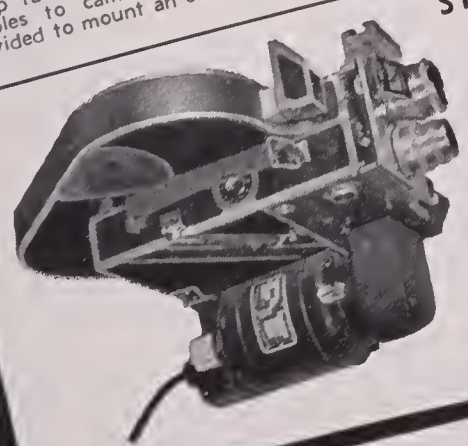

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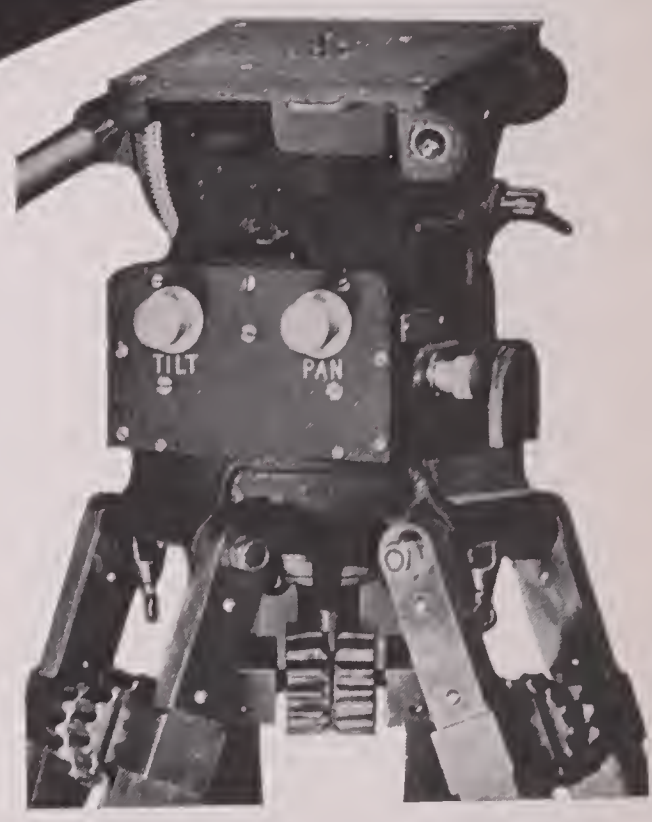

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"HOFFMAN" SETS NEW PATTERN

(*Continued from Page 177*)

By employing low key lighting, we concealed the absence of set furnishings. So many times a costly complete set is built for a production, only to have a relatively small part of it used in the picture.

Actually, in the early planning stages of the picture, we decided first on the effect we wanted, then designed and built the set accordingly—and then only just what would be required. The economy thus effected was enormous. The producers had learned much from the making of *Red Shoes. Hoffman* did not cost quite as much as *Red Shoes,* but it actually is a richer looking film. The *Shoes'* cost was higher than it should have been because the producers were blazing new trails and the trial-and-error method they had to use resulted in a lot of wasted money. The lessons they learned then enabled them to save on *Hoffman.*

The important advantage for me in this production was the fact I could shoot with the camera "wild"—that is, there was no sound to be recorded and therefore no mike booms to contend with. It was just like working in the old silent picture days.

Most of the picture was shot with only one Technicolor camera. On only one occasion did we use two; that was the sequence of the Doll Dance in Act 1. Every foot of film for this picture was shot indoors on the sound stage. No orthodox stage settings or scenery were used at any time, for to do so would clash with the fantasy effect so desirable and which prevails throughout the picture. Even the players wore grotesque makeup of brilliant colors, to which was often added colored sequins.

Each day proved a challenging one for the camera crew. It taxed our imagination to provide the illusory effect which so much of the picture demanded of the camera. The production staff early fell to lunching together each day on the stage. Here we would plan the rest of the day's shooting; the effects we wanted—kick ideas and suggestions back and forth. Thus we moulded much of our plans for the picture from day to day, as we went along.

Often we would work out an idea right on the set, while the camera was ready and waiting, so flexible was the script. There was no time to go back to conference room to thrash the matter out. It followed that we invariably did the "impossible" and the costly by resorting to the simple photographic methods movies employed in the old silent days, and which have long since been forgotten by makers of films. Except for a few matt shots and one or two tricky dissolves, which were done by Technicolor lab in London, we made most of our cinematic effects right in the camera and thus avoided the delays that might have been encountered by having the overtaxed Technicolor lab do them. And they were very effective—gave us a new respect for this type of thing.

In one instance, we had a scene representative of a fairyland village. To give this the desired illusory effect, I placed a glass in front of the camera lens and smeared it with vaseline — an old trick, but quite effective. In fact, we employed it a score of times during filming of the picture.

Another notable illusion occurs in Act. 1. Here a puppet dressed as a girl comes to life. Two men, Spalanzani and Coppelius, fight over her and appear to tear her apart, as they might a rag doll. The illusion of the dismemberment was created by stop action of the camera. The action was played before a black velvet backdrop. The girl would "freeze" her position at a signal, then a black velvet sleeve would be slipped over one arm, and the camera and live action resumed. This routine was repeated until one by one, the "doll's" arms and legs and finally her head appeared to be pulled from her body by the vandals. To heighten the illusory effect and at the same time conceal any telltale details that might detract from the illusion, the inevitable gauze drops were employed both before and behind the players, with the camera shooting through them.

In another instance the script called for a vision to appear and disappear in a huge mirror. We shot the opening of the scene showing the huge mirror in an ornate frame. Then the mirror was removed from the frame and a replica of the set in front of it was built back of the frame but in reverse detail. This was lighted with light blue filters over the lamps, and a fine gauze drop placed between the set and the camera to lend an ethereal aspect to the photographic result.

For a scene in the second act, the magician, Dapertutto, appears with a girl in a boat. The script called for him to magically disappear. Instead of accomplishing this by special effects in the laboratory, we did it on the stage by stopping the action and camera, removing Dapertutto, then resuming the camera and action. First we shot the opening with the two seated in the boat. When the girl "froze" in her position at a given signal, the camera was stopped, Dapertutto removed from the scene, and as the camera was re-started, a handful of gold dust was dropped from overhead by a grip, coinciding with the sudden disappearance of Dapertutto. Later, the scene was cut where the stop action occurred and lap-dissolved at this point to lend further effect to the illusion.

Perhaps the high point in illusory effects was the scene in the Prologue in which Moira Shearer in the Dragonfly Ballet ascends a huge twining vine to the moon. Ordinarily this would have entailed set construction of enormous proportions. But here again Hein Heckroth applied his masterful touch and the set emerged a mere skeleton of a scaffolding and clever arrangement of huge gauze drapes. The scaffold-like walk was built on a zig-zag pattern increasing in elevation as it approached the huge paper moon in the background. In between each rise of the walk, huge gauze drapes were suspended. On these were painted the leaves and stems of the gigantic twisting vine on which the girl apparently danced on her ascension to the moon, and cleverly concealed the scaffolding which actually supported her.

The scene preceding this also is notable for the designing artistry of Heckroth. Moira Shearer, as the Dragonfly, is born, and pushes her way to the surface of a green shimmering lake, and there she meets her mate. But this was no underwater scene such as might have been conceived and executed on one of the sound stages, say, of Metro-Goldwyn-Mayer. No, we again dispensed with the real water and achieved the desired effect with gauze, and photographic lighting.

Miss Shearer took her place on a small elevated platform which was painted to merge with the backdrop behind her. The backdrop was painted to represent an underwater scene in a lake, and was graduated from dark to light, so that as the drop was unrolled by grips from the top and drawn down behind Miss Shearer as she danced on the platform, it produced the illusion of Miss Shearer gradually rising through water to top of the pool. Of course, as with most of our other shots, cleverly painted gauze drops placed between the set and the camera contributed to the desired photographic effect.

Obviously lights and camera played a greater part in this production than is normally credited to them in the usual type of feature film production. Careful lighting and light in ample quantities was an integral part of the Heckroth plan of set design. Before production, we rounded up just about every available arc lamp and dimmer shutter in

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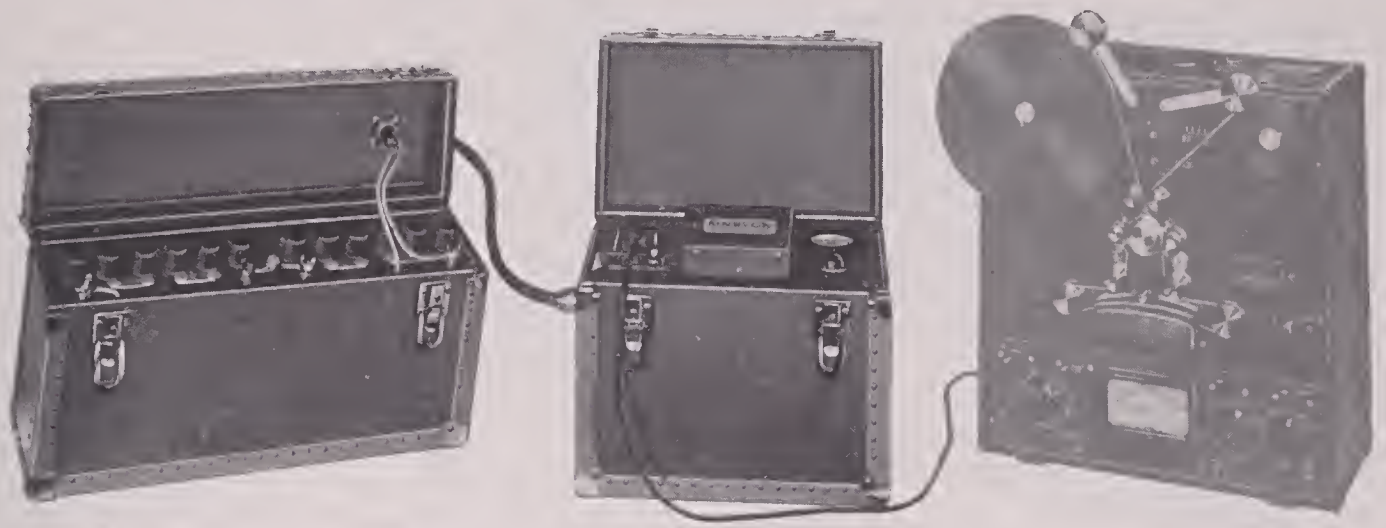

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England and used every one of them. In addition, we made considerable use of three giant 300-amp water-cooled super spots, such as we used earlier in filming *Red Shoes*.

A unique highlight is the way colored lighting was employed to set the mood for each act of *Hoffman*. Designer Heckroth planned the film to make maximum use of color in order to underline the psychology of the story content. Each act therefore has its own color plan. Act I, a light-hearted tale of Hoffman's love for the doll Olympia, is designed frivolously in yellows, browns and glittering cellophane. In Act II, set in Venetian courtesan Giulietta's Palace, Heckroth has brought out the decadent richness of the Borgias with rich purples, black and golds. For the last act, which tells of Hoffman's mature love affair with the consumptive singer Antonia, the designs are in cool greys and greens.

This scene also was extended to the lighting of inserts of pages of the theatre program, which precede each act and give a short synopsis of it, in lieu of the absence of dialog. These program pages also contain photos of the players and give their names as well as the names of the roles they play.

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entire production depended largely upon close cooperation and coordination of our lighting crew. Throughout most of the picture, the camera aperture and lighting intensity were kept constant (or as nearly so as possible); we merely changed the color of the light and placement of the lights to achieve the desired change in effect. We used a great number of filter gels on key and fill lights. When the scene called for blue gels, we had to let these fade to a degree before shooting the scene, and these had to be changed or replaced frequently because of their tendency to progressive fading.

I think the greatest advantage accorded me was that of being able to work with my regular crew of men—the same gaffer, same operator and assistant, etc., that have been with me on all my recent pictures. Such a closely-knit team gets the job done better, for each man through long association and experience has come to know what lens I use in a given situation, and the way I like my lights.

The Tales Of Hoffman was photographed and recorded at British Lion Studios in Shepperton, near London, and runs approximately 2 hours and 15 minutes on the screen. It opened for its world premiere on April 1 at the Metropolitan Opera House in New York City, the first time any full length feature film has been shown in that showplace, which is customarily reserved for live opera presentations. Said one New York critic, following the premiere, "It is the most beautiful thing pictorially ever seen in any medium." We sincerely hope it will receive like praise everywhere.

"CAESAR'S" HOLLYWOOD TRIUMPH

(*Continued from Page 181*)

in rugged contrasts of graphic black and white, rather than washing out the effect with fill light. The low wide-angle compositions made wonderful use of the patterns formed by the colonnades atop Chicago's Soldier's Field, while extreme close-ups give the film a directness of the type so characteristic of Eisenstein's work.

A great deal of the footage was shot with a Cine Kodak Special and a Bell & Howell 70DA. The relatively few studio direct-sound sequences were filmed with a Maurer camera. Bradley deplores the fact that time and budget did not permit the use of more moving camera shots, as some of the more static sequences might have achieved better pace and continuity through the use of the fluid camera.

Bradley's production has a scope and richness that are incredible in view of the fact that the entire film was produced on a budget that would scarcely pay for a single backdrop in a major Hollywood studio. However, lack of budget was more than compensated for by the wealth of imagination used in mounting the production. Using the neo-Roman architecture of Chicago's Museum of Science and Industry, Soldier's Field, and the Elks Memorial—Bradley and his technical crew achieved backgrounds vastly more imposing and realistic than would have been provided by expensively constructed studio sets. In this film granite *looks* like granite, and marble is unmistakeably marble. Also, rather than being restricted to fabricated corner sets kept tiny for reasons of budget, the camera was able to move back for long shots of magnificent scope and power.

This wise employment of existing locales approached genius in the selection and use of a desolate sand dune area on the shore of Lake Michigan as a battleground for the Battle of Philippi. The starkly uncivilized character of this nightmarish landscape is something that defies description on paper. Looking like a backdrop designed by surrealist Salvador Dali for an excursion into Hell, this area has ridges of sand outlined with fringes of rugged weed. Scattered the length of the beach are huge gnarled and clutching tree stumps, their roots tortured by wind and water into grotesque forms. Rising like cadaverous sentinels against the sky are limbless and leafless tree trunks, remnants of a grove ravished by countless storms. The most imaginative designers in Hollywood could not have devised a more perfect background for an elemental battle than this fiercely prehistoric locale—and the Avon crew took full advantage of its possibilities, much in the manner that Eisenstein used the giant maguey cactus for dramatic effect in his powerful *Thunder Over Mexico.*

The Battle of Philippi forms the dramatic climax of the film, and for sheer "guts" it compares favorably with the Battle on the Ice in *Alexander Nevsky,* and the Storming of the Tourelles in *Joan of Arc.* After broadly outlining his requirements, Bradley turned this entire sequence over to cameraman Louis McMahon for staging and direction. Mc. modestly disclaims any credit for the superb result by saying, "It was Lou's baby." No matter whose "baby" it was, the sequence is a triumph of execution. The director made fine use of his necessarily small battle forces, turning this handicap to forceful advantage by emphasizing the hand-to-hand character of the contest.

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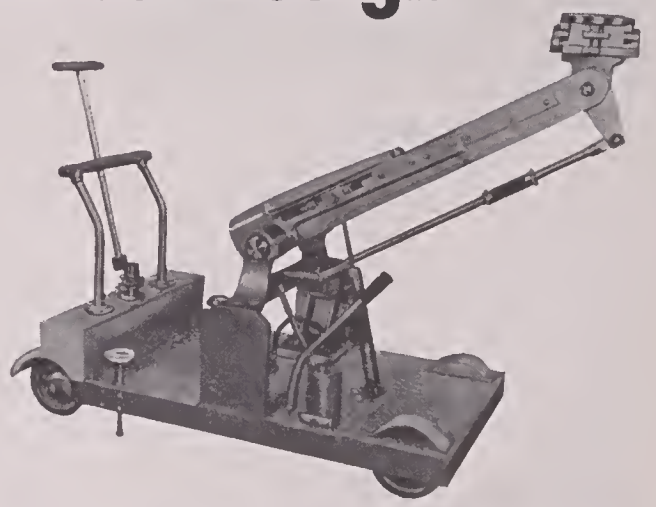

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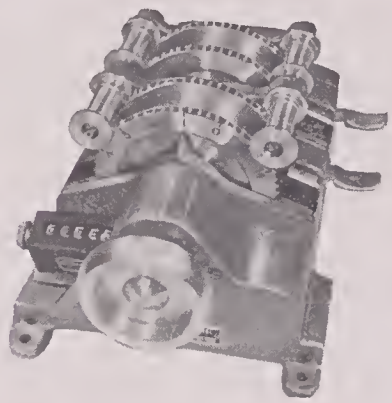

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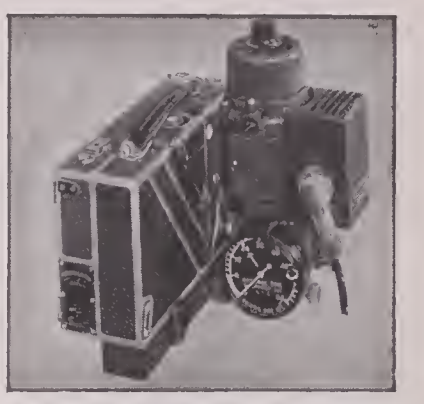

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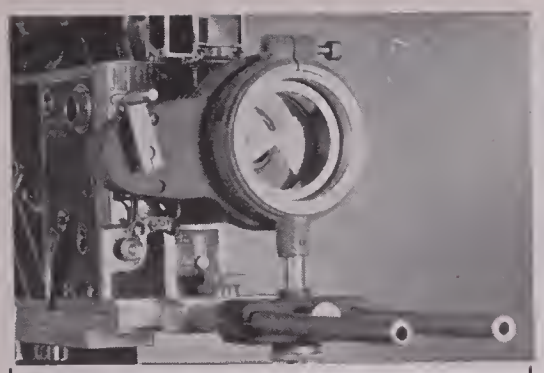

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ominously as the silent figures of the combatants move into position. At a signal blown on a martial trumpet the forces move toward each other, finally meeting in a metallic clash of sword on shield. The stunning montage that follows is a series of dynamic closeups which draw the viewer directly into the vortex of the battle. The sweating, strained faces of the armor-clad warriors, the sickening impact of steel falling on flesh and bone, the agonized contortions of dying bodies crashing to the sand, add up to an impression of fearful fury seldom captured on film.

Almost as remarkable as the production itself are the technical difficulties which had to be overcome in filming it. In order to save money (as well as to avoid certain background noise problems relative to direct sound recording), about 80% of the film was post-synchronized—that is, the dialogue was dubbed in to match the lip movement after the picture footage had been shot silent. This challenging task was accomplished in an empty swimming pool adjacent to the recording studio used as headquarters for production. The pool was used as a giant sounding board because its peculiar reverberation produced the desired degree of "live" and spacious acoustical dimension necessary to match the vastness of the visual settings.

Recording had to be done after midnight because daytime hours were filled with a melange of sounds stemming from a nearby bus stop, an express train line, the caterwauling of children in the street, whistles and traffic noises, plus the sound tracks of sixth-run movies tearing their way through the walls of the film "palace" next door. But the nocturnal recording sessions brought on a whole new series of problems.

On the first night, during the dubbing of the Oration scene, the actor playing Mark Antony had to quit because he lost his voice after completing only a third of the sequence. On the second night the company was raided by the police for disturbing the peace, and forced to shut down at 2 a.m. Residents of a large apartment house just across the street had complained about the noise. On the third night 50 actors waited in silence, rehearsed in whispers. At 2 a.m. they let go with well-oiled vocal chords for the take, doused the lights immediately afterward and left the studio in a cloud of dust. Apartment house lights blinked on all over the place as auto engines roared into action and cars loaded with cast and crew scattered in every direction. By some miracle, none of the company ended up in jail.

Lab trouble, the classic nightmare of the film producer, created more ulcers. In one case, most of a batch of 1,500 feet of film was ruined due to overdevelopment. Four complicated sequences had to be reshot. A few weeks later, 3,000 more feet were spoiled by underdevelopment. In addition, part of the battle sequence and the entire Forum-Oration sequence had to be reshot.

The schedule had to be kept going at a furious pace, due to the fact that the professional actors used had imminent commitments, and the Northwestern University students had campus obligations to be met. This meant 15 to 20 hours per day of work for the uncomplaining technical crew—with a quickly gulped cup of coffee and a sandwich often serving as fuel for an around-the-clock session. A hot shower and an hour's nap had to take the place of an average six hours of sleep. The cast and crew, imbued with enthusiasm for the project, worked harder for love of what they were doing than they ever would have worked for money.

Mention must be made of the excellent original music composed by John Becker, a composer resident at a nearby college. His harshly impressionistic score is a perfect complement to the martial atmosphere of the battle sequences over which it is used. A small group of musicians from the Chicago Symphony Orchestra recorded this music next to the empty swimming pool. The echo resulted in a sound track that blares forth as if it had been recorded by a complete philharmonic orchestra. Here again, budget limited the use of music to the credits and battle sequences, which is deplorable, since there are many sequences in the film that would have profited greatly through the use of correct musical underscoring.

Producer David Bradley, sometimes portrayed in biographies as having cut his baby teeth on a can of movie film, actually didn't begin his cinematic career until he had reached the venerable age of 12. He received his first film training at exclusive Todd School whose other claim to Alma Matriarchal pride is actor-director Orson Welles.

The *Caesar* project, though fraught with production problems (including a projector that blew up at the full-dress preview), has had some pleasant aftermaths. Following its first showing, actor Heston was signed to a long term contract by Paramount producer Hal Wallis, and he is now playing one of the lead roles in Cecil B. DeMille's new spectacle of circus life. David Bradley, of course was called to Hollywood, where he is now an assistant producer on the Metro lot. As for his *Caesar*—it is now in the process of being blown up to 35mm for release in art theatres throughout the country.

HOLLYWOOD KNOWHOW IN T.V. FILM PRODUCTION

(*Continued from Page 185*)

remaining 3½ minutes are for the commercial.) It is therefore necessary to depend upon dialog to tell the story and supplant a great deal that might otherwise be told in action. This does not mean, however, that action should suffer or be circumvented to the detriment of the story; only that the script shall be written more for the TV screen with all its present limitations. "It's a happy medium of *compressed* dialog and action," said Weiss.

The picture shooting at present is the seventh in a series of thirteen. The company produces them in blocks of thirteen at a time. Starring as detective Craig Kennedy, made famous by author Arthur B. Reeve, is film star Donald Woods. Others in the cast are such well-known Hollywood film players as Trudy Marshall, Jack Mulhall, Sydney Mason, Louis Wilson, Tom Hubbard, Stanley Waxman and Paul Newland. Harry Fraser is director and Weiss' son, Adrian, is co-producer and distributor.

Sponsors tentatively considering the series are aiming for fall release of the pictures, when the big impetus of television for 1951 is scheduled to begin.

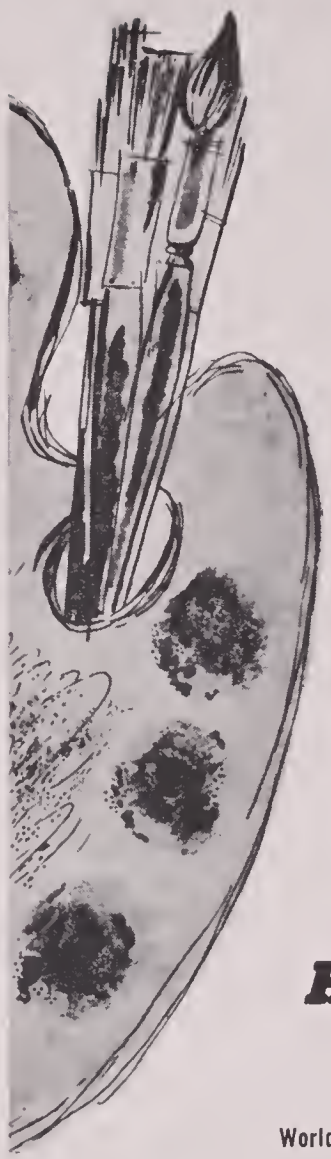
NO TIME FOR WEATHER

(*Continued from Page 179*)

Where no match-up was required, we filmed in rain. One scene showing Clark Gable in an early morning misty setting was shot during a storm, using silks over the arc lights. The effect surpassed expectations, and I must admit a feeling of guilt when compliments have been tossed at this particular shot. All I did was make sure we shot no lower than knee level—to hide the rain splashes!

As a result of clearing the grass off a mountain meadow for the company's Sunday baseball games, our tent city was a nightmare of dust. Ruby Rosenberg, our unit manager, solved this hazard for the photographic crew by building us a special camera shop. The only wooden building in the entire camp, it was made completely dust-proof. Floors, walls and ceilings were sealed with heavy building paper. Here was installed all equipment for loading and cleaning of cameras, lenses, etc.

Offhand, I cannot recall a more stimulating assignment; but from now on, give me M-G-M's Stage 15, or something equally nice and level—like Wilshire Boulevard.



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WESTREX MAGNETIC RECORDING SYSTEMS

(*Continued from Page 182*)

monitoring for either direct or magnetic monitoring from the magnetic monitoring head in the recording machine. The monitoring levels may be adjusted by a control on the mixer panel. Position of the mixer panel can be tilted to either a 15 or 30 degree angle for ease of operation or may be dropped flush with the top of the mixer cabinet. The unit can be completely enclosed for transportation or storage.

A new line of amplifiers and transmission equipment was developed having exceptionally low noise, to take full advantage of the inherent high signal-to-noise ratio of magnetic film. The entire recording transmission circuit consists of three amplifiers, two microphone preamplifiers and one main recording amplifier, all basically identical. One type of spare amplifier only is required, thus reducing maintenance. The amplifiers are small in size, each with a normal flat gain of 70db from 30 to 10,000 cycles. Their frequency characteristic and therefore the overall transmission frequency characteristic may be changed by means of interstage plug-in equalizer units.

The RA-1467-A Magneitc Recorder is driven by a single phase, 50 or 60 cycle, 115 volt, synchronous motor, but can also be supplied for operation from a 3 phase, 50 or 60 cycle synchronous motor, an interlock motor, or a multi-duty combination 220 volt, 3 phase synchronous or 96 volt DC control motor. The Academy Award winning Davis Flutter Suppressor which reduces flutter or "wow" to a value so low that it is no longer of practical importance, is used in this recorder, as it is in all post-war Westrex and Western Electric recording and reproducing equipments. The total amount of flutter in most frequency bands does not exceed .03% rms.

The forward recording speed is 90 feet per minute for 35mm magnetic film and a fast reverse rewind speed of 270 feet per minute is provided without the necessity of unthreading the film from the recorder for rewinding. The recorder drive gear assemblies may be easily and rapidly interchanged if it is desired to change the forward recording speed. The magnetic recorder is convertible for use with 16mm, 17½mm, or 35mm magnetic film. The position and dimensions of the recorded magnetic sound track is in accordance with the proposed ASA Standard 58.301-B.

The magnetic recording head is mounted at the point of optimum scanning and is offset for magnetic monitoring of the recorded signal. Provision is also made for mounting an erase head. The recording and monitor head circuits terminate in a single plug and jack connection which can easily be reversed to permit using the recording head as a magnetic reproducing head to reproduce at the point of optimum scanning, thus permitting the recording machine to be used as a high-quality magnetic re-recording reproducer.

A signal light mounted on the recorder indicates the correct threading operation which ensures optimum contact of the magnetic film with the recording head. A driven footage counter adds on the forward run and subtracts on the reverse rewind, maintaining an accurate count of film footage for editing purposes.

Special aluminum 1000 foot reels are used in the reel mounting assembly. This reel assembly can easily and quickly be removed from the recorder and stored in the space provided in the power control unit when the system is moved. A front cover with a lucite panel is supplied as a part of the recorder. The recorder can be operated with the cover in place as the controls are accessible through a recess in the front of the cover.

The RA-1484-A Power Control Unit contains a newly developed power supply, both line and load regulated, operating from a power source of 115 volts, single phase, 50 to 60 cycles. This unit also contains the magnetic bias oscillator and the magnetic film monitoring amplifier. The amplifier has the required magnetic reproduction equalization in an interstage plug-in unit and its output provides monitoring level at both the recorder and mixer positions. The bias oscillator and monitor amplifier are mounted in the RA-1484-A power control unit to permit the required field isolation from the main recording amplifier transmission circuits to insure the highest possible signal-to-noise ratio available in magnetic film recording.

This entire system is easily transportable and weighs approximately 190 pounds including all interconnecting cables. The separate units are finished in wrinkle gray with a matching blue trim and are highly pleasing in appearance.

One of sound Services recent portable installations is serving United-International Productions in Hollywood. A Westrex 1035 portable magnetic recording system was installed in International-Production's station wagon providing economical and efficient sound recording for on-location film production.

The first complete Westrex magnetic recording system to be shipped out of the United States went to Italy and was used in recording sound for the M-G-M production *Teresa*. The picture was filmed for the most part under extremely trying conditions in the Apennine Mountains near Bologna where a compact, portable recorder was a must.

Another Westrex licensee, using 16mm recording equipment, is the Rarig Motion Picture Company, Inc., in Seattle, Washington. This producer turns out industrial films for such clients as Standard Oil Company, General Electric, and several major lumber companies.

The equipment is also attracting the attention of colleges producing their own sound films. The University of Washington has placed an order with Westrex for a Series 1000 recording system.

During the first eight months Westrex magnetic recording was available, approximately 60 channels were ordered by various studios in all parts of the world.

IN THE BEST PROFESSIONAL MANNER

(*Continued from Page 186*)

terior sets built on the sound stages for these productions gives us the advantage of shooting faster and more economically because only a minimum of moving lights and equipment is required.

So skillfully and flexible have the Erwin home sets been conceived, they now serve also in the production of other films besides *The Trouble With Father*. New paper on the walls and interchanging the wall sections give the rooms a new look. Yet all remain essentially in the same pattern with relation to the light rigging, so that seldom is any change required in the overhead set lighting.

For example, we have just used these sets for scenes in one of a series of half-hour dealer training films for Standard Oil Company. As with others in the series, this film was photographed in 16mm color, using Commercial Kodachrome. I employed a Mitchell 16mm camera mounted on a crane, and used arc lamps for illumination. We believe our company is the only industrial film maker using arc lights for 16mm color productions. Great care is given to achieve the finest color quality. Arcs insure consistent quality as well as the large volume of light essential to the critical results obtainable by the best lenses we employ on our cameras. In this respect, too, the Spectra 3-color meter is regularly used in establishing correct color balance for all productions shot in color.

We employ a great many background

and process plates in keeping with our practice of reducing to a minimum the number of off-the-lot exteriors. We are currently planning to expand the use of stereos which will greatly enlarge the scope of our productions and give our script-writers more latitude.

All these systematic steps enable us to average 40 pages of script per day on industrial films, such as the recent Standard Oil picture. On the Stu Erwin series, because of the fixed sets and fact our crew is well acquainted with the setup, our shooting speed is stepped up to 20 pages per day—which nets about 14 minutes of fully edited film.

We shoot all black and white productions in 35mm, using full union crews. Color productions, for the most part, are shot in 16mm Commercial Kodachrome with a Mitchell camera. We also make pictures in Technicolor Monopack. No color prints of any color productions are made until the picture is completely cut. In the case of 16mm color films, we have a 35mm black and white blow-up made for editing purposes by Rolla Flora, who specializes in this work for the industry here in Hollywood. The larger 35mm print greatly facilitates editing, results in better cutting. This method costs a little more than where editing is done on the 16mm color original, but this is offset by the shorter editing time required.

Another factor contributing to the wide acceptance of Roland Reed productions is the company's policy of employing only top ranking players, directors, and technical crew. Guy Thayer, Reed's associate producer, has pointed out that in industrial film productions, which often entail considerable explanatory dialogue, players without extensive experience before the camera rarely are capable of delivering dialogue in excess of 15 or 20 words at a time without blowing their lines; and where repeated retakes not only slow down your production schedule but add to the cost, this is an important consideration.

The Standard Oil films, for example, include such well known Hollywood film players as John Archer, Steve Brody, Marjorie Lord, Helen Parrish, Charles Meredith and Harry Hayden. Frank Strayer, veteran of more than 30 years in Hollywood motion picture production, is Reed's director.

Numbered among the company's clients, in addition to Standard Oil and General Mills, are such well-known companies as United States Steel Co., Westinghouse Electric Co., Calvert Distilleries, International Silver Company, The Lutheran Layman's League, and the Lebanon Steel Company.

We are presently preparing to go east

(*Continued on Page 206*)

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Current Assignments of A.S.C. Members

Major film productions on which members of the American Society of Cinematographers were engaged as directors of photography during the past month.

★ ★ ★ ★ ★ ★ ★ ★

Allied Artists

• Harry Neumann, "Disc Jockey," with Herb Jeffries, Lennie Kent, Russell Morgan, Nick Lucas, Martin Block, Gene Norman, Bill Anson. Will Jason, director.

Columbia

• William Snyder, "Ten Tall Men," (Harlburt Prod. in Technicolor) with Burt Lancaster, Jody Lawrence, Gilbert Roland. Willis Goldbeck, director.

• Charles Lawton, "Man In The Saddle," (Scott-Brown Prod. in Technicolor) with Randolph Scott, Joan Leslie, Ellen Drew, Alexander Knox, Richard Rober, John Russell, Big Boy Williams. Andre De Toth, director.

• Ellis W. Carter, "War Cry," (Edward Small Prod. in Technicolor) with George Montgomery, Audrey Long, Howard St. John and Peter Thompson. Ray Nazzaro, director.

• Fayte Browne, "Jungle Safari," with Johnny Weismuller, Angela Greene, Jean Williams, Lester Matthews and William Tannen. Lew Landers, director.

• Ernest Laszlo, "Small Wonder," (Halburt Prodn.) with Robert Cummings and Barbara Hale. Frank Tashlin, director.

• Burnett Guffey, "Dark Page," with Broderick Crawford, John Derek, Donna Reed, Rosemary de Camp, Henry O'Neill. Phil Karlson, director.

Independent

• Elwood Bredell, "Skid Row," (Jos. Bernhard Prod.) with Sterling Hayden, Viveca Lindfors, Thomas Mitchell, Ludwig Donath. Stuart Heisler, director.

• Hal Mohr, "Chuck-A-Luck," (Fidelity Pictures) with Marlene Dietrich, Arthur Kennedy, and Mel Ferrer, Fritz Lang, director.

• Charles Van Enger, "The Two-Dollar Bettor," (Jack Broder Prod.) with John Ireland, Steve Brody, Mary Hatcher, John Litel, Barbara Bestar and Barbara Logan. Edward L. Cahn, director.

Lippert

• Jack Greenhalgh, "G. I. Jane," with Jean Porter, Tom Neal, Iris Adrian, Jim Cross and Frank Vincent. Reginald LeBorg, director.

• Jack Greenhalgh, "Lost Continent," with Caesar Romero, Hillary Brooke, Chick Chandler, Hugh Beaumont, John Hoyt, Sid Melton. Sam Newfield, director.

M-G-M

• John Alton, "People Against O'Hara," with Spencer Tracy, Pat O'Brien, John Hodiak, Diana Lynn, Dick Anderson. John Sturges, director.

• George Folsey, "Rain, Rain Go Away," with James Whitmore, Nancy Davis, Jean Hagen and Ralph Meeker. Fred M. Wilcox, director.

• Harold Lipstein, "Banner Line," with Sally Forrest, Keefe Brassele, Lionel Barrymore, Lewis Stone, J. Carrol Naish, Spring Byington. Don Weiss, director.

AMERICAN SOCIETY OF CINEMATOGRAPHERS

FOUNDED January 8, 1919, The American Society of Cinematographers is composed of the leading directors of photography in the Hollywood motion picture studios. Its membership also includes nonresident cinematographers and cinematographers in foreign lands. Membership is by invitation only.

•

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Sol Halprin
Stanley Horsley
Ernest Miller
Sol Polito
Walter Strenge
Phil Tannura

• Paul C. Vogel, "The Angels and The Pirates," with Paul Douglas, Janet Leigh, Keenan Wynn, Donna Corcoran, The Pittsburgh Pirates. Clarence Brown, director.

• William C. Mellor, "Westward The Women," with Robert Taylor, Denise Darcel, Hope Emerson, John McIntire, Julie Bishop. William Wellman, director.

• Robert Surtees, "The Light Touch," (Shooting in Italy) with Stewart Granger, Pier Angeli, George Sanders, Rhys Williams, Norman Lloyd, Mike Mazurki, Larry Keating. Richard Brooks, director.

• Ray June, "Too Young To Kiss," with June Allyson, Van Johnson, Katherine Givney, Paula Corday and Larry Keating. Robert Z. Leonard, director.

• George Folsey, "Man With A Cloak," with Joseph Cotten, Barbara Stanwyck, Louis Calhern, Leslie Caron, Margaret Wytcherly. Fletcher Markle, director.

• Ray June, "Callaway Went Thataway," with Fred MacMurray, Dorothy McGuire, and Howard Keel. Directors, Norman Panama and Melvin Frank.

Monogram

• William Sickner, "Yukon Manhunt," (L. Parsons Prod.) with Kirby Grant, Gail Davis, Margaret Field, Rand Brooks. Frank McDonald, director.

Paramount

• George Barnes and Peverell Marley, "The Greatest Show On Earth," (Technicolor) with Betty Hutton, James Stewart, Cornel Wilde, Dorothy Lamour, Gloria Grahame, Charlton Heston and Lyle Bettger. Cecil B. DeMille, director.

• Harry Stradling, "My Son John," with Helen Hayes, Van Heflin, Robert Walker, and Dean Jagger. Leo McCarey, director.

• John F. Seitz, "The Rage Of The Vulture," with Alan Ladd, Deborah Kerr, Charles Boyer, and Corinne Calvet. Charles Vidor, director.

• Charles Lang, "Aaron Slick From Punkin Crick," (Perlberg-Seaton Prod.) with Alan Young, Dinah Shore, Robert Merrill and Adele Jergens. Claude Binyon, director.

• Lionel Lindon, "Hong-Kong," (Pine Thomas Prod.) with Ronald Reagan, Rhonda Fleming, Nigel Bruce, and Olivia Louis. Lewis R. Foster, director.

R.K.O.

• William V. Skall, "Half-Breed," (Technicolor) with Robert Young, Janis Carter, Jack Buetel, Barton MacLane. Edward Ludwig, director.

• James Wong Howe, "Behave Yourself!" (Wald-Krasna Prod.) with Farley Granger, Shelly Winters, Francis L. Sullivan, William Demarest, Hans Conried, Sheldon Leonard, Margalo Gilmore. George Beck, director.

• Frank Planer, "The Blue Veil," (Wald-Krasna Prod.) with Jane Wyman, Charles Laughton and Katharine Locke. Curtis Bernhardt, director.

• George Diskant, "The Racket," (Edmund Grainger Prod.) with Robert Mitchum, Robert Ryan, Iris Adrian. John Cromwell, director.

• Harry Wild, "The Las Vegas Story," with Jane Russell, Victor Mature, Vincent Price, Hoagy Carmichael and Brad Dexter. Robert Stevenson, director.

20th Century Fox

• Harry Jackson, "Anne Of The Indies," (Technicolor) with Louis Jordan, Jean Peters, Deborah Kerr, Herbert Marshall, Thomas Gomez. Jacques Tournear, director.

• Joseph LaShelle, "Mr. Belvedere Blows His Whistle," with Clifton Webb, Joanne Dru, Hugh Marlo and Zero Mostel. Henry Koster, director.

• Milton Krasner, "The Dr. Praetorius Story," with Cary Grant and Jeanne Crain. Joseph Mankiewicz, director.

• Leo Tover, "The Day The Earth Stood Still," with Michael Rennie, Patricia Neal, Billy Gray and Sam Jaffe. Robert Wise, director.

• Norbert Brodine, "The Desert Fox," with James Mason, Desmond Young, Jessica

Tandy, George Macready. Henry Hathaway, director.

• Lloyd Ahern, "A WAC In His Life," with June Haver, William Lundigan, Marilyn Monroe, Frank Fay and Jack Paar. Joe Newman, director.

• Charles G. Clarke, "The Golden Girl," (Technicolor) with Dennis Day, Mitzi Gaynor, Dale Robertson and Una Merkle. Lloyd Bacon, director.

Universal-International

• Maury Gertsman, "One Never Knows," with Dick Powell, Peggy Dow, Joyce Holden, Charles Drake, William Vedder. Lou Breslow, director.

• Irving Glassberg, "The Cave," (Technicolor) with McDonald Carey, Alexis Smith, Victor Jory, and Hugh O'Brian. William Castle, director.

• Charles Boyle, "Fine Day," (Technicolor) with Howard Duff, Mona Freeman, Josephine Hull, Craig Stevens. Joseph Pevney, director.

• Carl Guthrie, "Oh! Baby," with Tom Ewell, Julie Adams, Richard Egan, Harold Vermilyea, and Royal Dano. Frederick de Cordova, director.

• William Daniels, "The Lady Pays Off," with Linda Darnell, Stephen McNally, Gigi Perreau and Virginia Field. Douglas Sirk, director.

• Carl Guthrie, "Finders Keepers," with Tom Ewell, Julie Adams, and Evelyn Varden. Frederick de Cordova, director.

• Russell Metty, "Flame Of Araby," (Technicolor) with Maureen O'Hara, Jeff Chandler, Maxwell Reed, Susan Cabot. Charles Lamont, director.

Warner Brothers

• Wilfred Cline, "Painting The Clouds With Sunshine," with Dennis Morgan, Virginia Mayo, Lucille Norman and Gene Nelson. David Butler, director.

• Ted McCord, "Force Of Arms," with William Holden, Nancy Olson, Frank Lovejoy, Gene Evans, Dick Wesson. Michael Curtiz, director.

• Sid Hickox, "Distant Drums," with Gary Cooper and Mari Aldon. Roaul Walsh, director.

• Robert Burks, "As Time Goes By," with Gene Tierney and Ray Milland. William Keighly, director.

Set Lighting Lamp Data

General Electric Company's lamp department has issued a revised listing of the various General Electric lamps used for set lighting. Comprising four mimeographed sheets, all the 3350 K lamps and some of the 3400 K lamps which are suitable for lighting sets for the new Technicolor photographic system are grouped together on one sheet; all the lamps designed for black-and-white photography are listed on the second sheet; lamps designed for 3200 K for use with such film as Kodachrome or other films in the 3200 K classification are on the third sheet; and the fourth sheet lists all the special lamps recommended for use for special effects.

The data emphasizes that lamps in the various classifications are immediately identifyable by markings on the bulbs, as for instance, lamps marked MP on end of bulb are intended for B&W photography, where economics dictate that a longer lamp life than the CP lamp gives is desirable.

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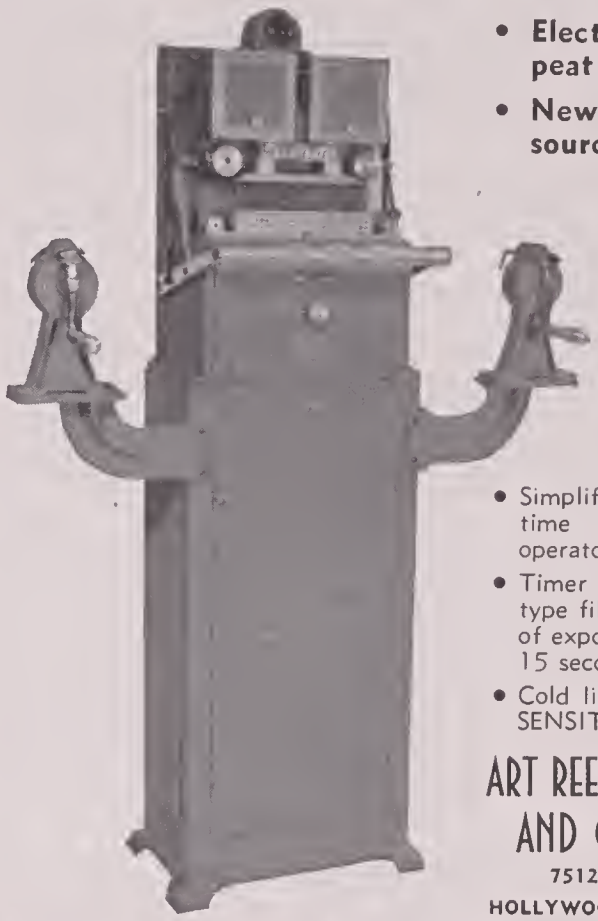

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Television Film Production

By LEIGH ALLEN

Film is the answer to putting live TV shows on the air, says Ralph Edwards, producer of "Truth Or Consequences" for CBS, who addressed members of the American Society of Cinematographers at their regular monthly meeting, April 9th.

Edwards screened samples of his films and illustrated difference in results he obtained using 16mm and 35mm films. Now all his shows are photographed and recorded on 35mm under the direction of Fred Jackman, Jr., A.S.C.

Jackman employs 3 cameras on show, most of which is shot in the studio at CBS. To expedite instructions to two assistants handling other cameras, Fred has intercom cue system, also switching control panel at his camera enabling him to switch other cameras on and off as desired. At present, show requires shooting in excess of 10,000 feet of film each week.

•

500 Indians were rounded up by TV film producer Robert E. Callahan in shooting scenes in Apache country for some of his recent productions. Producer now has 21 half-hour TV films nearing the sound track stage.

•

WCBS-TV, New York, has set up a new film department, headed by David Savage, to operate as a division of the program department and handle all aspects of film programming.

•

Frank Wisbar has switched production activities from Roach Studios to Eagle-Lion Studios in Hollywood, and resumed shooting on a new series of Proctor & Gamble "Fireside Theatre" television films middle of April. Series will wind up about May 5th.

•

Louis Snader, producer of the Snader Telescriptions, has announced that he will produce his next year's program of 400 Telescription TV films in color on 35mm film. Snader said that although black-and-white production costs have doubled since shooting his first TV film 10 months ago, he is ready to meet the second doubling of costs involved in switch to color.

In addition to the 400 Telescriptions, Snader also has plans to produce a series of quarter-hour to 1-hour dramatic films.

Time has worked wonders with his production procedure. Ten months ago Snader thought they were really moving when they did 10 Telescriptions in one day; today they do 30.

•

Lucien Andriot, A.S.C., is directing the photography on first series of Amos 'n Andy TV films now being made at Hal Roach Studios in Culver City.

•

Producers of TV Newsreels of the MacArthur homecoming in San Francisco, last month, reluctantly admit that for once the TV cameras did a better job than the movie cameras. This because of poor lighting facilities at airport where MacArthur plane landed, and the fact the TV cameras are so highly sensitive, able to pick up details in dark and near-darkness that movie cameras fail to register.

Combined TV facilities had a total of 26 television cameras on the scene. Both KTTV and KNBH sent motion picture cameras and crews from Los Angeles to cover event for their respective TV newsreels.

Major newsreels and TV newsreels chipped in $700.00 to provide huge arc lights for illumination, splitting the nut between them.

The moral, said one cameraman, is that TV newsreels should never attempt to compete with good TV camera coverage of such events. Best use to which such motion pictures can be put is intercutting best shots with kinescope footage of TV camera coverage in a final editing.

•

Phil Tannura, A.S.C., is directing the photography on the new series of the Stu Erwin "The Trouble With Father" TV films being produced at Hal Roach Studios. He replaces Walter Strenge, A.S.C., who is in the east on a filming commitment for Roland Reed Productions.

•

Jackson Rose, A.S.C., recently completed directing the photography on a series of TV films produced by Consolidated TV Film Productions at KTTV studios in Hollywood. Films are part of a series of 200 half-hour comedies, starring such well-known comedy stars as Buster Keaton, etc. Assignment will keep Rose busy for several months.

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35MM. INTERMITTENTS—now only $75.00 each —precision machining, excellent design. Perfect for Printers, Animation Cameras, Slide Film Cameras, and for silencing and modernizing motion picture cameras. Double pull-down claws and double registration pins, at aperture. Entire unit in light-tight metal case to accommodate 200-foot roll, complete with take-up. Light trap at aperture. Original cost $1,000.00.

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BATTERY, plastic, liteweight, 12 v., case 37.50
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WE PAY CASH FOR USED EQUIPMENT. Dept. f.

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(Continued on Next Page)

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(Continued from Preceding Page)

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16mm and 35mm motion picture, laboratory and editing equipment.
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Definitely
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TV GROUND GLASS

for Mitchell Standard, N. C., and Bell & Howell 35mm. cameras. Showing TV alignment — outlining active receiver area, TV projection area and Academy (sound) aperture.

Write For Details

CAMERA EQUIPMENT COMPANY
1600 Broadway — **New York, N. Y.**

IN THE BEST PROFESSIONAL MANNER

(Continued from Page 201)

on a multiple production program which will involve making our eighth film for The Lutheran Layman's League, a film for Lebanon Steel, scenes for a commercial production to be made in St. Louis, Missouri, and a number of background and process plates.

For such an undertaking as this, the company ships all its major equipment to the eastern locations in a baggage car leased for the purpose. In this car is shipped our 1300-watt mobile motor generator, cameras and camera equipment, grip equipment and lights. The car travels with the company wherever it goes by rail, and is switched from one line to another as required. We find this less costly and more reliable than shipping the same equipment overland by truck. The company has followed this practice since 1937.

Usually when productions are being photographed away from the home lot, shooting continues on still others at the studio. During the time we are away from Culver City on the eastern shooting assignments, Phil Tannura, A.S.C., will take over the photography of the new series of *The Trouble With Father* films, scheduled to start right after May 1st. Other directors of photography will supervise the shooting of still others, including the company's large commitments for one-minute spot announcements for television—an item which they have turned out steadily and in excess of 100 since January 1st.

BULLETIN BOARD

(Continued from Page 170)

asks that cinematographers with such footage to sell, first send studio a complete written description of same before sending in film for screening.

•

The Sword Of Monte Cristo, now in its initial release in the nation's theatres, is the first picture to be released in the new Supercinecolor. Jack Greenhalgh, A.S.C., directed the photography for Alson Productions, Hollywood.

•

Sid Hickox, A.S.C., employed a unique camera vehicle, called a "swampmobile" in shooting scenes for Warner Brothers' "Distant Drums" in inaccessible areas of the Florida Everglades. Vehicle is a light chassis mounted on airplane tires that navigates the marshes without bogging down, and enabled Warners to film locations for the picture never before photographed.

GORDON SPECIALS!

We are proud to offer, in addition to the items listed below, and in our larger ad on page 187, a complete line of 16mm. and 35mm. negative and positive stock at a fraction of prevailing market prices.

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ACE FILM STAPLING MACHINE.....$ 6.50
FILM CUTTING TABLE, all steel.....$40.00
35MM NEUMADE EVERWEAR, REWINDS, pair 1 dummy, 1 geared)
No. 3 Bench Type, per pair.....$11.50
No. 4 Clamp Type, per pair.....$13.50
35MM NEUMADE BENCH TYPE REWINDS (Pair—1 Dummy, 1 geared)
No. 1 Bench Type, per pair.....$ 8.75
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Geared end and brake; each.....$14.00
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Other Neumade equipment at big discount. Please advise us of your requirements.

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DE PUE AUTOMATIC LIGHT CONTROL BOARD 152 scenes $975.00
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STEP PRINTER, with Geneva movement $175.00
STINEMAN PRINTER, 35mm.....$135.00

STUDIO LIGHTS

STUDIO LIGHT, with large 22" diameter chrome reflector on adjustable collapsible stand; focusing mount for bulb, complete with cables and scrims in fitted case.....$95.00
BARDWELL-McALISTER STUDIO LIGHTS with casters and floor pins. Three fluorescent light heads, each bank holds six fluorescent lamps, banks swing 360°, can be raised 15'.....$69.50
MOLE-RICHARDSON CINELITE, (Type 16), 500, 1000 watt, double extension stand, casters, portable. New $55.00

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Designers and manufacturers of silent and sound motion picture cameras with 225° shutter opening, (288° shutter opening for television use), gyro tripods and precision instruments. Complete engineering and machine shop facilities for experimental work, model and production runs.

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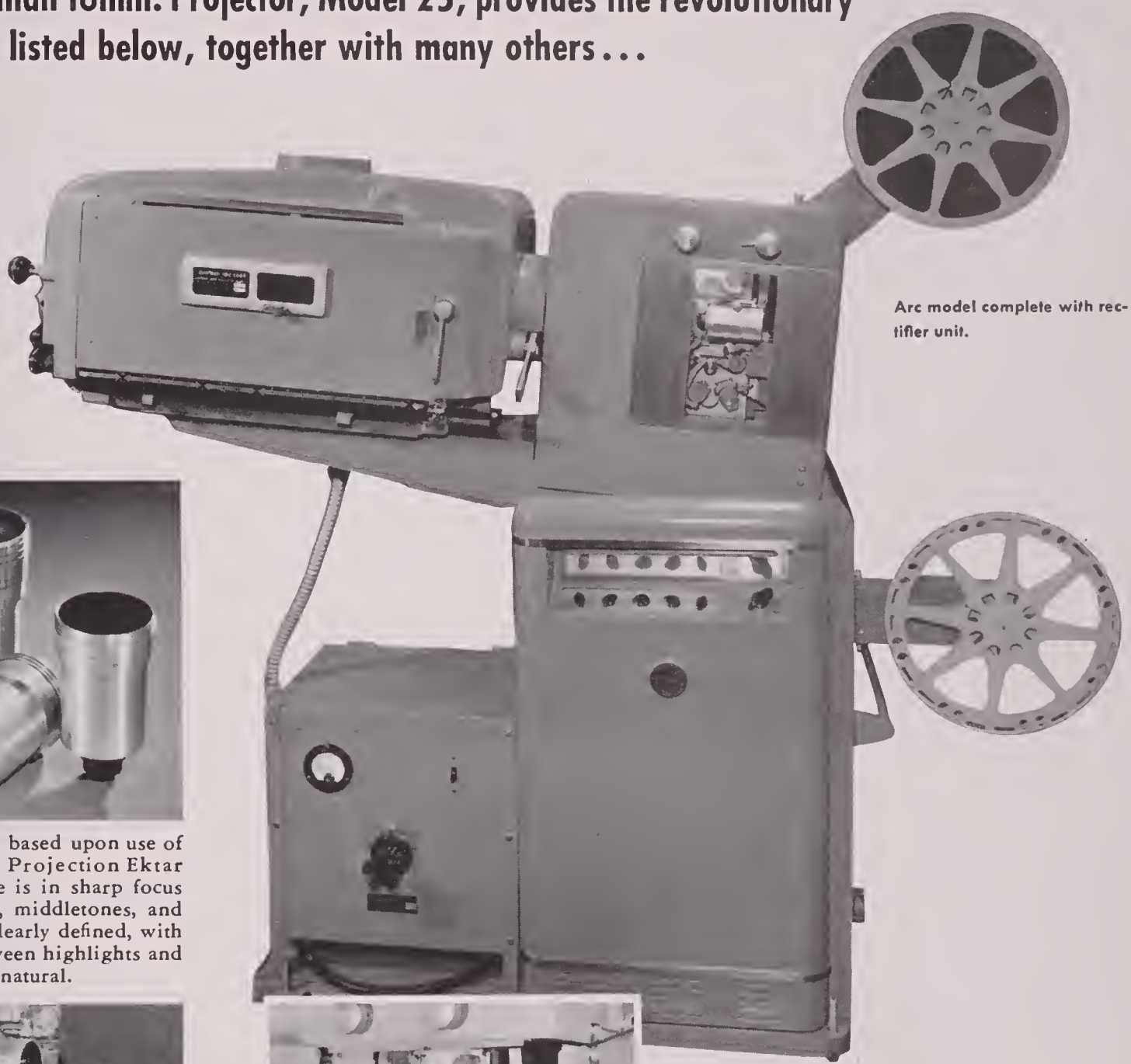
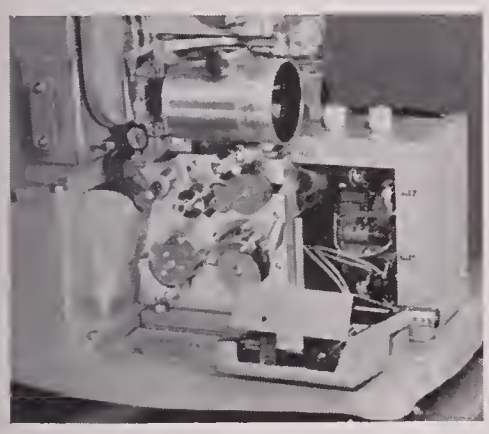
Exclusive with this projector...

Only the Eastman 16mm. Projector, Model 25, provides the revolutionary new features listed below, together with many others...

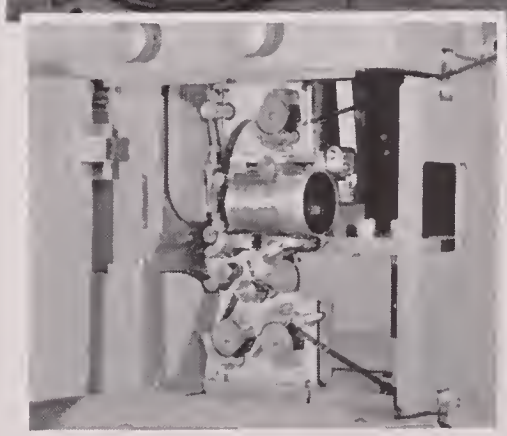


Arc model complete with rectifier unit.

New Optical System based upon use of *Lumenized* Kodak Projection Ektar Lenses. The picture is in sharp focus overall. Highlights, middletones, and shadow areas are clearly defined, with range of tones between highlights and shadows complete, natural.

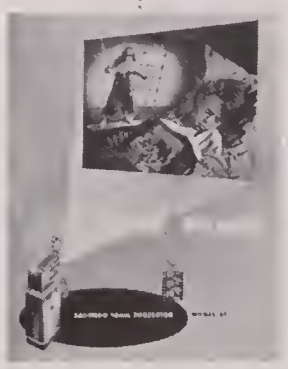


New Sound Reproduction employing "slitless" type sound optical system. Special curved cylindrical lens element forms intermediate image which is imaged on film at further reduction of 3 to 1, giving flat image of uniform width and constant intensity.



New Heavy-Duty Mechanical Design establishes new standards of 16mm. performance. For example: shock forces in each essential kinematic unit are isolated; accelerators in intermittent system are cushioned; geneva star movement is of advanced design.

For further information and prices, write for copy of new 16-page book, "Theater Quality 16mm. Projection."



Motion Picture Film Department
Eastman Kodak Company
Rochester 4, N. Y.

East Coast Division
342 Madison Avenue
New York 17, New York

Midwest Division
137 North Wabash Avenue
Chicago 2, Illinois

West Coast Division
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Hollywood 38, California

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"SINCE my Foton transports film automatically, it's always ready to shoot . . . and keep right on shooting. That's one reason I've been getting such wonderful results!"

Automatic winding is *one* of the reasons fans have been getting such results with the Bell & Howell Foton! But check *all* of the Foton advantages. Many of them are exclusive features that put Foton at the top in the 35mm still camera field.

EXCLUSIVE FEATURES:

- **Automatic Film Transport**—take 10 to 15 shots with one winding—you're always ready to shoot!
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- **Four-leaf Focal Plane Shutter**—for *uniform exposure* from corner to corner and *absolute accuracy* in the 11 shutter speeds from bulb to 1/1000 of a second.

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Add up these Foton "exclusives" and compare with any 35mm camera . . . *foreign or domestic!*

Guaranteed for life. During the life of the product, any defects in workmanship or materials will be remedied free (except transportation).

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$3.00 YEARLY IN U. S.

Cinematographer

THE MAGAZINE OF MOTION PICTURE PHOTOGRAPHY

THIS MONTH: • **Station Production of TV Motion Pictures**
• **Developing A Knack For Composition**
• **Collegiate Movie Makers**

JUNE 1951

SPOT NEWS

coverage
success
with
Du Pont
"Superior" 2

On-the-spot fire pictures thrill home-town audiences

A spectacular three-alarm fire at midnight in a small town is "hot" in local news interest. And Earle Holden, manager of the Center Theatre, Hickory, N.C., capitalized on it recently . . . thanks to Du Pont "Superior" 2.

With his portable 35-mm. movie camera loaded with "Superior" 2, Holden scored an "exclusive" and was able to present his theatre patrons and news agencies with the only shots of the blaze.

"I set the shutter . . . pushed the button . . . trusted to luck *and* 'Superior' 2," Holden said "and the pictures we were able to present on our screen were the BIG NEWS in our community. Thanks to 'Superior' 2."

Holden's experience is backed up by news cameramen everywhere. They've found Du Pont "Superior" 2 provides the right contrast, extremely wide latitude, and speed required for proper exposures with all lighting. It's an all-purpose negative rawstock with fine-grain emulsion and dependable uniformity. E. I. du Pont de Nemours & Co., (Inc.), Photo Products Department, Wilmington 98, Delaware.

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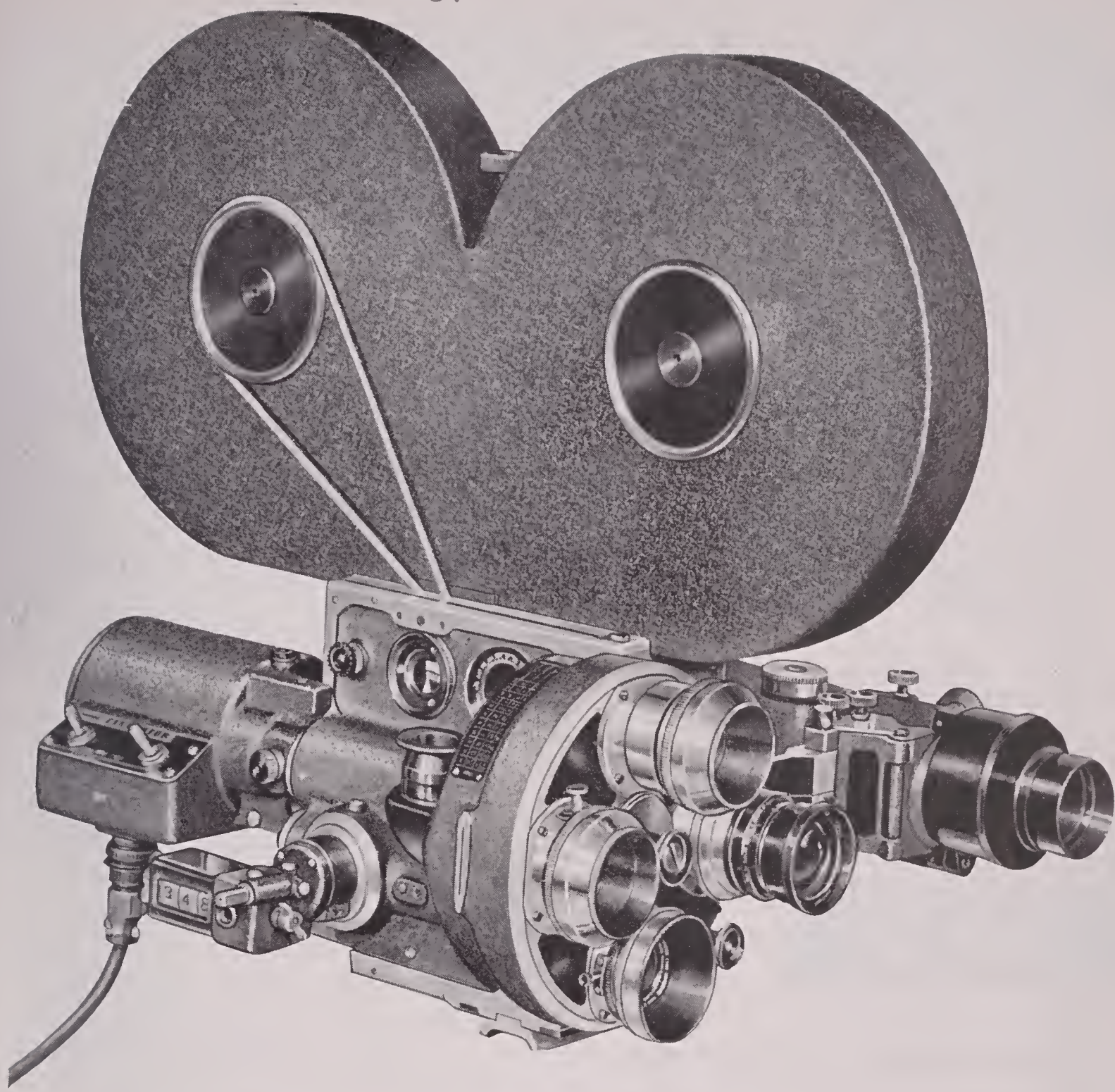
BETTER THINGS FOR BETTER LIVING . . . *THROUGH CHEMISTRY*

DU PONT MOTION PICTURE FILM

NEW YORK • LOS ANGELES • CHICAGO

B 306737



You know this camera as well as you know your own name.

You know that the negatives it photographs are the steadiest in the business.

You know it is largely responsible for the standards of perfection in the industry today.

You know the company that makes it.

But do you know that this camera has the *only* intermittent film movement that runs at 200 frames per second?

This emblem is your assurance of
Courteous
Faithful
Intelligent

LABORATORY SERVICE

OUR GOAL:
To bring to the screen in flawless manner, the skill and artistry of the cinematographer

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PHONE HO 9-1441
HOLLYWOOD, CALIF.

AMERICAN
Cinematographer
THE MAGAZINE OF MOTION PICTURE PHOTOGRAPHY

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Editorial and Business Office: 1782 N. Orange Dr., Hollywood 28, Calif.
Telephone: GRanite 2135

VOL. 32 JUNE ● 1951 NO. 6

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ON THE COVER

STUDENTS in the Motion Picture Division, Theatre Arts Department, of the University of California at Los Angeles prepare to shoot a scene for a workshop project, as Asst. Prof. Norman G. Dyhrenfurth (rear of set) takes an exposure meter reading. Except for 16mm cameras shown, all lighting, sound and grip equipment used by students is same as found in the major Hollywood studios.—*Photo courtesy U.C.L.A. Dept. of Theatre Arts.*

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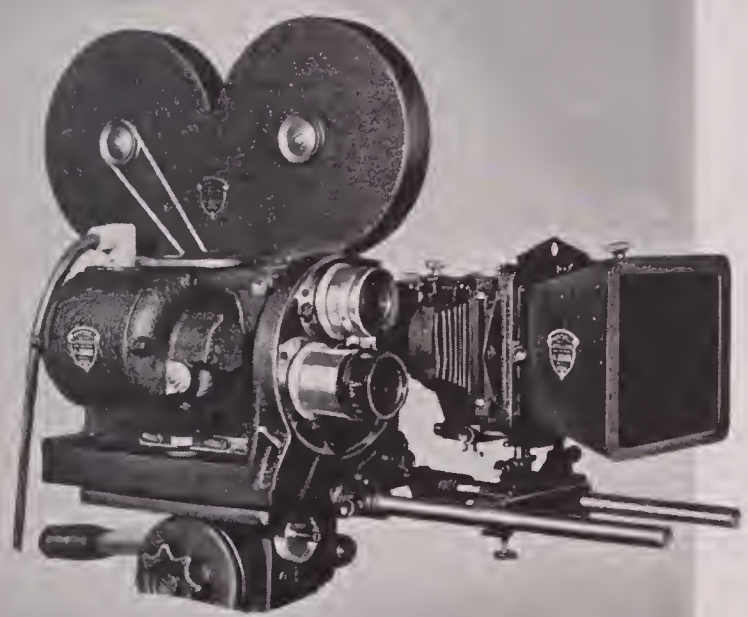

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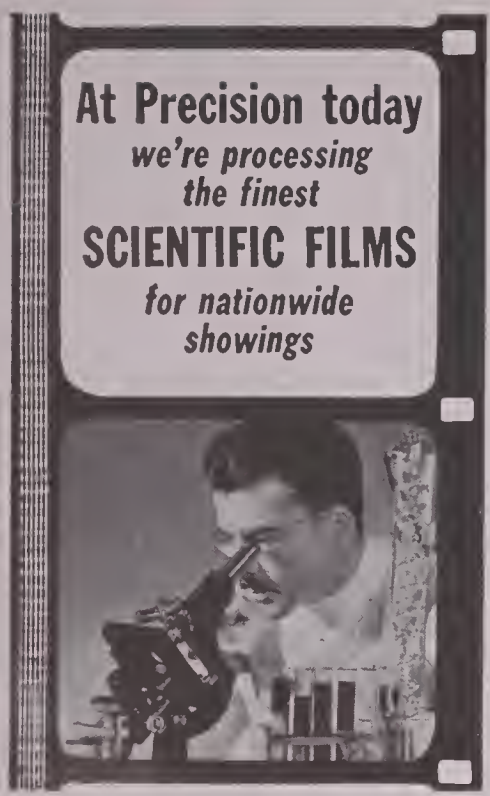

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Hollywood
Bulletin Board

Hal Mohr, A.S.C., was elected last month to serve on the Board of Governors of the Academy of Motion Picture Arts and Sciences. He will represent the Cinematographers along with Board member John W. Boyle, A.S.C.

•

Ernest Palmer, A.S.C., won the Reno Chamber of Commerce Silver Spurs Award for best photography of a western picture released during 1950. The picture: "The Gunfighter," starring Gregory Peck. Peck also won a Spurs Award for best western actor, and Henry King, who directed the picture, an Award for best direction of a western picture. Awards were made at an impressive presentation ceremony in Reno May 12.

•

Frank C. Zucker, non-resident A.S.C. member and head of Camera Equipment Company, New York City, was a Hollywood visitor last month.

•

Karl Freund, A.S.C., head of Photo Research Corporation, Burbank, Calif., will chairman the Technical Division program of the Photographic Society of America's regional convention to be held in Santa Barbara, Calif., in June. The Society, incidentally, now has Technical Divisions operating in Rochester, Cleveland, Binghamton, Boston, Los Angeles, and New York City.

•

Mack Sennett, founder of the famous Keystone Comedies of the silent film era, has contributed a large collection of material from his personal film and photo files to the Academy of Motion Picture Arts and Sciences.

Gift is said to be most extensive yet made to the Academy's library of historic material dealing with the motion picture industry, and covers a period of more than forty years.

Material includes more than 70,000 photographic stills, negatives and scripts embracing the movie industry from about 1910 to date. It represents a pictorial history of the famous Mack Sennett type of comedy. Collection also includes 100 reels of motion pictures featuring the famous Mack Sennett Bathing Beauties and the Keystone Cops.

•

Formal request has been made to the Secretary of Defense that a photographic laboratory, air base or air field be named in memory of Brigadier General Paul T. Cullen, USAF, pioneer Air Force photographic specialist in atomic explosions.

Cullen and 52 others were lost last March when an Air Force C-124, enroute from the U. S. to England, was lost over the Atlantic.

It was Cullen who established the Lookout Mountain Laboratory in Hollywood in 1948. Photographers who worked with him include Tom Tutwiler, A.S.C., Harry Perry, A.S.C., Kyme Meade, George March, Don Ehlers, Charlie Downs, Joe Dieves and many others.

•

S. M. P. T. E.'s headquarters offices will move June 8th to new and larger headquarters on the 5th floor of the American Radiator Building, 40 West 40th St., New York City. According to Society President Peter Mole, recent membership growth and increased activity among numerous engineering committees made the move necessary.

•

U.S. Army Signal Corps has set up an information service for men about to enter military service who have certain communications, electronics or photographic experience. Aim is to advise such men on how to ask for assignment to that or some other appropriate branch of service. Action is result of Army's belief it is mutually desirable for men coming into service to continue, so far as possible, his civilian specialty while in service. Motion picture photographers are among the several specialized skills critically needed by the Army. Inductees are advised to show their statements of experience, if requested, at induction stations, but not to surrender them there.

•

Richard M. Wilson has been appointed superintendent of the film emulsion coating division at Eastman Kodak Company's Kodak Park plant. He has been supervisor of emulsion coating since 1938.

•

New, extremely high-speed motion picture film is being employed by Dr. Irving Rehman of University of Southern California in tests for the Pete Smith production "Inside Stuff." Film will be employed in shooting the first motion picture ever made inside the human body. Dr. Rehman is said to be the first scientist to perfect motion picture photography with X-rays.

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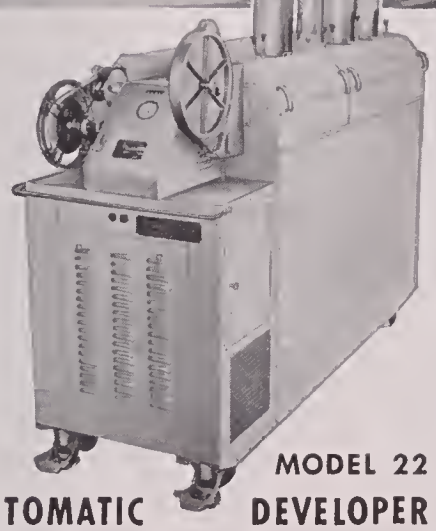

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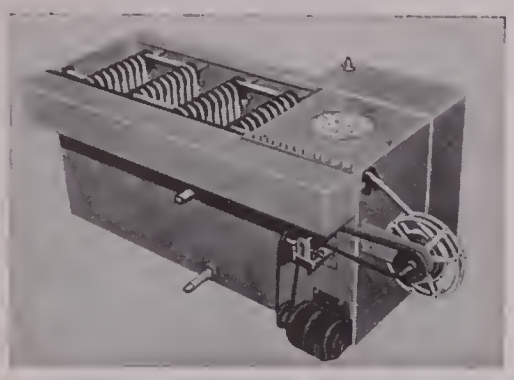

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WHAT'S NEW

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for the various track locations, azimuth, and tape and film thickness. Amplifier is 117-volt, 60-cycle AC. Power output is 4 watts. A heavy-duty Alnico V speaker is built-in. Price is $198.00, FOB factory.

• **HIGH SPEED PHOTOGRAPHY**, Volume 3, the third in a series of technical reprints, has just been announced by the Society of Motion Picture and Television Engineers. The 160-page paper-bound volume contains eleven articles, a 19-page bibliography listing nearly 600 references on cameras lighting, oscillography, etc. Price is $2.00 per copy from Society's headquarters, 40 West 40th St., New York 18, N. Y.

• **LATEST 16MM** single system motion picture sound camera is the Soundmaster, announced recently by Libra Equipment Distrs., 6525 Sunset Blvd., Hollywood. Camera features 3-lens turret, 200- or 400-foot external load film magazines, and battery-driven motor.

• **16MM MOVIE MAKERS** who want the convenience of a magazine-load cine camera will be interested in Bell & Howell's celebration of the manufacture of its quarter-millionth 16mm magazine camera. Marking the occasion, company has announced special reduced prices on its magazine-load camera during months of June and July. Both the Bell & Howell Auto Load and Auto Master cameras are included in this offer.

• **THE FAMOUS VICTOR LINE** of cine cameras may soon be seen again. Announcement comes from the Victor Animatograph Corporation, Davenport, Iowa, of the company's purchase by Samuel G. Rose, its former president. Following close of the last war, the business became a subsidiary of the Curtiss-Wright Corporation which has operated Victor for the past five years.

• **HOUSING ONE OF THE LARGEST** collections of used motion picture and photographic equipment is the new, enlarged warehouse of Gordon Enterprises, 5362 N. Cahuenga, North Hollywood. Company is now servicing motion picture cameramen and producers with supplies and equipment in almost every country of the globe. If they do not have a wanted article in stock, they can invariably get it from their wide and varied source of supply.

• **OWNERS OF DE JUR** Fadematic and Embassy 8mm cine cameras—the single-lens models—may now have them converted to slick, functional turret jobs by the DeJur factory. Conversion requires about a week and costs $25.00.

• **FOLDAMATIC** is a new, versatile four-light unit for movie amateurs, professionals and TV newsreel photographers. Weighing but 2½ pounds, the unit's arms fold to a compact 12-inches overall length for easy storage. Unit, when opened, has a spread of 26½ inches. Arms can move horizontally in a 180 degree swing.

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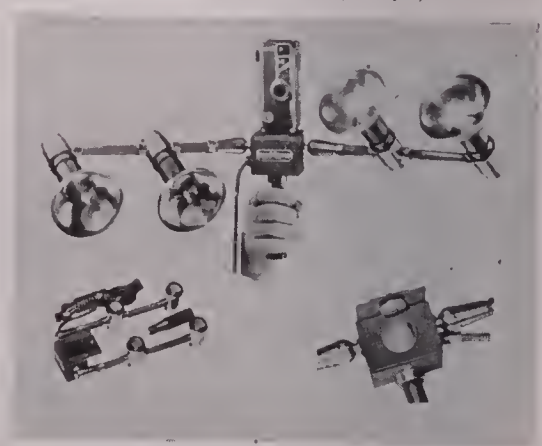
(*Continued on Page 246*)



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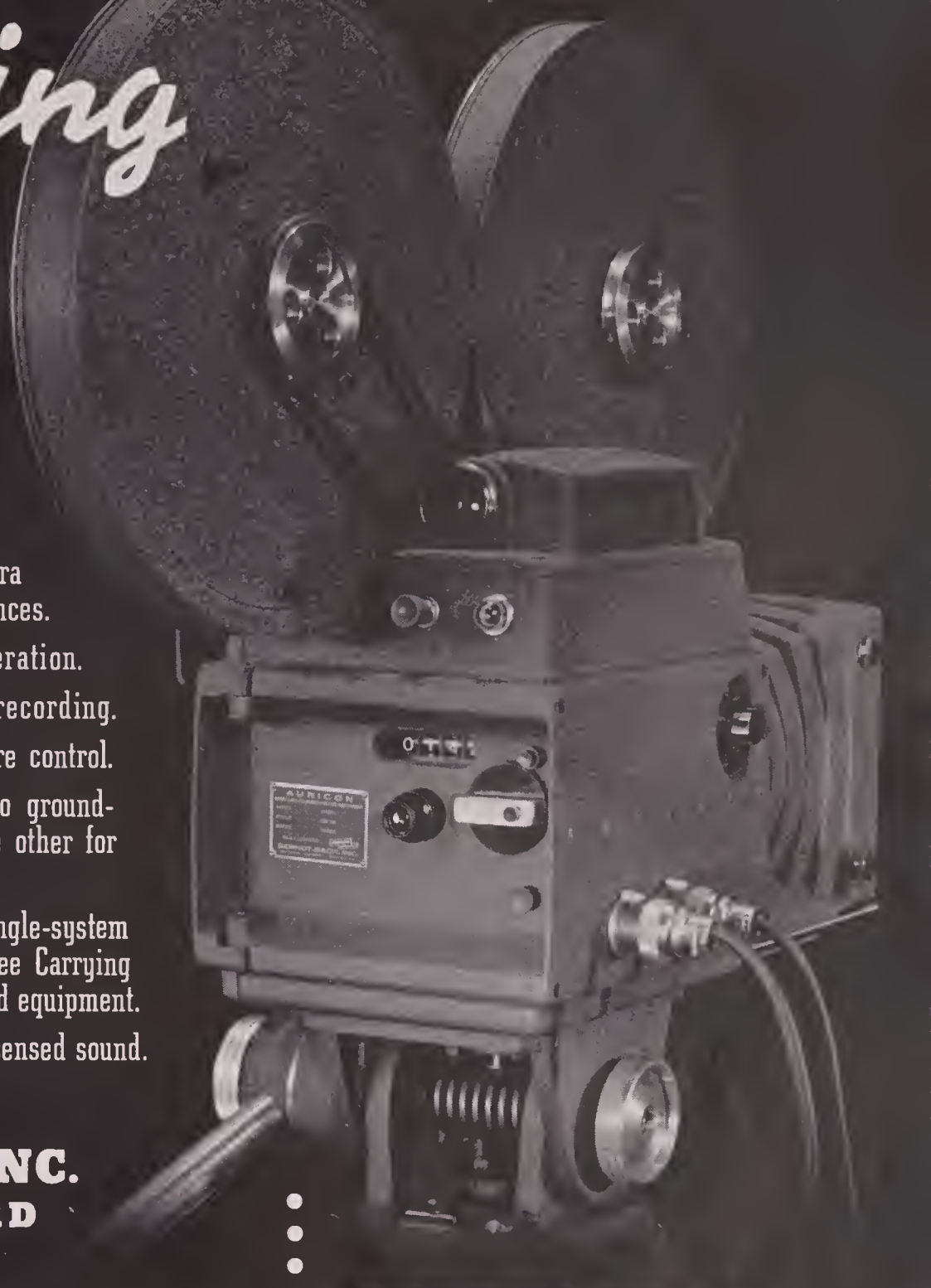

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PRESENT QUARTERS of U.C.L.A.'s Motion Picture Division, though small, are adequate to the needs of the current enrollment of 150 students. There is a small but well-equipped sound stage and the latest photographic, lighting, sound, and grip equipment

EDITING department boasts the best in 16mm and 35mm splicing and cutting equipment. Here a beginner learns splicing with 16mm film.

Collegiate Movie Makers

U.C.L.A.'s student film makers have no illusions about crashing the gates of Hollywood studios. Most have set their sights on the tremendous future looming for educational, industrial and television motion picture production.

By JAY DEVON

OFF IN A SECLUDED corner of the vast campus of the University of California at Los Angeles, stands a group of temporary frame buildings surrounding a structure that looks like nothing so much as an exercise in modern design for a beginners' class in architecture. This group of buildings houses the various sections of the Theater Arts Department — and the interesting paradox is that, while the buildings are unimpressive, functioning within their walls is an incredibly vital and productive department dedicated to teaching the techniques of Theater, Radio, Motion Pictures and Television.

Currently on the drawing board are blueprints for a new $5,000,000 building to house the Theater Arts Department — another unit to augment the tremendous building program now in progress on U.C.L.A.'s busy campus. But no one in Theater Arts is marking time while the new building goes up. They are all furiously at work in their cramped, but well-equipped quarters, turning out a quantity and quality of work that are amazing in view of the fact the department is not yet four years old.

Prof. Kenneth Macgowan, Chairman of Theater Arts, sums up the aims of the department's program as follows: "The university expects to train for the future, to provide skilled men and women who will go on to other universities, colleges, and high schools to train the next generation. As such work spreads from the Los Angeles Campus and other institutions, we should have an increasingly fine body of trained young people who will contribute to stage, screen, radio, and television, who will enrich community theaters, and who will give significance to documentary and teaching films."

The Motion Picture Division of Theater Arts is headed by Asst. Prof. Norman G. Dyhrenfurth, writer-cameraman-director-producer from Switzerland, who numbers among his credits many outstanding documentary films. His aim in the Motion Picture Division is not to create specialized technicians skilled in only one phase of production, but all-around film-makers, with a know-how of every element of production. The approach is practical rather than theoretical, so that the graduate will fully appreciate the problems of his fellow technicians, no matter in what phase he elects to specialize later on.

"Many people in the motion picture industry are convinced that the art of film making cannot be taught successfully in any trade school or college,"

STANDARD studio-type reflectors are part of the University's equipment and are used whenever workshop groups shoot on location.

says Dyhrenfurth. "These people base their opinion on the assumption that the ones who know least about film making turn to teaching, and that their teaching cannot be effective since it is not based on actual production experience. This argument is valid in many instances, but here at U.C.L.A. we are proving that film making can be taught. In recognition of this fact, the studios are extending us more and more cooperation, and their technicians are helping us to teach motion picture technique in a thoroughly professional manner."

In line with this policy, the Motion Picture Department has added to its faculty a number of outstanding technicians from the Hollywood film industry. To name just a few, these include Floyd Crosby, A.S.C., outstanding documentary cameraman whose credits include "Tabu," "The River," and most recently "The Brave Bulls"; Leigh Jason, director of feature pictures and shorts for many of the major studios; Charles Van Enger, Jr., Film Editor at Universal Studios; George Travell, former M-G-M actor-director; Harry Horner, winner of an Academy Award for Art Direction of "The Heiress"; Ernest Pascal, former president of the Screen Writers' Guild; and William M. Shull, Walt Disney Production Designer and Animator.

In addition, the Department invites top technicians from the industry to appear as guest lecturers. Recently, these have included Directors Robert Siodmak (The Killers), Compton Bennett (King Solomon's Mines), Fritz Lang (Cloak and Dagger), Fred Zinnemann (The Search), and Producer Stanley Kramer (Champion, Thee Men, Cyrano). First-hand experience in production related by these men are of immeasurable importance in making cinematic theory come to life for the students.

During his freshman and sophomore years, the student in the Department of Theater Arts is required to take courses in foreign languages, history, military science, physical education, social sciences, English, and the humanities, as well as theater arts courses in social aspects of mass communications, acting, stage crafts, history and survey courses in theater, radio, and motion pictures.

When he becomes a junior, he concentrates on one of the three media of theater arts: Motion Pictures, Radio, or Theater. The motion picture major is required to take courses in film techniques — (a survey course covering and integrating all phases of production),— editing, history, photography, sound, and direction. He must also take three workshops, which involve intensive practical work in the production of all types of films under close faculty supervision.

In addition, the student must take courses in English and continental drama, the novel, and ten units of approved electives consisting of additional courses in advanced editing, direction, composition and lighting, acting, make-up, animation, production design, color cinematography, screen writing, and documentary film techniques. Each of these courses combine lectures with applied practical work, offering the student plenty of opportunity to learn by doing.

The three workshops are most important, since they serve as practical laboratories for the theory taught in the preparatory courses. The first or Elementary Workshop is basically a series of exercises in fundamental film technique. The second or Intermediate Workshop is a more advanced lab in which actual projects in film making are conceived and executed. The third or Summer Workshop is perhaps the most productive of all since it is less formal and devoted more directly to ambitious film projects.

William B. Adams, a staff lecturer in the Motion Picture Division, gives an interesting account of the activities and projects of last summer's Workshop.

"During the past three years of the Motion Picture Division's existence, we had learned that production of some sort is necessary in a motion picture curriculum. We had also learned that the proper balance between the two is not easy to determine practically. In the past, we had begun each semester's work with the firm purpose of using production as a means of much of our teaching. We invariably discovered, however, that to produce motion pictures, we must

(Continued on Page 243)

ONLY the most promising students are permitted to continue with studies toward a master's degree, work in technical phases of production.

LOCATION filming on the University campus for a scene for "Wheelchair Scholars," a documentary made by the 1950 class. Film already is in wide national release.

MINOR productions serve as exercises which allow student to make errors yet impose on him rigid standards of professional filming.

WHEN the director of photography looks at a scene through the viewing glass, the brightness reaching the eye is reduced sufficiently so that he can judge general appearance of scene and also lighting contrasts as they will register on film.

Importance Of The Viewing Glass In Motion Picture Photography

Tiny gadget makes it possible for eye to see tonal values as they will register on film.

By R. G. DELL

When we see on the screen a well-exposed scene, with good tonal or color rendition and perfect balance between highlights and shadows, invariably several instruments besides the camera were employed by the director of photography to achieve it. There was the exposure meter, a color temperature meter (if it was a color film), and a viewing glass.

Of these, the viewing glass is the simplest; yet it's equally important because it is difficult for anyone to judge with the naked eye the contrast in a scene to be photographed. When we look at the shadows in a scene, our eye automatically adapts itself and we see detail that the film will not see. The viewing glass lowers the brightness of the scene so that the eye will not be able to see detail in shadows too dark to record on film.

The history of the viewing glass goes back farther than the photoelectric exposure meter, back to the days of color-blind ortho film. As the first photographic films were relatively insensitive to all colors but blue, in order to see a subject or scene to be photographed as it would appear on film it was only necessary to view it through a deep-blue viewing glass. All color as such became invisible through the glass and we saw the range of brightness of the scene as it would reproduce on film.

As black-and-white films were improved—made more sensitive—and with the introduction of color films, it became necessary to alter the filtering components of the viewing glass. When panchromatic film came into use, some photographers continued to use the deep-blue viewing glass because it rendered the scene in monochrome; but they found that the relative brightness did not always register on the film as it appeared through the glass. Medium blue no longer registered as almost white, nor bright red as black, as they had on color-blind film. It therefore became necessary to develop a new viewing glass which rendered colors in approximate monotones comparable to the brightness range registered on the new panchromatic film. Thus the Panchromatic Viewing Glass was born.

With the introduction of daylight color film, the need for a complete new viewing glass for this medium was not anticipated, for all colors were expected to register on the film in their natural hues. However, the contrast range of the daylight color film proved to be much shorter than that seen by the eye. It was not capable of recording a scene in which there were extreme highlights and deep shadows, and doing justice to both.

Among the first to meet this problem was Technicolor Corporation, which developed for color film photography the neutral contrast viewing glass. This is a filter which is neutral in color and is held to a density of 2.0, with a production tolerance of only plus or minus 5%.

When the cameraman looks at a scene through the viewing glass, the brightness reaching the eye is reduced sufficiently so that he can judge, not only the general appearance of the scene as it will appear on the film when photographed, but also determine whether the lighting contrast is too great to record successfully on color film. Should this be the case, and since he cannot increase the exposure enough to record the shadow detail satisfactory without over-exposing the highlights and burning them out, the obvious step is to direct more light into the shadows to modify the excessive contrasts.

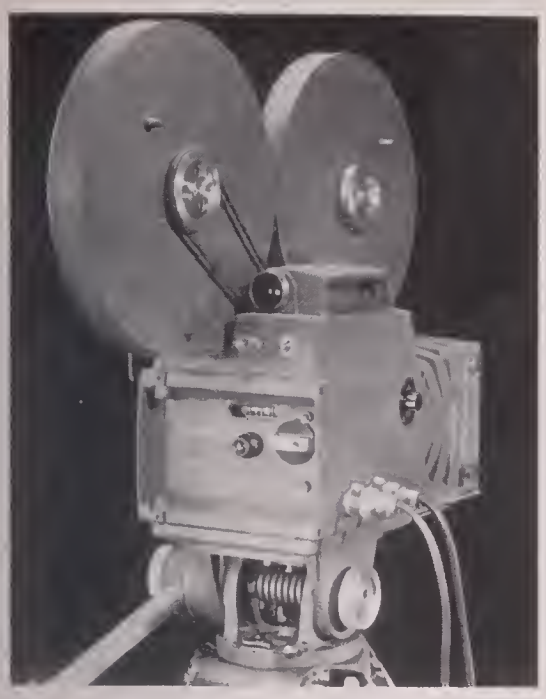
The two important cameras used in the studios today—Mitchell and Technicolor—have adaptations of the viewing glass built into the viewing systems. With the Mitchell, a panchromatic viewing glass is part of the optical viewer, which becomes operative when the camera is racked-over. The Technicolor cameras have a neutral viewing glass, more generally referred to as an ND filter, in the camera's finder system.

In spite of these conveniences, however, the director of photography has need for the popular little monocle-like viewing glass which he invariably wears suspended by a neck cord. It is in constant use whenever he is directing the placement of lights or reflectors.

The recent introduction of color film balanced for mazda light makes neces-

(*Continued on Page 235*)

THE SPECTRA contrast viewing glass, made by Photo Research Corp., Burbank, Calif., which is now widely used in the motion picture and photographic industries.



ALL CONTROLS for the "Super-1200" camera are grouped within easy reach for convenient operation. Camera is quiet and no external blimp is needed.

THE AURICON "Super-1200" camera is designed to save time and thus lower 16mm production costs by providing every operating convenience for the cameraman. A notable innovation is the camera's three different finder systems. Film magazine capacity is 1200 feet.

TURRET of the camera carries 3 "C" mount lenses and 3 finder lenses. Turret may be rotated without touching lenses or disturbing focus or diaphgram settings.

The New Auricon 'Super-1200'

Berndt-Bach introduces a completely new 16mm camera with 1200-foot film magazine and triple finder system.

By FREDERICK FOSTER

THE NEW AURICON "Super-1200" 16mm sound-on-film camera built by Berndt-Bach, Incorporated, Hollywood, provides every operating convenience for the 16mm professional photographer. With its giant film chambers providing a maximum of 1200 ft. of film at one loading, the camera produces a rock-steady picture and a "high fidelity" sound-track with a minimum of time and effort on the part of the cameraman. To do this, 3 separate finder systems of unique design are combined in this self-blimped "Super-1200" camera which runs so quietly it requires no external blimp even for studio operation.

Finder No. 1 is an instant ground-glass focusing reflex finder, with 10x focusing telescope, which allows the cameraman to check through the camera-lens for picture composition and focus. This new "feather touch" focusing system can be operated with one finger, because the camera body, lens turret and film gate are not shifted during focusing. Nothing moves except a miniature precision prism-reflector system inside the camera, between the film-gate and the camera lens. This means that with the camera tripod on soft ground (especially with long-range telephoto lenses) there is no danger of disturbing the picture composition by inadvertently moving the camera position while shifting from "focus" to "shooting."

It is also possible to use the reflex focus system while the camera is running, to check for camera and projector shutter synchronism during "background-projection" scenes; also for "kinescope" recording, or special-effects work.

Finder No. 2 is of the studio-type which provides a large brilliant ground-glass-image, upright and correct right to left. As this finder is focused, automatic adjustment is made for parallax. This patented Auto-Parallax Studio View Finder, Model EIF-20 provides an image which can be viewed with both eyes from any position behind camera.

Finder No. 3 is a special telephoto type which operates with a set of miniature lenses mounted in the center of the

(*Continued on Page 238*)

IN THE FIELD—Kinevox synchronous magnetic film recorder in use by Los Angeles Police Department, recording officer's comments on accident being filmed by Department cinematographer.

IN THE STUDIO—Kinevox recorder in use in Titanus Studio, Rome, Italy, in a production featuring Anna Magnani (foreground). Kinevox equipment is in regular daily use in many foreign motion picture studios.

IN THE LAB—Telefilm, Inc., Hollywood, uses three Kinevox film phonographs, in conjunction with a Kinevox recorder, in dubbing and re-recording sound for its many clients.

The Kinevox Synchronous Magnetic Film Recorder

Designed and engineered especially for 35mm and 16mm film production, this popular single-unit portable recorder uses 17½mm perforated magnetic film.

By RALPH LAWTON

THE FOLLOWING is the second in a series of articles by Ralph Lawton describing the various magnetic film and tape recording systems now on the market for professional motion picture production. The articles are in response to reader demand for information on this new sound recording equipment which is finding wider use day by day both in the major studios and among producers of industrial and television films. The equipment of another manufacturer will be described in the July issue.—EDITOR.

MAGNETIC RECORDING has brought economical sound film production within easy reach of independent motion picture cameramen and film producers. It has made possible tremendous savings in sound recording for industrial, educational and television film makers as well as for major film producers. It is responsible[1]— perhaps more than any other single factor — for the impetus evident in film production in many foreign countries.

Kinevox synchronous magnetic film recorders have gained wide favor in the foreign field and are to be found in regular use in nearly all major film production centers overseas. In Italy, for example, several different companies presently are using Kinevox recorders on feature productions. In the United States, they are widely used by film producers from coast to coast. As of May 1st, more than 75 Kinevox recorders were in use by motion picture producers throughout the world, according to the manufacturer.

Established only two years ago, Kinevox Incorporated, Burbank, California, has built an enviable reputation for turning out one of the most efficient and reasonable-priced magnetic recorders on the market. A single-unit job, skillfully engineered to fit a handsome carrying-case cabinet 18x17x11 inches in size, its net weight is but 50 pounds. Because of its compact size and nominal weight it is easily accommodated in the trunk compartment of an automobile, along with camera and tripod.

Kinevox recorders are sold outright, never leased. In addition to the synchronous magnetic recorder, Kinevox also supplies the following companion equipment:

Film phonograph (dubber),
4-position mixer,
Portable field power unit,
Film reader,
Magnetic film splicer,
Monoboom for microphone,
Long-playing auxiliary feed and takeup arms for recorder,
Bulk sound eraser.

Thus Kinevox is able to furnish the motion picture producer with complete equipment necessary for recording, editing and

(*Continued on Page 235*)

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TYPICAL of the quality of television newsreel photography executed by WHEN's camera staff are above clips from its newsreel depicting famous modern miracle—The Weeping Statue of St. Anne, which hit the headlines and, simultaneously, WHEN's TV audience screens in April 1950. Pictures, from left to right, show Shirley Martin with the weeping statue; closeup of statue, which wept tears whenever kissed by Shirley; clever closeup of statue

Station-production of TV Motion Pictures

Some of the requirements and limitations faced by the film production staffs of TV stations.

By D. LISLE CONWAY

THERE IS AT PRESENT substantial activity on the part of various television stations in the production of films for television. Staffing such production units are many men who, for the most part, have acquired wide experience independently making 16mm films and particularly in developing methods for achieving successfully many of the cinematic effects accomplished by the professional studios with intricate and costly equipment — not to mention specialized personnel.

D. Lisle Conway, who brings to our readers this month the following account of independent TV station film production, is one of these ingenious and courageous camera artists. He is director of the motion picture and special effects department of station WHEN of the Meredith-Syracuse Television Corporation, Syracuse, New York. A member of the Academy of Television Arts and Sciences and a charter member of the Audio Engineering Society, Conway, prior to his association with WHEN, was five years on the faculty of Syracuse University, as Technical Director of the University's radio department. In spare hours off the campus, he pursued his forté — making movies — operating as a free-lance news and commercial motion picture cameraman. The following report combines some of his own experiences and observations of contemporary TV film producers.—EDITOR.

OF ALL THE VARIOUS phases of television perhaps the most exciting and certainly the most demanding of arduous and exacting work is TV film production. Here is incorporated the exacting accuracy of multiple-montage, title and background preparation, and the excitement and speed of one-the-spot news reporting.

To break this activity down into a coherent picture of just what this type of motion picture making consists, let's examine its various phases and analyze the requirements of each.

There are three main types of films produced for or by many TV stations themselves. They are 1) the promotional and production film; 2) the commercial or "spot" film; and 3) the news film.

With exception of the news film, all motion pictures produced for television should be filmed at twenty-four frames per second. Departures from this are made only for special effects such as slow-motion or comedy sequences.

Promotional films usually consist of a pictorial record of station activities and shows. They may be a composite of news films, records of shows, and other station activities tied together in such a manner as to present a documented record of just what the station has done during the year or at a given time. WHEN presented to its TV audience several such films during the past two years. One such event, the construction of the station's five-hundred foot tower, was unique in the history of American television. The station televised the day-by-day construction of its tower by means of film, and the finish showing the antenna installation by means of simultaneous "live camera" telecast. This latter was accomplished by utilizing a smaller temporary tower and antenna for TV radiation of its signals. A program titled, *This Week In Television,"* also made entirely on film by the local station, portrayed the activities of the various departments within the station and how their contributions made possible the shows seen over WHEN.

Such films are made for the most part from an off-the-cuff or briefly prepared outline, and shooting is done extemporaneously following a quick light meter reading of the overall subject

backdropped by crowd of curious onlookers; and reaction shot showing some of people who gathered outside Shirley's home for glimpse of miracle statue.

material. Very little time is permitted to check lens readings as shooting progresses, and thus the light and shadow renditions may not always be the best. Nevertheless, this type of shooting carries with it, for this very reason, a strong documentary, unretouched, and unrehearsed flavor that more than makes up for any discrepancies in lighting. Here, as in news shooting, (unless a carefully planned script and lighting setup has been worked out beforehand) the scenes are taken as they can best be shot, with knowledge that a good percentage of them may be edited out. For this reason more footage is exposed than may be finally required in order to supply cover or "padding" shots.

Production shooting for the most part includes title preparation, title backgrounds, and film sequences of action to be intercut between live action shots from the studio at the time of telecast. The preparation of titles may vary from a simple setup of shooting title cards to the more exacting titles utilizing zooms and montage backgrounds. For this type of work, a camera that may be focussed and lined up with a through-the-lens finder or viewer is preferred. The Eastman Cine Special camera is an invaluable tool, considering the facilities it offers, and it can readily be used for other types of film production as well.

In many instances, authentic backgrounds must be obtained for titles and for action staged in the studio. Obviously large exterior sets cannot be transported into the studio, but they can be filmed. With the use of clever cutting and staging, these shots can be made to appear as though the action was taking

(*Continued on Page 240*)

Television Film Production

By LEIGH ALLEN

In Washington, the House of Representatives is planning to record its doings on movie film for television. Hearst writer George Dixon, in his column dated May 22, says: "This plan . . . calls for a movie studio setup by which Congressmen will be able to have films made of themselves for cinema and television distribution in the same manner they now make voice recordings for radio.

"Scheme . . . was conceived by Robert J. Coar who for 16 years has run the joint Senate and House recording facilities. . . . The House plans to go for it wholeheartedly, but Coar is meeting objections in the Senate. . . . Coar says he can make TV films for Congressmen at bargain rates—about $5.00 a minute. The average commercial rate, he says, is about $100.00 a minute."

•

Telecasters Film Syndicate, Inc., is corporate name of recently-organized cooperative television group formed in Chicago. Members are located in the key TV markets of the nation. Purpose of group is to produce, procure and finance television films to assure a steady flow of film product to the participating stations.

•

Color television runs up against some of the same problems that are faced in color photography, according to Dr. David L. MacAdam, Eastman Kodak research scientist. Biggest of these problems seems to be that people don't see what they think they see in color, he says.

Color control in photography and TV cannot hope to succeed by blind reliance on measurements, Dr. MacAdam said. He suggested a program for television researchers modeled on one which seemed to be productive in photography.

To identify top quality color reproduction for TV as well as photography, he said researchers must: (1) ask many people to indicate their preference and their relative ratings of a wide variety of color renderings; (2) measure the colors in the pictures; and (3) study the color specifications in comparison with the relative grades assigned to the picture by judges.

The investigation of color quality may be expected to be easier, quicker, more systematic and complete in color TV than in color photography, because changes in production variables can be made more easily by electronic controls.

•

Jerry Fairbanks Productions, Hollywood, now has nine regular TV film shows on the air, totalling four and a half hours of film product weekly.

•

National Broadcasting Co. will very definitely produce its own TV films. Company is making extensive survey in Hollywood to locate suitable property in which to make its video films.

•

"Telejector" is tradename of new portable 16mm desk-top movie projector designed for office previewing of TV films. Powered by a 750-watt lamp, machine has a foldaway background projection screen masked to show picture on an area equivalent to standard 12½-inch TV set. Manufacturer is Audio & Video Products Corp.

•

Universal-International lot may see production there soon of films for television. United-World Films, subsidiary of U-I, is currently making tests for a series of TV films to star Frances Gifford, Ray Collins and Mona Knox.

•

Motion Picture Center, Hollywood, which rents studio space and equipment to independent film producers, will engage in TV film production. Company has formed a subsidiary company, Motion Picture Television Center, to make its own TV films and films for others, and finance other video film makers.

•

Hal Roach, Jr., will resume production of balance of the initial series of 15-minute "Don't Be A Sucker" television films, following a deal with Philip Morris cigarettes to sponsor the series.

•

Teleclix, Inc., Hollywood, announce an impressive schedule of 500 TV film productions, each 3 to 5 minutes in length and based on popular, classical and semi-classical songs and variety sets. Filming is scheduled to begin June 5th at the rate of 8 pictures per day.

•

WBAP-TV, Fort Worth, Texas, is filming a series of 15-minute video travel films which will cover scenic highlights of the state. Cameraman and film editor is John Quigley.

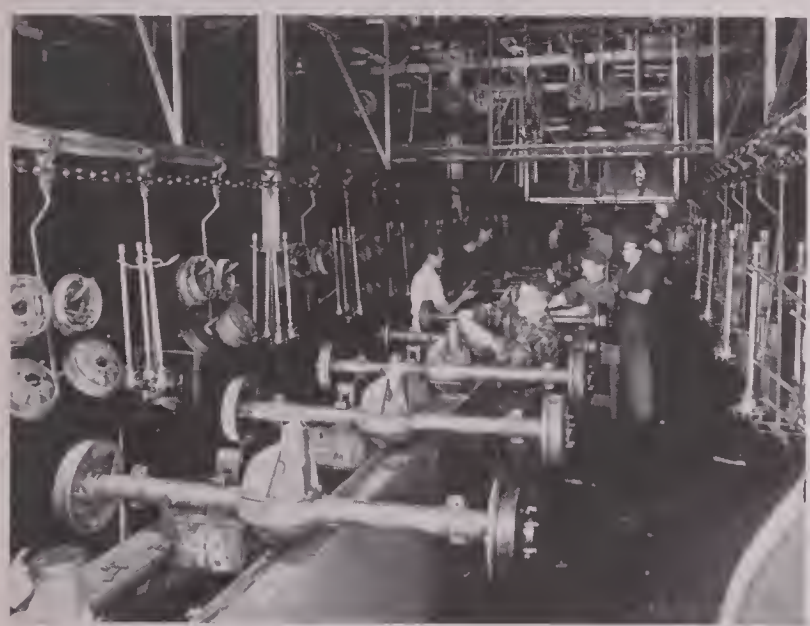
LINING UP a close shot of a cutaway Pontiac engine. Cameraman Grover Seyfried okays the camera setup which is also approved by director Max Lasky and production manager Steve Kiefer.

Filming The Assembly Line

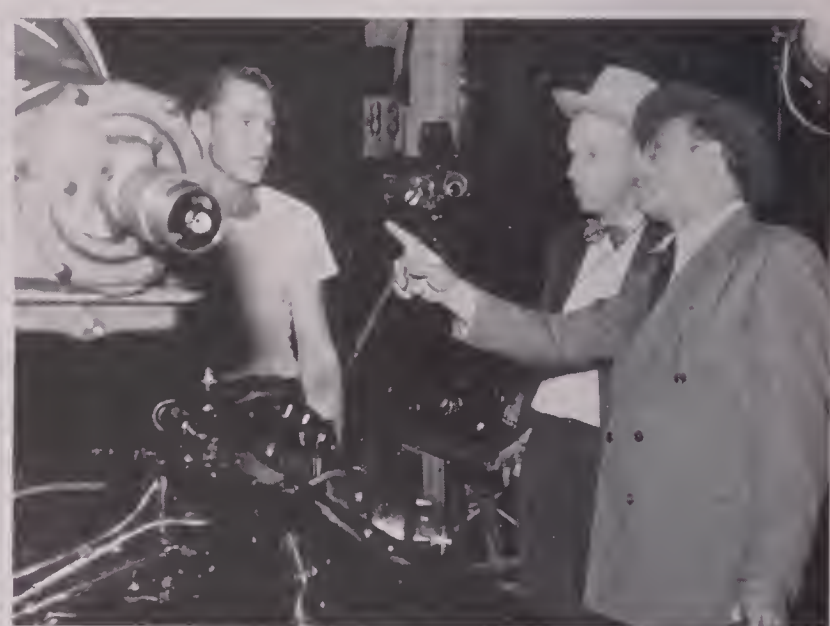
"Through The Years," 22-minute 16mm color film production posed problems in lighting and in photography for Soundfilm Studios' camera crew.

By GROVER F. SEYFRIED

Director of Photography—Soundfilm Studios, Inc.



ASSEMBLY LINES generally involved large areas in depth rather than in transverse plane, making it necessary to stop down the lens and step up the lights to achieve the desired quality of exposure.



READY FOR the take. Director Lasky (right) discusses the shot with cameraman Seyfried which involves an assembly line operation in a sequence picturing installation of a Pontiac engine.

MAKING A MOTION PICTURE in a modern automobile factory is a challenging assignment for any camera crew. But there is nothing visible in the finished picture to indicate anything but successful accomplishment for the crew that produced "Through The Years," 22-minute 16mm Kodachrome picture sponsored by the Pontiac Motor Division of General Motors Corporation by Soundfilms Studios, Inc., Detroit.

The opening sequences of this picture employ the flashback treatment to telescope visually the company's 25-year history in the motor car industry. Then fast-moving sequences show departmental and assembly-line manufacturing operations. Despite unusual lighting problems, exceptionally good color values were maintained throughout the manufacturing sequences due to careful planning of camera angles, some backlighting tricks, and by following the best cinematic techniques.

The Pontiac plant itself is enormous and it houses a thunderous activity of efficiently coordinated production steps. Conveyors sail by at all angles, carrying castings, frames, engines and other miscellaneous pieces that go together to make a finished Pontiac automobile. Everything moves with clock-like regularity and every department of the factory is served by these conveyors which feed parts to the busy assembly line.

Many of the heavy assemblies, such as engines, frames and axles, are black; and most of the workmen, for reasons best known to themselves, like to work in white or gaily colored shirts—all of which presented extreme contrasts to challenge our lighting ability. Floors are black, also, and backgrounds are in low key, varying principally between dull black and jet black. In some instances there was the sharp contrast of large masses of chrome, offering halation problems.

Assembly lines being what they are—essentially linear affairs — long shots

(*Continued on Page 241*)

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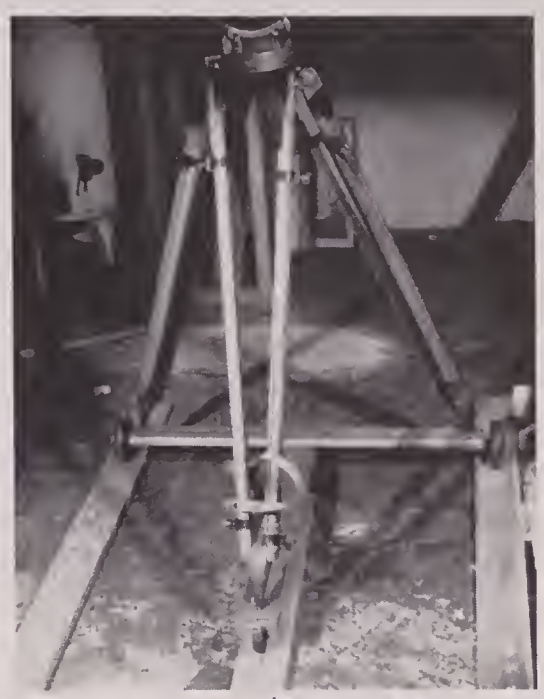
Pulling Rabbits Out Of A Hat

Cine amateurs can accomplish unique photographic effects, following the ingenious tricks of early-day 'quickie' cinematographers.

By PAUL M. DITTMAN



CAMERA DOLLIES are simple to build—two pieces of lumber, three rubber-tired casters and three planks for track. Resulting dolly shots add dramatic, professional touches to cine films.

STILLS serve for exterior on-location shots. Arthur Smith used them successfully for his 16mm picture, "The Mirror"—the dark, filtered shot for night, and the normal print for day. Photos were filmed closeup with aid of supplemental lens.

ADVANCED AMATEUR movie makers, even some semi-professional 16mm cinematographers, are obliged by circumstances to work under many of the handicaps that confronted the man who, in the early days of "quickies," worked on short rations of time, money and equipment. Whereas in the large, major studios cinematographers had at their disposal every possible picture making resource, the "quickie" photographer was expected to get comparable results with little more than his camera. The result was that these men became experts at "pulling rabbits out of a hat," so to speak—improvising and inventing and getting the shot right on virtually the first take.

The advanced movie amateur follows somewhat the same path in his serious movie making today, and we see him using some of the same tricks to achieve crane shots without a crane, dolly shots without a camera dolly, and zoom shots without a zoom lens.

Perhaps recounting here some of the ingenious techniques developed by short-handed "quickie" cameramen may give the amateur cine photographer an idea or two for his future film productions.

Where a slim budget prevented the company from renting a camera crane for a boom shot, one ingenious director of photography made a good substitute: he placed a sawhorse on top of a parallel, and across it laid some heavy planks for his crane arm. At the far end was mounted his camera and operator, and as there were no counterbalancing weights he could place on the opposite ends of the planks, a member of the technical crew was pressed into service to run in and out from the fulcrum — as a living counterweight. The shot was a success. This procedure also could be employed using an 8mm or 16mm camera.

TRICK, reverse action shots are easily filmed with camera mounted upside down on tripod, using a 12-inch length of strap iron with holes drilled to receive tripod screws.

For a similar shot, in which the crane was required to travel as well as move up and down, another cinematographer improvised a camera boom by placing two 2x6-inch planks, properly braced, across the axle connecting a pair of old automobile wheels with tires. With the camera mounted on the far end and crewmen applying their counterbalancing weight on the opposite end, an excellent shot was achieved.

Another cameraman, on location at a mountain lake, was faced with the task of making a dolly shot in which the camera moved up a hill, finally coming to a stop in a close shot of two lovers in embrace, then raised over them, showing a lake below in the distance. He had a track made from 2x12-inch planks, one end resting on the ground and the other supported by a parallel. Another plank with a camera high-hat nailed to it, served as the dolly. A chain-type auto jack was buried in the ground under the track and provided the lifting

(Continued on Page 234)

TWO PICTURES which illustrate good and bad selection of camera viewpoints. Both shots, photographed at St. Mary Lake, Glacier National Park, were made within a hundred yards of each other. Picture at right—with strong compositional elements—shows result of careful checking of locale for best pictorial effect before shooting the scene—a matter which involved moving back and setting camera up at a lower level.

Developing A Knack For Composition

Are your movie shots marked by good pictorial composition? Here are some simple rules to follow that will make your pictures easy to look at.

By GORDON TAYLOR

"COMPOSITION is simply making pictures that are easy to look at," said Edward Steichen, and really, that's all there is to it. If your pictures aren't easy to look at, if scenes aren't pictorially compelling, all the attention paid to high-sounding composition formulas won't make them good from a composition standpoint.

This subject of composition in 8mm and 16mm movies bobs up every so often. In this instance, it comes up as a result of viewing the scores of films entered in *American Cinematographer's* recently concluded 1951 Annual Amateur Film Competition. Naturally, the photography of each film was a big factor in considering it for one of the awards, and invariably those pictures which were short on points on photography were notably deficient in pictorial interest from the point of composition.

Since composition is such an inevitable part of cinematography, it is important that the serious photographer give the matter more than passing attention. Oddly enough, it is often easier to make good pictorial compositions than bad ones, and those that are mediocre more often than not are the result of neglect or a lack of knowledge of what makes a good cinematographic composition.

Think of composition as a matter of leading the eye to whatever you want your audience to see in a scene and hold it there. Every picture, every scene has some central point of principal interest—or it should. Everything else in the scene should serve either to lead the viewer's eye to that point or, once it is there, to keep it from straying.

A series of tests made several years ago by an eminent Hollywood cinematographer proved that in the majority of cases the eyes of a person looking at a motion picture screen begins to scan the picture at the lower left-hand corner, then travel upward toward the upper right-hand corner, unless something in the picture arrests the eyes in this pattern of travel.

In shooting movies, of course, it is not always practical nor feasible to arrange compositional elements so the most important object is in such a position. But it is often possible to place "guideposts" along the way that will direct the audience's eyes to the point desired.

None of these little guides need be either large or too obvious. Looking at the picture, one need not be conscious of them, or of how they lead the eye unobtrusively to the central subject; but they do the work. Only a small branch here, a splotch of sunlight there, and a spot of shadow somewhere else—guides far too subtle to be noticed consciously—nevertheless these carry the viewer's attention all around the picture in a fraction of a moment, and bring it to rest on the object the photographer wants him to see.

On the other hand, let any of these "guideposts" be too evident, either in size or in contrast, and it will stop the eye just as effectively.

Whenever pictorial composition is discussed, one inevitably hears the term "balance" mentioned as an important factor. This simply means that if the picture or scene has one strong, noticeable object on one side, there should be something on the opposite side to counterbalance it. The balancing components might be objects such as trees, rock formations, mountains or animate things such as a person, an automobile or ship, or an animal; or it may be merely a contrast of light or shade.

The balancing principle also applies to the relation of the upper and lower areas of a composition. For this reason, when filming landscapes and outdoor

scenic shots, it is much more effective to have some sort of "framing" across the top, instead of blank sky area. This "frame" can be a branch of a tree, an arch or a doorway. It is common practice of many professional cinematographers to have an assistant hold a tree branch above and ahead of the camera so that it will serve as a framing medium for a scene. Others simply nail a branch to a wooden post, which is driven into the ground near the camera, with the branch serving the same purpose.

When shooting long shots, the cine photographer will find it equally important to frame such shots with an effective foreground as to choose an interesting background. The two photos illustrated here demonstrate this. On the left, the photographer evidently came upon the scene, set up his camera and snapped the shutter, giving little thought as to how he could improve his pictorial composition. The photo at the right shows the result of carefully surveying the location for best composition before setting up camera and making the shot. Note how the tree in the immediate left foreground not only serves to emphasize depth of the vista, but supplies framing as well — elements lacking in the first picture. Remember, when shooting vacation and travel films, that a well chosen foreground frames the view and concentrates attention on it, instead of permitting the eye to wander aimlessly and ultimately off the edges of the screen.

In photographing extreme long shots with foreground framing objects, as we have described here, the cine photographer may encounter puzzling exposure problems. If he exposes correctly for the foreground, the distance—the part of the scene that is the center of interest—is likely to be overexposed. If he exposes correctly for the distance, then the framing foreground is likely to be underexposed, resulting in a silhouette effect. The decision here must rest with the cameraman. If important subject matter lies in the immediate foreground, then this must be taken into account in determining the exposure; if the main subject interest lies in the distance, then allowing the framing objects in the foreground to go dark will properly frame the picture and lead the eye to the distant object or subject of the scene.

Most experienced photographers have learned the cardinal rules relating to the horizon line in pictorial compositions. Most beginners yet have to learn it. The rule to follow is never to set up the camera on a distant scene so that the horizon line bisects the picture in the middle. To do so too-obviously cuts the picture in half and gives it a stiff,

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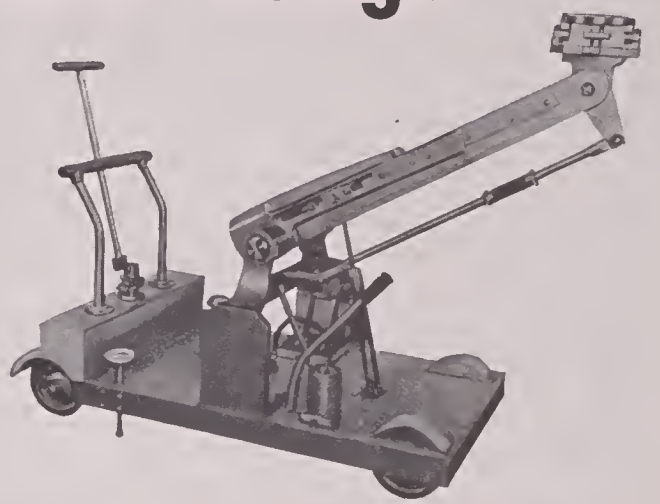

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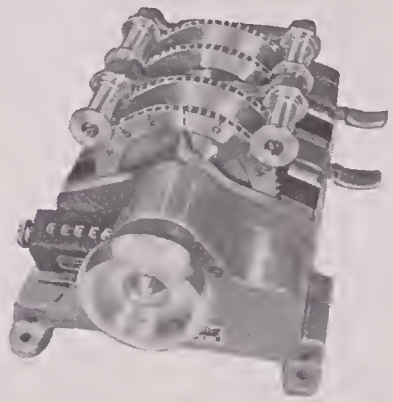

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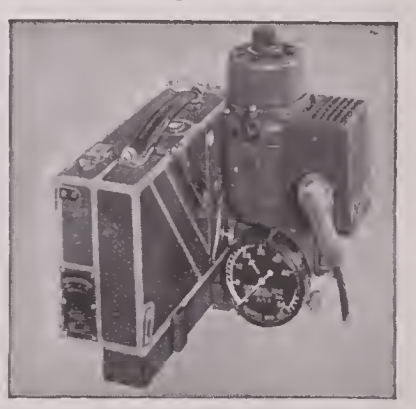

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monotonous effect. Generally speaking, the most pleasing landscape compositions have the horizon about two-thirds of the way up from the bottom — at any rate, well up into the top half of the picture area.

Another compositional "don't" is never let an object divide the picture into two equal halves, vertically. Move your camera so that lone tree in the foreground appears well to one side — the same for tall statues, fountains, etc.

In taking up the subject of pictorial composition too seriously, you may get highly involved in such subjects as "S-curves," and diagonal, triangular, and other alphabetical and geometrical applications. Just remember this: for practical purposes, there is no need to worry about them; they are simply elementary terms used in analyzing arrangements of lines that lead the eye, or placement of principal objects in ways that make a pleasing picture. And if you forget all these complexities and remember only to make pictures that are well balanced as to light and shade, line and form, and—with color film—the proper placement of color, your scene compositions will be good, and easily attained.

And one more thing: don't try to include too much in a scene. All too frequently the inexperienced photographer will try to combine two or even three inherently good compositions in a single shot. The result is one badly mixed composition. It's far better to picture an interesting scene in a short sequence of integrated takes, each shot from a slightly different camera angle but in such a way that there is always complete orientation.

PULLING RABBITS OUT OF A HAT

(Continued from Page 231)

action, while a generous application of axle-grease upon both track and plank serving as dolly made the movement smooth.

One enterprising cameraman needed a zoom shot to cut into a sequence in which a player supposedly falls from a high building. He placed a pulley on the ledge of a top-floor window and suspended a DeVry hand camera—lens down—from a wire. When this wire was suddenly paid out, the camera (with spring motor running) dropped down, revolving as it descended, to give a perfect visual effect of what a falling man would see.

Ingenious was the accomplishment of still another director of photography who needed a number of Akeley-type shots when the budget denied him the possibility of renting such a camera. He mounted his DeVry hand camera on a gunstock, with the camera release connected to a trigger. With this he was able to make swift follow shots which were successfully intercut with shots made with his studio Mitchell.

Want to know how to film an effective train wreck without actually wrecking a train? Here's how one studio cameraman did it: simply jerked one tripod leg to tilt the camera slightly as the train came to a stop. A well-chosen camera angle, of course, enhanced the illusion. Subsequent "post-wreck" shots showed passengers leaning against the train at an angle to suggest the train had careened in leaving the track.

Another cameraman, reminiscing recently, told how he successfully created an effective night shot in the day time, which pictured a cottage, apparently lighted and with light from the windows streaming out on to the ground. No lights were available, so white paint on the window panes and white rock dust carefully spread on the ground, and the use of a red filter over the camera lens produced the desired result.

To film the effect of an explosion without actually wrecking a set, one cameraman set a pan on the floor, close to the camera, placed some flash powder in it and fired it at the moment the explosion was to occur. He followed this with smoke released from a smoke pot, and, under cover of the smoke, made a quick lap-dissolve to a shot showing the set with the furniture disarranged as though scattered by the blast.

One of the industry's top cameramen developed a unique method for making closeups of riders on horseback, when neither a mechanical horse or a camera car were available for making such shots. Riding a horse alongside the player, the cameraman photographed him at close range with a hand-held Eyemo camera. This also reminds us of still another innovation of his—making closeups of a rider supposedly on a bucking horse. He placed a saddle on one end of a playground seesaw and mounted his camera on the other. Energetic stagehands rocked the seesaw as directed to effect the bucking action.

As with the cine photographer today, these resourceful studio cameramen had little else to work with but their cameras and film. But their inventive ability and ingenuity enabled them to meet any demand made upon them by the director or producer. Indeed, it was these very experiences and accomplishments that have made them leaders in their profession.

They're Prettier Now

TIME, so the saying goes, works changes in all things. And the changes it has brought about in the design of amateur motion picture cameras are illustrated in the above photograph of old and new Eastman Cine-Kodaks. The big box-like camera at extreme left is the first Cine-Kodak camera, Model A. Even though it had to be cranked by hand and closely resembled the old box Brownie, this camera played an important part in the inauguration of home movie making as we know it today.

The sleek, appealing, spring-driven camera at far right is the new Cine-Kodak Royal Magazine Camera—the modern counterpart of the Cine-Kodak Magazine 16 Camera, which in 1935 introduced magazine loading film to the Cine-Kodak field.

VIEWING GLASS

(*Continued from Page 222*)

sary a completely new viewing glass for the medium. This new color film has incorporated into its emulsion correction components which balance it to the yellower illumination of the mazda lamp, making it possible for the film to register colors comparable to the results achieved with daylight color film used in daylight.

When the eye views colors under artificial light, it naturally adapts itself to the prevailing illumination with the result that colors appear very similar to the way they do in daylight. However, this adaptation is not complete; thus, where color rendition is critical, marked differences can be observed between appearance of the colors under artificial light and the way they reproduce in the color film. A new Spectra color contrast viewing glass, now being developed, will have built into it—in addition to the neutral factors required to produce the correct viewing contrast—an additional correction component that will complete the adaptation. Much work is yet to be done in this direction to bring about development of a viewing glass that will render dependable results for the directors of photography working with the newest Technicolor low-light-level color film.

Color contrast viewing glasses can be of immeasurable aid to the 16mm professional and amateur cameraman, too. Whether he uses any or all of the range of Kodachrome emulsions or Ansco Color, the use of a viewing glass can insure greater fidelity of color in the finished film.

KINEVOX RECORDER

(*Continued from Page 224*)

dubbing magnetic sound tracks, and for erasing magnetic film for reuse. For the first time, film producers are now able to acquire and use their own sound recording equipment at a small fraction of the cost formerly required when only optical sound recording equipment was available.

The Kinevox recorder is manufactured in one size and model only. This instrument records on perforated 17½mm (split 35mm) oxide-coated magnetic film at a speed of 90 feet per minute. The higher linear speed, of course, results in maximum quality recordings. Frequency response is flat within 1½ db from 50 to 10,000 cycles. Convenient forward and reverse switch affords immediate

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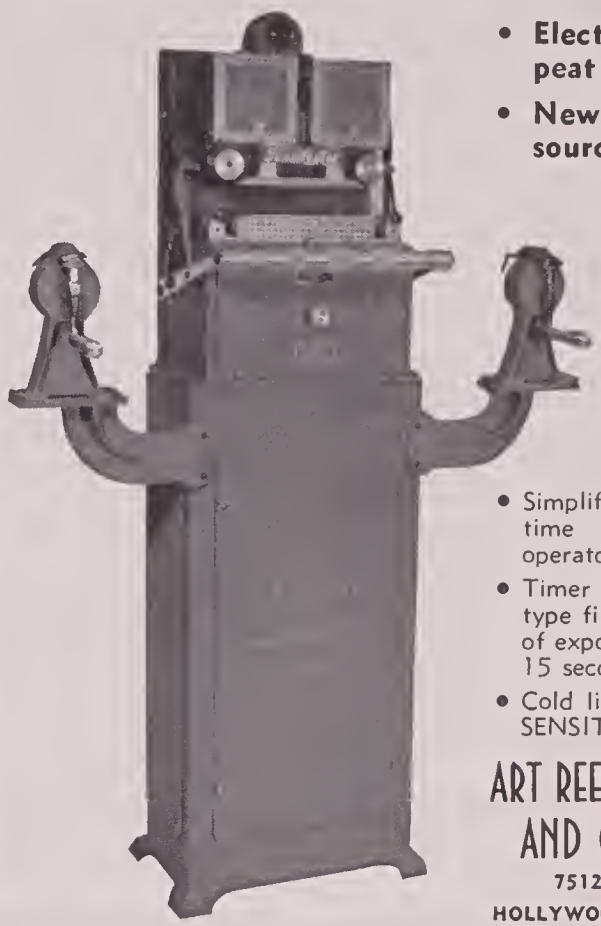

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erase of NG takes, permits minor editing. Non-magnetic stainless steel parts insure highest quality performance. It is the recorder's amplifier system that received, perhaps, the greatest and detailed attention. This was engineered by Lear, Inc., one of the nation's leading electronics engineering laboratories.

The film transport sprocket is driven by a single dynamically-balanced salient pole synchronous motor. Reels and flanges for film have been eliminated. Instead, silent tight-winds are employed. These permit use of magnetic film stock just as it comes from the manufacturer, without need for winding it on spools or reels. An 8-inch P. M. Jensen monitor speaker is built in.

Of interest are many of the electronic specifications, considered of unusual high quality for a recorder of this price: Power required is 115 volts, 60-cycle single phase. Recorder can also be supplied to operate on 50-cycle, 115-volt current, 60-50-cycle, 220 volts single phase, or 60-50 cycles, 220 volts, 3-phase. Maximum power consumption is 100 watts. There are three signal input connections: for a 50 or 250 ohm microphone, for one 600 ohm line, and one high impedance input. Switch on panel cuts in or out the pre-amplifier on any input. On the panel are such additional features as illuminated volume meter; high-low gain, record-playback, monitor and high and low pass filter key-type switches. Signal lights indicate on and off positions of the A.C. and record switches. In the recording head assembly, the special erase, record and play-back heads are mounted on one plate and provided with ample shielding.

Precision positioning and locking of the azimuth adjustment on each head is an important Kinevox feature. It insures accurate reproduction not only for the tracks made and played back on one recorder, but also when such tracks are played on any other Kinevox recorder or film phonograph. Kinevox sound tracks, therefore, become interchangeable on any Kinevox equipment. A magnetic track made with a Kinevox recorder in Italy, for example, will reproduce with complete fidelity on another Kinevox recorder or film phonograph in New York or Los Angeles. Thus it is possible for any laboratory having Kinevox equipment to successfully re-record optically any Kinevox-recorded track for release-print production, without loss of fidelity.

The Kinevox recorder and the Kinevox film phonograph are licensed under R.C.A., Armour Research Foundation and Kinevox patents. The film phonograph has an overall panel dimension of 19¼ x 19 inches. Film speed is 90 feet per minute—same as the recorder—and, designed as a companion piece to the Kinevox recorder, the instrument takes only 17½mm magnetic film. Precision design and assembly insures instant start and stop and reverse of film travel.

As with the recorder, this unit operates on 115-volt 60-cycle single phase current. On special order, it can be supplied to operate on any of the current sources specified as special also for the recorder. Maximum power consumption is rated 70 watts. Gain at 1000 cycles is 58 db, equalized 50 to 10,000 cycles. Signal to noise is 57 db. Output is 600 ohms at plus 6 db from normally recorded film. Panel controls include A.C. switch and pilot light, volume control, and high and low pass switches.

The 4-position remote amplifier-mixer has dimensions of 19⅜" length; 13¼" depth, a height of 8⅜" and weighs 31 pounds. It features 4 input channels, Cannon input receptacle, shock-mounted chassis, monitor jack for boom operator, and a 4½" illuminated V.U. meter dial. Controls are mounted on a sloping panel for ease of operation and visibility.

Performance data of this instrument is impressive: source impedance—50, 125, 250, 500 or high Z; normal output level O.V.U. into 600 ohm line; maximum output plus 10 db M.; maximum gain 85 db; frequency response is plus or minus 1 db from 20 cycles to 10 KC. The A. C. input is 105-125 volts, 50-60 cycles. Power consumption is rated at 25 watts.

The Kinevox magnetic film reader is the only piece of Kinevox equipment designed for use with 16 and 17½mm magnetic film and ¼" tape. The manufacturer emphasizes such features as low hum level, use of miniature tubes in amplifier, and 5-inch oval speaker. Film rollers and track are non-magnetic, with oilight bearings insuring smooth operation. On the panel are volume control and pilot light. Weighing 7 pounds, it operates on 115 volts, 50-60 cycle A.C. current. The Kinevox reader is used in conjunction with editing magnetic sound tracks. A jack on front panel enables operator to use head phones instead of monitor speaker, if desired.

The Kinevox portable field power supply unit is the most recent addition to this popular line of recording equipment. Consisting of two heavy-duty

Symposium On TV Film Making

ART DIRECTORS of more than thirty Los Angeles advertising agencies in search of information on motion picture techniques and on role of the advertising art director in making TV shorts, were hosted recently by Raphael G. Wolff, Hollywood commercial film producer.

At this meeting, held in the Wolff sound stage, original storyboard for the film "This Is The Life," produced by Wolff for American Meat Institute, was explained. Folowing this, a color print of a recently-completed, picture was screened. After the color screening, a print of the same film in black-and-white (for television) was screened, along with several typical TV commercials.

Following the screening, studio department heads answered questions and demonstrated some of the studio's modern 16mm production equipment, including the studio's new animation camera crane.

fiber-covered cases, which house batteries (62 pounds) and the generator (72 pounds), this equipment supplies power for any standard 35mm or 16mm motor-driven camera and Kinevox recorder, when used together in the field.

Presently in production is the new Kinevox Monoboom — a fishpole-type mike boom with a unique telescoping upright that eases the task of the boom operator. Boom is also of telescoping construction, and extends a maximum of 16 feet. It features swivel microphone connection and cable clips, and may be telescoped to a compact 6-foot overall length for easy carrying and storage.

Other items which round out this impressive magnetic recording line of equipment are the Kinevox auxiliary long-playing takeup and feed arms for the recorder, permitting use of 3000-foot reels and making the recorder ideally suited for TV live program, Kinescope, and sustained film recording; also a bulk sound eraser, which makes possible quick erasing of recorded film without the need for running film through the recorder. Film need not be unwound. Instead, roll is placed on eraser, the switch turned on, and in less than 30 seconds the entire film is erased (de-magnetized) —to a far greater degree than is possible using the recorder and its erase head, according to the manufacturer.

Kinevox, Inc., emphaszes that much of the popularity of its recorder is due to its inherent silent quality, which permits using it right on the set—an advantage to the small TV and industrial film producer. The company points with pride to its impressive roster of satisfied Kinevox users both here and abroad. These include the Los Angeles Police Department, James A. Fitzpatrick, Edgar Bergen, Telefilm, Inc., Edgar M. Queeny (of Monsanto Chemical Co.), Arizona Motion Picture Corp., Basore-Longmore Studios (Kansas City, Mo.), International Engineering Co., Bangkok, Thailand, Brasilamerica - International Films, Sao Paulo, Brazil; Dept. of Instruction, Pureto Rico; Studio Kleber, Paris, France; Titanus Studio, Rome, Italy; Gustav Magnel, Brussels, Belgium; J. L. Nerlin, Oslow, Norway; General Appliance and Radio Company, Bombay, India; and Antonio de Sousa, Lisbon, Portugal — and many others which limited space prevents mentioning here.

The second oldest camera produced for photographic use, an 1841 Voigtlaender, is now on display at George Eastman House in Rochester, New York. It is considered a companion piece to the photographic institute's 1839 Giroux camera, the first camera put on the market.

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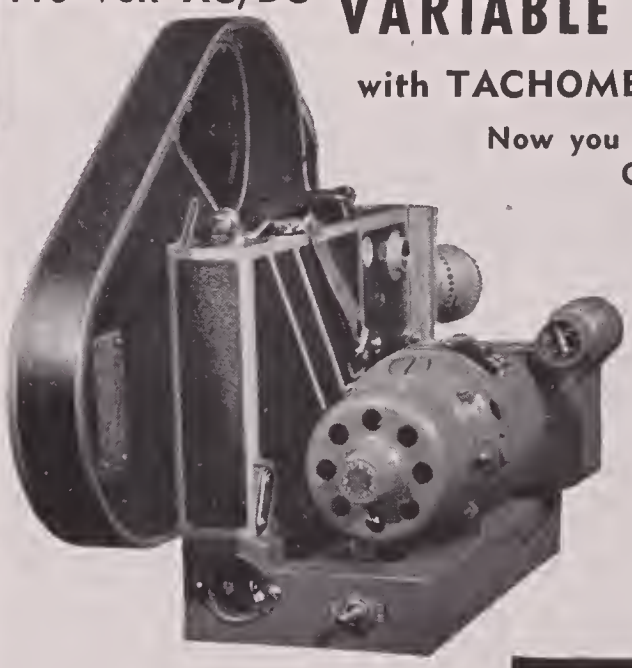

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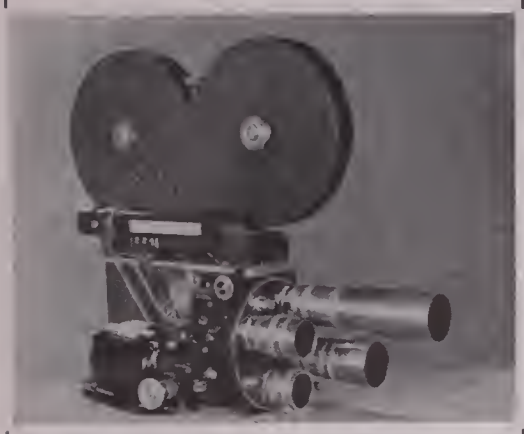

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NEW AURICON "SUPER-1200"

(*Continued from Page 223*)

camera turret, between the "C" Mount lenses used for shooting the picture. The 10X focusing telescope which is used with the ground-glass reflex focusing finder is also employed as part of the optical system for this telephoto-lens-finder. Each "C" mount picture lens mounted on the turret is matched with a minature lens of the same focal length, mounted in the finder system, so that during sporting events or whenever telephoto lenses are employed, the finder always shows a brilliant, upright and enlarged picture corresponding to the image being photographed on the film by the telephoto lens. Changing camera lenses on the turret automatically changes the matching telephoto finder lenses to correspond. Telephoto lenses up to 12 inches focal length can be used in conjunction with this new telephoto finder system, providing a convenience never before available to the 16mm cameraman. If desired, shorter focal length lenses down to the 17mm wide angle can also be used with the telephoto finder.

The three-lens turret provided on the "Super-1200" camera is designed to mount standard 16mm "C" Mount lenses. Other types of lens mounts are available on special order. Also on the turret are three miniature lenses for the telephoto finder system, as well as controls which operate the turret lock, so that the turret can be rotated from one lens-position to another without touching the camera lenses or disturbing their focus and diaphragm settings.

Another unique feature of the Auricon "Super-1200" Camera is its completely quiet operation. It is self-blimped and truly noiseless, so much so that large red indicator lights are provided at the front and rear of the camera to signal the fact that camera is running. A smaller neon signal light is installed in the back of the camera to indicate that line voltage is "on." This enables the cameraman to check his line voltage to the motor when the camera is not running. The "stand-by" neon signal light for line voltage prevents accidental disconnection of the camera without the knowledge of the operator.

A 115-volt, 60-cycle AC synchronous motor normally operates the "Super-1200" Camera at the standard sound speed of 24 frames per second. (115-volt, 50-cycle is also available.) Other motors can be furnished for single-frame animation work, for variable speeds, or for battery operation. The synchronous motor normally provided is ideal for "single-system" sound recording or for pictures to be synchronized with "double-system" sound-on-film or magnetic tape systems.

A geared Veeder-Root footage and frame counter is located on the rear control panel of the camera. An adjustable shutter is also provided for making fades, dissolves or adjusting the camera exposure from 1/50th of a second up to 1/200th of a second. The shutter can be locked in any desired position.

The "Super-1200" Camera comes equipped with a 1200-foot film magazine providing up to 33 minutes of continuous "talking picture" shooting. This makes it an ideal camera for shooting half-hour television programs or for kinescope recording work; 400-foot magazines holding 11 minutes of film are also available. The magazines are driven with a "Fluid-Drivomatic" clutch and a noiseless Neoprene rubber belt.

The intermittent film movement in the camera is made of hardened and precision-ground steel. It imparts a perfect sine-wave movement to the film during pulldown, 24 times a second. The pulldown claw enters the film slowly at the start of each 1/50th of a second pulldown cycle, increases in speed during the center of the pulldown cycle and then slows down to a gentle stop before lifting out of the film perforation. In this way a rock-steady picture is obtained on the film with no damage to film perforations in the camera.

The film moves through the gate over stainless steel balls which provide perfect focus registration by positioning the film emulsion exactly .690 of an inch behind the "C" mount lens. The Auricon camera gate design (covered by U. S. Patent No. 2,506,765) eliminates the usual emulsion pile-up troubles even when 1200 feet of film are run continuously through the camera without a stop.

The Auricon "Super-1200" Camera, although designed as a superb photographic instrument, is also a "high fidelity" sound-on-film recorder. The film-moving mechanism for recording sound on the same film as the picture is triple-filtered for smooth film flow and is the product of over 20 years' experience in the 16mm sound field. The camera is usually furnished for a variable-area sound track recording with "shutter" noise-reduction. This type of RCA licensed sound track is of the highest fidelity, yet minimizes "Eberhard Effect" and "Mackie line" troubles which occur on multiple track recordings. It provides the best results with average

day-to-day film-laboratory processing. The "Super-1200" Camera is also available for RCA licensed Variable-Density noiseless recording, if desired. Both variable-area or variable-density types of Auricon sound-on-film recording galvanometer systems are completely rugged and dependable and are unconditionally guaranteed for two years, regardless of the manner in which the recording amplifier is handled or of the subject matter recorded. The Auricon galvanometer and optical system is rugged enough to easily withstand the recording of gunfire, yet can capture the delicate shadings of a fine symphony orchestra on the sound track. No adjustments are required or provided for on the Auricon galvanometers.

In the studio where lenses of relatively short focal lengths from 17mm wide angle to a 2-inch medium telephoto are used, the instant ground-glass reflex focusing system provides a fast and efficient method of lining up a scene and getting it into exact focus. While the camera is operating and the reflex focusing system is not in use, the auto-parallax viewfinder provides a convenient and exact picture of what is going onto the film. The "Super-1200" Camera, being silent in operation, can be used in the studio within a few feet of the recording microphone when desired. A combination lens-shade-blimp completely encloses the three-lens turret, yet it is instantly moved forward for easy adjustment of the lenses.

On the other hand, when the camera is being used outside the studio for sporting events such as football games, horse races, polo matches, etc., the telephoto finder system provides an ideal means for insuring perfect picture composition regardless of the focal length of the telephoto lens being used. The same convenient 10x focusing telescope in the rear of the camera enables operator to view the scene through his lens or through his telephoto finder. Nothing moves on the camera externally during this shiftover operation. There is no shift of camera weight on the tripod which would have a tendency to throw the camera out of line. In this way quick comparison can safely be made between the lineup of the camera lens and the finder lens without disturbing camera position.

The Auricon "Super-1200" Camera is a custom-built precision optical instrument, and auxiliary equipment affording a wide range of specialized film work with the camera is also available. Inquiries should be made directly to the factory in Hollywood.

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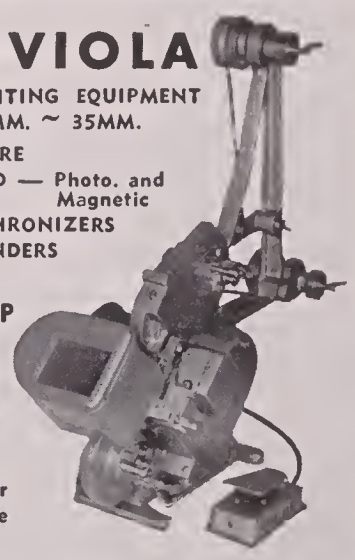
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TV MOTION PICTURES

(Continued from Page 227)

place in the actual location itself. *Treetime* was one such program that made use of this effect. Action shots of the laboratories of the New York State College of Forestry were photographed in advance of the show date. Then the stage at the studio was set up to resemble one of these laboratories or offices. The cutting between film and live action during the telecast was so deft, few video viewers were aware the action was not staged entirely in the laboratory.

This type of TV filming requires careful scripting and careful lighting to match all conditions, and careful rehearsal. Dialogue is worked out in advance so that lip-sync of film action will not be required. Usually narrative type commentary is supplied during these sections with lip-sync being used during the live action sequences. In the lighting, the shadows must fall in the same place at the studio as they did on the location spot, otherwise a disorientation may be noticed by the viewer with the result that the film sections become apparent as such. Of course, staging and costuming also must be identical for persons seen in both the filmed and live action sequences. Editing of such sequences is usually done in the camera, or carefully planned prior to shooting, for it is difficult to cut out sections of film afterwards without introducing disconcerting jumps in the action.

Some stations go into the production of documentary type films concerning local industries, civic activities, etc., for program material. This often is an expensive procedure and is not indulged in by many stations—unless for a commercially-sponsored program, with the sponsor picking up the production tab. Here the advanced amateur or semi-professional may make an important and necessary contribution. If such films are shot at 16 frames per second, most stations will reject them unless the subject matter is of unusual interest and the action such that projection at sound speed will not make it look ridiculous.

At the present time only 16mm and 35mm motion picture films are being used by the TV industry. However, it may not be long before 8mm may have some small place in the TV sun—providing material on 8mm merits the research and work necessary to adapt this size projector to TV standards.

Commercial TV film production may be classified as follows: "Spot" announcement films of one-minute or less duration on the screen; commercial film programs, which very few TV stations are equipped to do; and the production of commercial background and title montages. The latter phase is almost identical with regular sustaining production titles and backgrounds, except that the sponsor and his message must be kept in mind (and in view) at all times. Here shooting is very critical.

In the early days of commercial or "sponsored" telecasting — comparatively recent, by the way—most so-called commercial television films were made by small independent producers working on shoestring budgets, by advertising agencies or by the television station itself. The budget for such films rarely exceeded a hundred dollars. Some of these low-budget producers are still making films, and their product must necessarily compare with that turned out by the larger producers utilizing the best and latest facilities of New York or Hollywood film centers.

Where the large film producers have available specialized personnel and such equipment as optical printers and sound film stages, the small production staff of the television station must strive for similar quality using nothing more than its basic camera equipment. The sound for such films, for example, must be taken from a single-system film source, from tape or disc recordings, or perhaps from the announcer's voice over the film as it is being telecast.

While the studio problem generally is not serious, the filming problem is. Agency personnel prefer multiple effect films. When the small TV station production staff makes them, zooms, lap-dissolves, montages split-stage, stop action, and superimpositions invariably have to be done in the camera. Such films must be accurately plotted and timed before a single frame is exposed, and often, when an agency is in a big rush, on the spur of the moment. Quite often there is no opportunity for retakes since most films of this sort invariably are scheduled for "air date" as of the day the dupes return from the processing lab.

All this may sound like an ominous and dangerous trail for the cinematographer, new to TV film making, to set foot on. And it is, if he doesn't know his business—particularly the limitations of his camera and of the medium itself. Let us examine a typical spot announcement which was recently filmed by a local TV station's film production staff. The spot ran one-minute on the screen and was prepared prior to shooting by an advertising agency. It was scripted as follows:

SCENE 1 — *Interior—Split Stage—Close*

Ups, FADE IN. On left, a ham shank before cooking. On right a carefully cut ham on platter after cooking. LAP TO:

SCENE 2—*Interior—Close Up of Bacon in Package on Table.* Be sure packing house label is prominent and readable at side. Package is open and lies diagonally across screen with bacon in center. LAP TO:

SCENE 3—*Interior—Medium Close—Bacon Frying in Frying Pan on Stove.* Light to catch the glint and "taste appeal" from the frying bacon. (Make it look mouth-watering.) LAP TO:

SCENE 4—*Interior—Close up of Bacon Package* (as in Scene 2). *Have packing* house trademark in center. LAP TO:

SCENE 5—*Zoom In— 18 frames from Long Shot of Bologna, to Close Up of Label.* Hold 36 frames on Trademark and *Zoom* this into camera while fading for lap in 8 frames. LAP TO:

SCENES 7, 8, 9—Same as Scene 6, but with other meat products. LAP TO:

SCENE 10—*Interior—Close—Stop Action—Pieces of Liverworst.* These pieces arrange themselves on a plate in circular, pyramid fashion. *Hold When Action is Complete 3 seconds and Then*—LAP TO:

SCENE 11—*Card Title—Close—Sponsor Trademark.* FADE OUT.

The above shots were made consecutively in the camera, in the order shown. No cuts were permitted; all takes were lap-dissolved. Here frame counting and exposure control demanded careful calculation, particularly in the zoom segments; 36 frame laps were permitted during the opening scenes with the zoom scenes held to 8-frame laps. We later had to reshoot the bacon sequence and carefully match it into the original, because the red trademark did not photograph or reproduce on TV receivers as the sponsor wished. When you are called on to do this in the camera—then a good camera, which affords reliable facilities, is a *must.* Needless to say, when the sponsor, the agency, and the station is happy with a spot, the cameraman has good reason to be elated, too.

(To be continued)

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FILMING ASSEMBLY LINE

(*Continued from Page 228*)

generally involved large areas in depth rather than in transverse plane. This meant stopping down the camera lens and stepping up the lights—usually beyond the point that throws the circuit breaker.

In spite of such problems, the shooting schedule was completed in less than five weeks. Factory fork-trucks and a little train of "flats," used to move equipment from one set-up to the next, did double — even triple — duty. Not only did they haul flats about but they also cleared areas of encumbering "tote-boxes" and other segments of mobile equipment that could be momentarily spared from the line. They also served as booms for the cameras, when overhead shots were required.

Scenes were shot in all the various departments: in the foundry, the engine plant, the axle plant, the plating plant, the sheet metal plant, the body plant, then the final assembly along the entire length of the line—almost a third of a mile. Not once did the camera crew cause the slightest delay in production. Throughout the filming, cars continued to come off the line at their fixed schedule of one every fifty-eight seconds.

This was accomplished, in part, by careful pre-planning and continued during the entire shooting schedule with the helpful cooperation of Pontiac officials and department heads. Where quarters were unduly cramped and problems of setting up seemed insurmountable, the director and unit production manager would arrange to have all work left in some designated position during the lunch hour or change-of-shift break. The camera crew moved in as soon as the workmen stepped away from their machines or stations and made everything set for the next shot. By the time the workmen resumed their duties, the lights were in position and the camera was ready to roll.

"Through The Years" contains a spectacular sequence shot in the foundry, which proved one of the most complex places in the factory to light and shoot. Eight cupolas there produce molten metal at a fixed rate, and their output must be taken away and poured the very moment it is ready. Overhead cranes move swiftly through congested areas, each swinging a huge bucket of molten metal. The moulds themselves are on conveyors and must be filled as rapidly as they come through, so nothing can alter, even for a moment, the routine pace of the work schedule. Dust from the black moulding sand fills the atmosphere, making 500 amperes of light look like a candle in a huge cave. The camera crew, script girl and all, spent three days in the foundry, before emerging begrimed and triumphant with only one minor casualty, from a splash of molten metal.

No two shooting problems were solved the same way. Backgrounds were a constant headache, particularly in the long shots. Sometimes they were largely eliminated by using high-angle obliques, particularly on assembly line scenes, where this technique was very effective. Oftentimes there were window areas that could be included, but no special

(*Continued on Page 243*)

Current Assignments of A.S.C. Members

Major film productions on which members of the American Society of Cinematographers were engaged as directors of photography during the past month.

★ ★ ★ ★ ★ ★ ★ ★

Allied Artists

• HARRY NEUMANN, "Disc Jockey," with Herb Jeffries, Lennie Kent, Russell Morgan, Nick Lucas, Martin Block, Gene Norman, Bill Anson. Will Jason, director.

Columbia

• WILLIAM SNYDER, "Ten Tall Men," (Harlburt Prod. in Technicolor) with Burt Lancaster, Jody Lawrence, Gilbert Roland. Willis Goldbeck, director.

• CHARLES LAWTON, "Man In The Saddle," (Scott-Brown Prod. in Technicolor) with Randolph Scott, Joan Leslie, Ellen Drew, Alexander Knox, Richard Rober, John Russell, Big Boy Williams. Andre De Toth, director.

• ERNEST LASZLO, "Small Wonder," (Halburt Prodn.) with Robert Cummings and Barbara Hale. Frank Tashlin, director.

• BURNETT GUFFEY, "Dark Page," with Broderick Crawford, John Derek, Donna Reed, Rosemary de Camp, Henry O'Neill. Phil Karlson, director.

• FAYTE BROWNE, "The Kid From Amarillo," with Charles Starrett and Smiley Burnette. Ray Nazarro, director.

• CHARLES LAWTON, "Boots Malone," (Sidney Buchman Ent. Prod.) with William Holden. William Dieterle, director.

Independent

• WALTER STRENGE, "The Valparaiso Story," (Roland Reed Prod.) with Robert Clarke, Marjorie Lord, Jimmy Lloyd, Margaret Fields. Tom Neal, Don Hayden, Sumner Getchell, Pierre Watkin, Charles Lane and Monte Blue. Frank Strayer, director.

• STANLEY CORTEZ, "The Basketball Fix," (Jack Broder Prod.) with John Ireland, Marshall Thompson, Vanessa Brown, John Sands, William Bishop, Hazel Brooks, Walter Sande and Bobbie Hyatt. Felix Feist, director.

• HAL MOHR, "The Big Night," (Waxman-UA Prod.) with John Barrymore, Jr., and Preston Foster. Joseph Losey, director.

• WALTER STRENGE, "The Lebanon Story," (Roland Reed Prod.) with Robert Clarke, Marjorie Lord, Jimmy Lloyd. Frank Strayer, director.

• JACK CARDIFF, "African Queen," (Horizon Prod.) (shooting in Belgian Congo) with Humphrey Bogart, Katherine Hepburn and Robert Morley. John Huston, director.

• JACK GREENHALGH, "Leave It To The Marines," (Lippert Prod.) with Sid Melton, Mara Lynn, Fritz Feld, Don Frost, Margia Dean and Chester Clute. Samuel Newfield, director.

M-G-M

• PAUL C. VOGEL, "The Angels and The Pirates," with Paul Douglas, Janet Leigh, Keenan Wynn, Donna Corcoran, The Pittsburgh Pirates. Clarence Brown, director.

• WILLIAM C. MELLOR, "Westward The Women," with Robert Taylor, Denise Darcel, Hope Emerson, John McIntire, Julie Bishop. William Wellman, director.

• ROBERT SURTEES, "The Light Touch," (Shooting in Italy) with Stewart Granger, Pier Angeli, George Sanders, Rhys Williams, Norman Lloyd, Mike Mazurki, Larry Keating. Richard Brooks, director.

• RAY JUNE, "Too Young To Kiss," with June Allyson, Van Johnson, Katherine Givney, Paula Corday and Larry Keating. Robert Z. Leonard, director.

• GEORGE FOLSEY, "Man With A Cloak," with Joseph Cotten, Barbara Stanwyck, Louis Calhern, Leslie Caron, Margaret Wytcherly. Fletcher Markle, director.

• RAY JUNE, "Callaway Went Thataway," with Fred MacMurray, Dorothy McGuire, and Howard Keel. Directors, Norman Panama and Melvin Frank.

• HAROLD ROSSON, "Lone Star," with Clark Gable, Ava Gardner, Broderick Crawford, Lionel Barrymore, Beulah Bondi, Moroni Olson, William Farnum and James Burke. Vincent Sherman, director.

Monogram

• ERNEST MILLER, "Stagecoach Driver," with Whip Wilson, Fuzzy Knight, Jim Bannon, Gloria Winters and Barbara Wooddell. Lewis Collins, director.

• MARCEL LEPICARD, "Let's Go Navy" with Leo Gorcey, Huntz Hall, Charlita, Dorothy Ford, Allen Jenkins and Tom Neal. William Beaudine, director.

Paramount

• GEORGE BARNES and PEVERELL MARLEY, "The Greatest Show On Earth," (Technicolor) with Betty Hutton, James Stewart, Cornel Wilde, Dorothy Lamour, Gloria Grahame, Charlton Heston and Lyle Bettger. Cecil B. DeMille, director.

• HARRY STRADLING, "My Son John," with Helen Hayes, Van Heflin, Robert Walker, and Dean Jagger. Leo McCarey, director.

• JOHN F. SEITZ, "The Rage Of The Vulture," with Alan Ladd, Deborah Kerr, Charles Boyer, and Corinne Calvet. Charles Vidor, director.

• CHARLES LANG, "Aaron Slick From Punkin Crick," (Perlherg-Seaton Prod.) with Alan Young, Dinah Shore, Robert Merrill and Adele Jergens. Claude Binyon, director.

• LIONEL LINDON, "Hong-Kong," (Pine Thomas Prod.) with Ronald Reagan, Rhonda Fleming, Nigel Bruce, and Olivia Louis. Lewis R. Foster, director.

• RAY RENNAHAN, "Silver City," (Technicolor) with Yvonne De Carlo, Edmond O'Brien, Barry Fitzgerald, Richard Arlen, Edgar Buchanan, Laura Elliott, Michael Moore and Gladys Moore. Byron Haskin, director.

R.K.O.

• FRANK PLANER, "The Blue Veil," (Wald-Krasna Prod.) with Jane Wyman, Charles Laughton and Katharine Locke. Curtis Bernhardt, director.

• GEORGE DISKANT, "The Racket," (Edmund Grainger Prod.) with Robert Mitchum, Robert Ryan, Iris Adrian. John Cromwell, director.

• HARRY WILD, "The Las Vegas Story," with Jane Russell, Victor Mature, Vincent Price, Hoagy Carmichael and Brad Dexter. Robert Stevenson, director.

20th Century Fox

• MILTON KRASNER, "The Dr. Praetorius Story," with Cary Grant and Jeanne Crain. Joseph Mankiewicz, director.

• LEO TOVER, "The Day The Earth Stood Still," with Michael Rennie, Patricia Neal, Billy Gray and Sam Jaffe. Robert Wise, director.

• NORBERT BRODINE, "The Desert Fox," with James Mason, Desmond Young, Jessica Tandy, George Macready. Henry Hathaway, director.

• LLOYD AHERN, "A WAC In His Life," with June Haver, William Lundigan, Marilyn Monroe, Frank Fay and Jack Paar. Joe Newman, director.

• CHARLES G. CLARKE, "The Golden Girl," (Technicolor) with Dennis Day, Mitzi Gaynor, Dale Robertson and Una Merkle. Lloyd Bacon, director.

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• Lucien Ballard, "Let's Make It Legal," with Claudette Colbert, Macdonald Carey, Zachary Scott, Barbara Bates and Robert Wagner. Richard Sale, director.

Universal-International

• William Daniels, "The Lady Pays Off," with Linda Darnell, Stephen McNally, Gigi Perreau and Virginia Field. Douglas Sirk, director.

• Carl Guthrie, "Finders Keepers," with Tom Ewell, Julie Adams, and Evelyn Varden. Frederick de Cordova, director.

• Russell Metty, "Flame Of Araby," (Technicolor) with Maureen O'Hara, Jeff Chandler, Maxwell Reed, Susan Cabot. Charles Lamont, director.

• Maury Gerstman, "Reunion In Reno," with Mark Stevens, Peggy Dow, Gigi Perreau, Frances Dee and Leif Erickson. Kurt Neumann, director.

• Irving Glassberg, "The Door," with Charles Laughton, Boris Karloff, Sally Forrest, Richard Stapely, Michael Pate, Paul Cavanaugh. Joseph Pevney, director.

• Charles Boyle, "The Cimarron Kid," (Technicolor) with Audie Murphy, Beverly Tyler, Leif Erickson, James Best, Yvette Dugay, Noah Berry, Jr., Palmer Lee and Rand Brooks. Budd Boetticher, director.

Warner Brothers

• Ted McCord, "Force Of Arms," with William Holden, Nancy Olson, Frank Lovejoy, Gene Evans, Dick Wesson. Michael Curtiz, director.

• Sid Hickox, "Distant Drums," with Gary Cooper and Mari Aldon. Roaul Walsh, director.

• Robert Burks, "As Time Goes By," with Gene Tierney and Ray Milland. William Keighly, director.

• Ted McCord, "Starlift," with Virginia Mayo, Doris Day, Ruth Roman, Gordon MacRae and Gene Nelson. Roy Del Ruth, director.

• Robert Burks, "Come Fill The Cup," with James Cagney and Jimmy Gleason. Gordon Douglas, director.

" . . . then he invited me up to see his KINEVOX*"

(*Leading Portable synchronous, magnetic recorder.)

FILMING ASSEMBLY LINE

(Continued from Page 241)

tricks or devices were used, with the exception of spraying chrome parts with condensed milk to reduce halation and glare.

Two Maurer 16mm cameras did yeoman's duty on this assignment. The bulk of the shooting was handled with one Maurer, but on occasion two cameras were used to permit greater selectivity of coverage. A battery of Keg-Lite Seniors, Juniors and Babys were used for most of the lighting requirements, although a number of extreme closeups were lighted by Colortrans. Despite the variance in lighting equipment, color values were uniformly faithful and of high quality throughout the entire picture.

"Through The Years" is now being released by the Pontiac dealer organization, which makes it available to the non-theatrical exhibition market. In addition, it is regularly being screened in Pontiac showrooms for prospects, customers and friends.

Critics rate the production one of the best institutional stories ever filmed in 16mm Kodachrome. Said one: "Its fast-paced action and unusually fine color values combine with an excellently prepared script to picture the Pontiac organization and its product in a manner which both the company and its dealers may be justly proud."

COLLEGIATE MOVIE MAKERS

(Continued from Page 221)

first teach. The result has been a sort of vicious circle which has slowed down both the teaching and the production.

"When, in the Spring of 1950, we began to approach the coming summer session, we tried to arrive at some sort of a workable plan which would obviate the difficulties of the preceding year.

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(*Continued from Preceding Page*)

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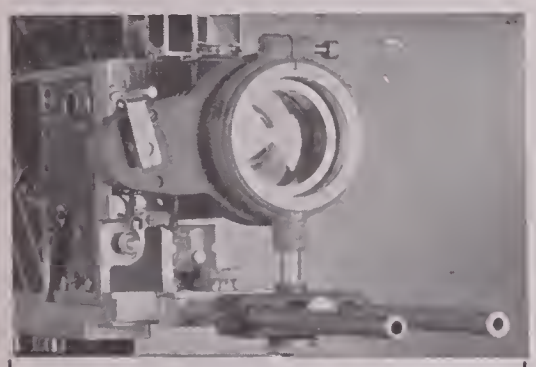

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MOVIE MAKERS

(*Continued from Page 244*)

and adapted to a musical score by Villa-Lobos), "University, U.S.A." (A satire on college life), and "Driftwood" (A dramatic episode.)

A valuable adjunct to the Motion Picture Division of Theater Arts is the Educational Film Sales Department. Actually set up within the structure of University Extension, this department functions as a sales and rental agency for films produced by the Motion Picture Division. Aside from making these excellent films available to the public, the department provides the important psychological incentive of a professional outlet for the films produced by the students.

WHAT'S NEW

(*Continued from Page 216*)

ing within the unit. Control box between the rotating arms contains 4-position rotary dimmer switch affording light intensity control. List price is $14.95. Manufacturer is Mayfair Mfg. Co., 55 Eckfors St., Brooklyn 22, N. Y.

• **FAST, IMMEDIATE SERVICE** is the established policy of Houston Color Film Laboratories, Inc., 230 West Olive St., Burbank, Calif., where one of the most modern color laboratories in west is developing and printing 35mm color film, duplicating prints on 35mm color film, processing 16mm color film and making 35mm color film slides and film strips. Houston technicians are color experts with a wealth of experience and knowhow. The company is presently the world's largest processors of 35mm Ansco Color film.

• **A NEW SOURCE** of motion picture equipment for the film industry and television has been established in Hollywood by Harry and Ben Teitelbaum. Under name of Hollywood Film Company, new firm is distributing such important equipment as Goldberg reels and cans, fiber and metal shipping cases, Neumade splicers, editing and film storage equipment, plain and motorized film rewinds, film cleaning machines, and slide file cabinets and film racks.

Company's sales offices, showroom and warehouse is located at 5446 Carlton Way. In addition to complete stocks, company also features rapid delivery service.

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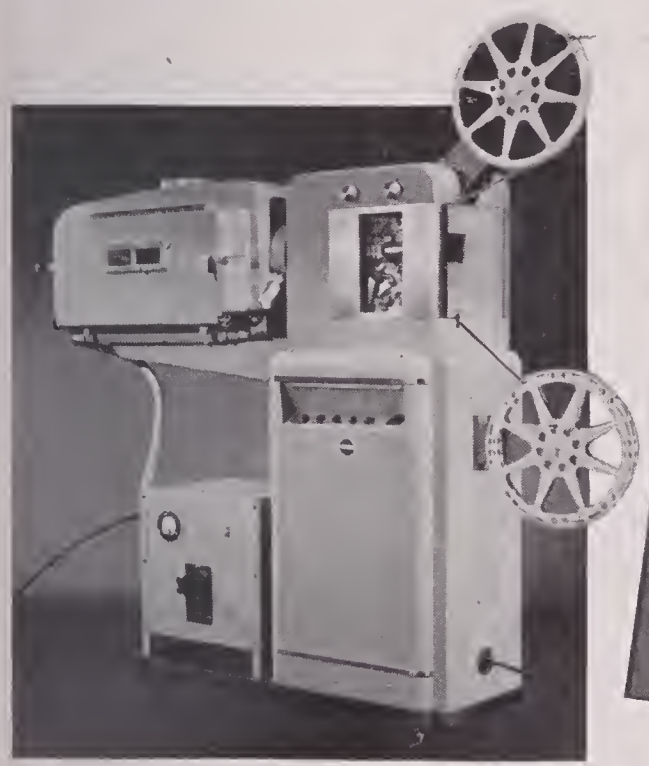

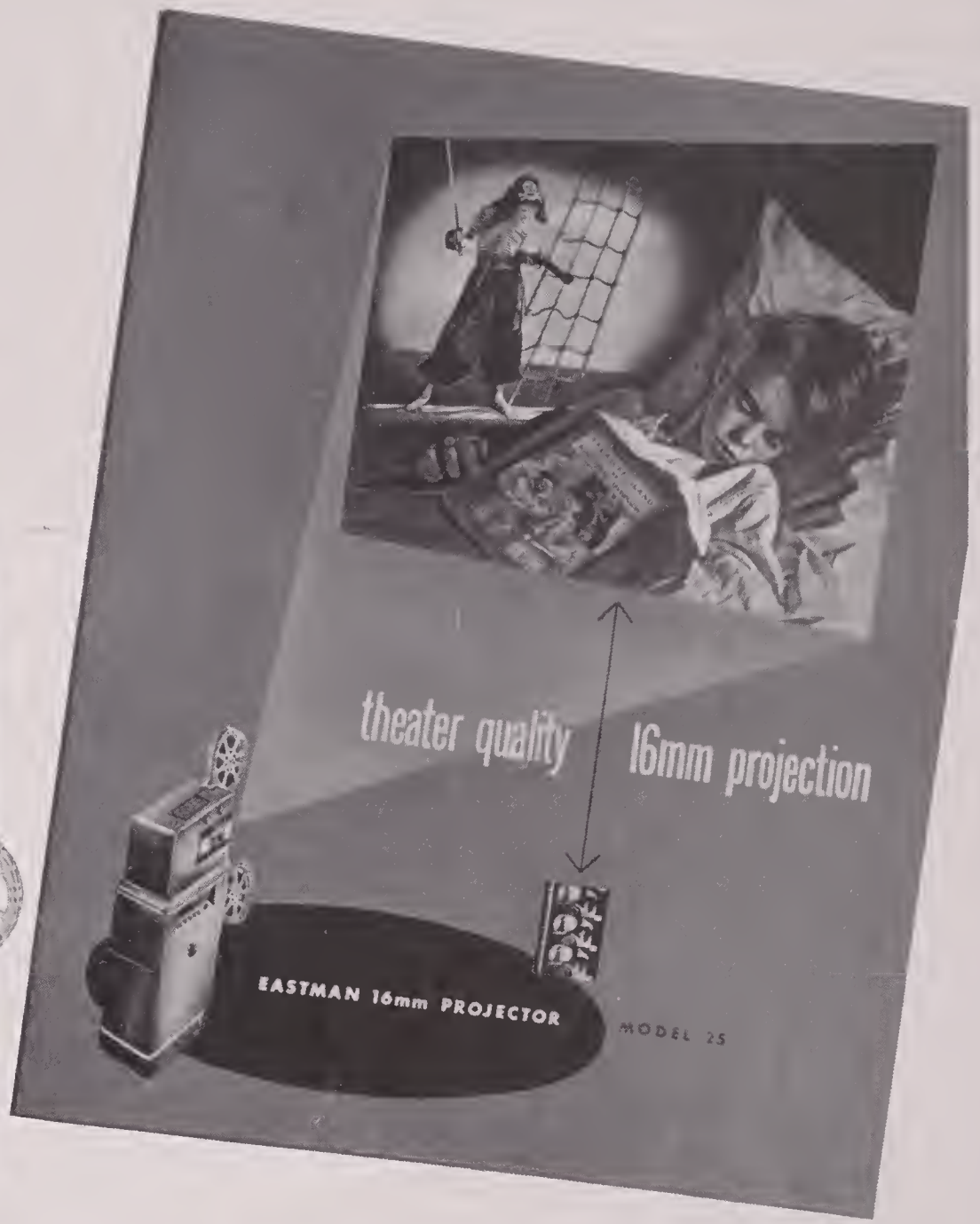

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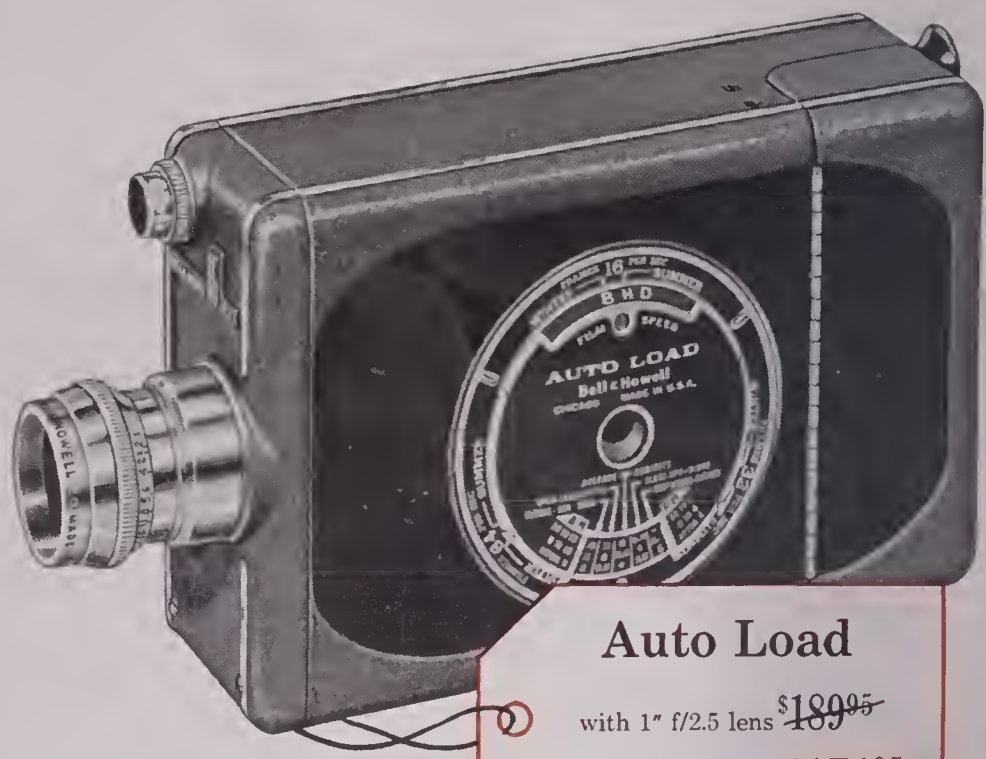

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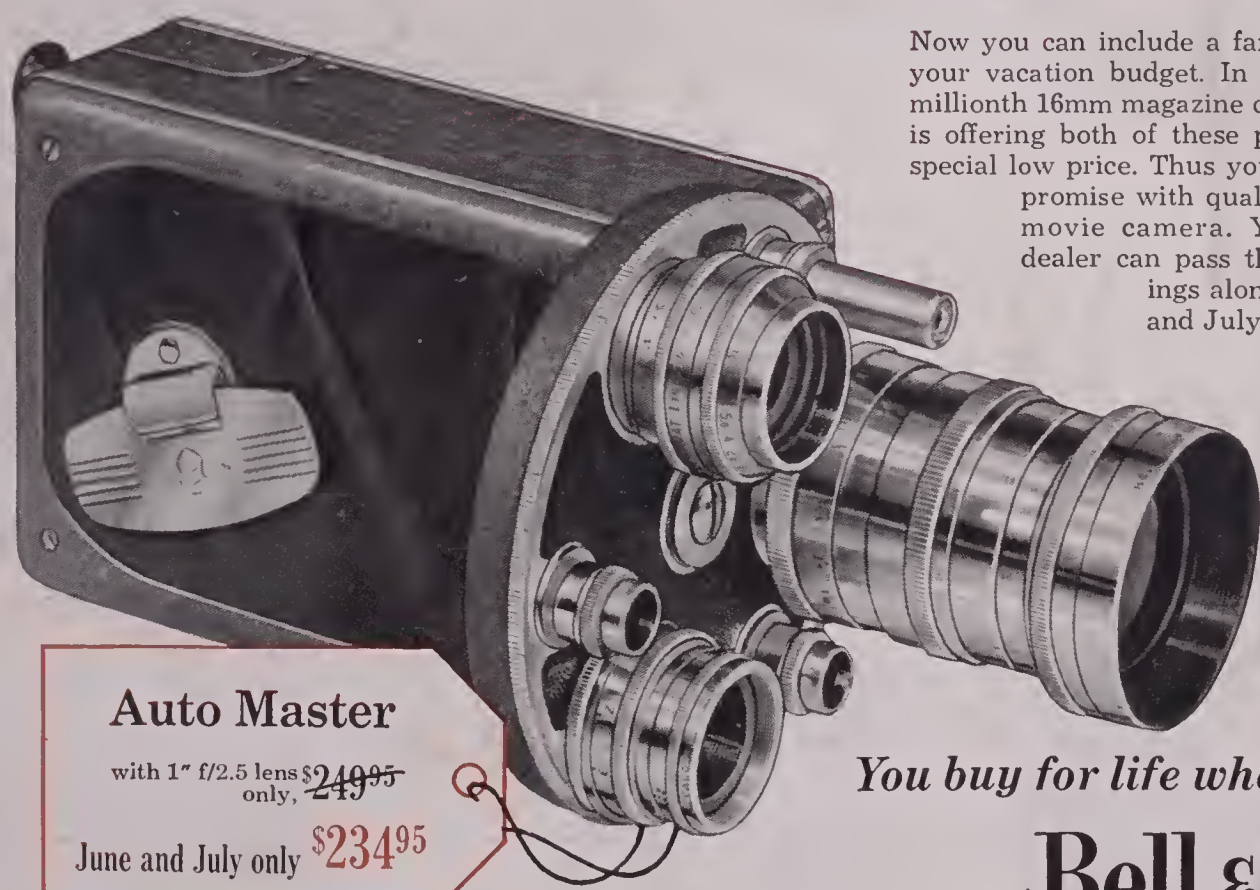

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JUL 18 1951
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Marlene Dietrich stars again — this time in "Chuck-A-Luck," photographed by Hal Mohr, A.S.C.

THIS MONTH • **Economical TV Filming • Husband-Wife Camera Team • The Amateur Today • Evolution of the Finder Ground Glass**

JULY 1951

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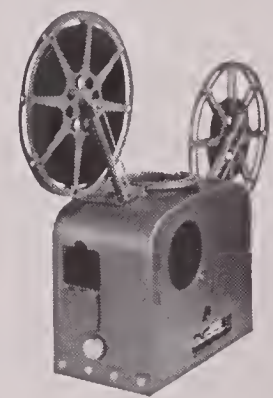

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ON THE COVER

AN INTERESTING travel shot conceived by Hal Mohr, A.S.C., for a scene in "Chuck-A-Luck," which brings Marlene Dietrich back to the screen in Technicolor. Shot called for camera crane to travel full length of track and at same time be maneuvered for constantly changing camera angle. Mohr (wearing light felt hat), barely visible behind camera, also directed the photography of "Destry Rides Again," one of Dietrich's biggest film successes.—*Photo by Eddie Jones.*

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Hollywood
Bulletin Board

INSPECTING new reflex motion picture camera made for Army Signal Corps and Air Force by the Cameraflex Corp., are, left to right, Jim Seeley, A.S.C., George Barnes, A.S.C., and Cecil B. DeMille who considered camera's use for shots for "The Greatest Show On Earth," being filmed in Technicolor by Barnes.

Metro-Goldwyn-Mayer already has four solid contenders for Oscars in the 1952 Academy Awards with "The Great Caruso," "American In Paris," "Showboat," and "Quo Vadis"—each a photographic masterpiece filmed respectively by Joseph Ruttenberg, Alfred Gilks, Charles Rosher, and Robert Surtees.

•

Joseph Ruttenberg, A.S.C., is set to film Mario Lanza's next starring vehicle, following success of "Caruso."

•

Olle Comstedt, A.S.C., is currently in Puerto Rico filming a documentary on the rum making industry.

•

Ted Phillips, lecture film cinematographer for Burton Holmes, returned to Hollywood june 15th, after an absence of ten months, during which time he photographed material for Holmes' forthcoming lecture series in Australia, New Zealand, Sumatra and Ceylon—all in 16mm Kodachrome.

•

Staff of J. E. Brulatour, Inc., Hollywood, worked day and night, June 23 and 24, in order to move into the vaults of its many customers more than a million dollars worth of Eastman raw film stock.

On the following Monday, price of film went up between 4 and 4½ percent; but the Brulatour organization voluntarily aided its customers to save more than $50,000. Company notified every established customer of price rise in advance, and offered to deliver all film on hand at old price until deadline for price change, Sunday midnight. A nice gesture, and one the Hollywood motion picture industry won't forget.

•

Arthur Arling, A.S.C., returned June 1st from a location scouting trip to Argentina where 20th Century-Fox will film most of its forthcoming picture, "Way Of A Gaucho" in color. While in Buenos Aires, Arling met A.S.C. member Bob Roberts and also cameraman Humberto Corell at the Emelco Studios, largest in Argentina.

•

Fred W. Jackman, A.S.C., former director of photography for Mack Sennett and now executive VP of the A.S.C., is behind a motion picture camera again—this time a 16mm Bell & Howell—shooting scenes of his vacation cruise through the Alaskan Straits.

•

Benjamin Berg, A.S.C., American representative for the Eclair Camerette, is enroute to Europe on business. He will remain four months.

•

Edgar Bergen, accompanied by Charlie McCarthy and Mortimer Snerd is Europe-bound where Bergen will photograph material for a number of short subjects, featuring McCarthy and Mortimer. Initial short, filmed two years ago in Sweden by Bergen and John Boyle, A.S.C., has been released by Warner Brothers and is proving a top boxoffice attraction.

•

ON LOCATION: Ray Rennahan, A.S.C., in Colorado, directing photography of "Denver & Rio Grande," Nat Holt Technicolor production for Paramount . . . **Charles G. Clarke, A.S.C.**, in Montana directing Technicolor photography of "Red Skies Of Montana" for 20th Century-Fox . . . **Robert Surtees, A.S.C.**, in Wyoming shooting "The North Country" in Technicolor for MGM . . . **Jack Cardiff, A.S.C.**, in Belgian Congo shooting "African Queen" in Technicolor for Horizon Productions . . . **Daniel Fapp, A.S.C.**, in New York City shooting "Anything Can Happen," Perlberg-Seaton Prodn. for Paramount . . . **Winton Hoch, A.S.C.**, in Ireland, directing the Technicolor photography of "The Quiet Man," for Republic Pictures.

•

S.M.P.T.E.'s semi-annual convention will be held in Hollywood at the Roosevelt Hotel, October 15 to 31st, according to Peter Mole, A.S.C., Society president.

SILVER SPURS AWARD which Ernie Palmer, A.S.C. won for photography of 20th-Fox's "The Gunfighter," is displayed here by Palmer (right) and Sol Halprin, 20th's camera department head. Award was made by Reno Chamber of Commerce for best photography of an outdoor western picture.

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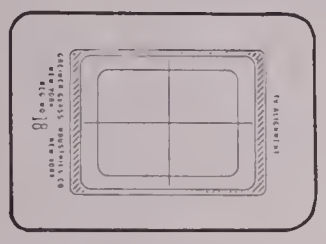

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WHAT'S NEW

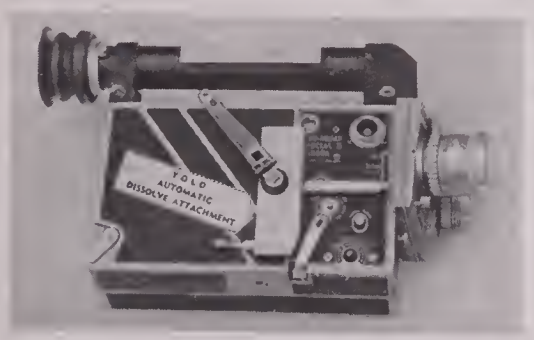
in equipment, accessories, service

Arriflex 16mm motion picture cameras will soon be available in this country, according to Kling Photo Supply Corporation, which has been appointed U. S. agent for the camera by the makers, Arnold & Richter KG, Munich, Germany (U. S. Zone).

The Arriflex 16 incorporates all the

advantages of the famous 35mm Arriflex, including the mirror reflex system which permits viewing and focusing through the taking lens while camera is in operation. Camera, complete with three lenses, weighs only 6½ pounds. Further data and price may be had by writing to Kling Photo Supply Corp., 235 4th Ave., New York 3.

The Yolo Automatic Dissolve for Ciné Special cameras has been improved and now is smaller in size and completely redesigned so that it allows camera's backwind crank to fold back and fit socket normally. Easier installation is also



claimed for the new model which sells for $48.00 and enables Ciné Special owners to make perfect, evenly-timed fades and lap-dissolves in the camera. Write Joseph Yolo, 5968 Santa Monica Blvd., Hollywood, Calif.

Mike boom operators will welcome the new Kinevox Mono-Boom which features a quick-detachable telescoping support arm that may be extended up to 9 feet, and which takes some of the weight off of the operator, makes for easier and more efficient operation of mike boom. Boom arm, of telescoping design, may be extended up to a distance of 16 feet. Folded, complete unit is a handy 6-foot package which may be easily carried in car with recording and camera equipment.

Manufacturer is Kinevox, Inc., 116 So. Hollywood Way, Burbank, Calif. Price of complete Mono-Boom is $69.50, FOB Burbank.

Hollywood Camera Exchange, 1600 N. Cahuenga, Hollywood, has been appointed west coast distributor for Greiner TV Alignment Ground Glasses and other viewfinder ground glasses manufactured by Greiner Glass Industries Company, New York City.

Ansco 8mm Daylight Type Color Film is now available in magazine loads for the first time. New product marks Ansco's initial entry into the amateur motion picture field with 8mm color

film. Film is packaged in new "Twin-Eight" magazines to produce 50 feet of 8mm movies. Price per magazine is $4.50, including tax and processing.

Celebrating event of company's production of its quarter-millionth 16mm magazine ciné camera, Bell & Howell Company, Chicago, Ill., has marked down the price on its two leading 16mm magazine cameras—the Auto Load and the Auto Master—as a special sales inducement during the months of June and July. At dealers everywhere you can now buy the Auto Load for only $174.95, and the Auto Master for $234.95—about a $15.00 saving on each.

(Continued on Page 288)

HOUSTON-FEARLESS PANORAM DOLLY... This versatile piece of equipment provides the cameraman with complete mobility and adjustment of camera angles. Leveling head, upon which friction or geared head is mounted, can be quickly, smoothly raised from 14" to 70" high, remaining level at all times. Entire cantilever arm revolves easily on turret base fast or slowly. Dolly rolls smoothly, quietly, turns on its own axis or can be moved sideways. Very maneuverable in tight places. Steel and aluminum construction provides maximum strength and minimum weight. Top quality throughout. Developed and improved during many years use by leading Hollywood Studios.

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"WORLD'S LARGEST MANUFACTURER OF MOTION PICTURE PROCESSING EQUIPMENT"

CAMERA and lighting combine to create a mood of unvarnished reality in opening scenes of "The House On Telegraph Hill," adventure tale of Polish refugee who comes to America to live in famed San Francisco mansion.

LUCIEN BALLARD, A.S.C., directed the photography of "House On Telegraph Hill," giving it a subtle, pictorial mood of impending violence without resorting to exaggerated camera effects.

How the subtleties of fine cinematography were employed in filming . . .

"The House On Telegraph Hill"

By HERB A. LIGHTMAN

"HOUSE ON TELEGRAPH HILL," a romantic suspense drama produced by 20th Century-Fox, is a prime example of how the subtleties of fine cinematography can be employed to build an atmosphere of mystery and quiet horror on the screen.

The photography by Lucien Ballard, A.S.C., has all the gloss one would expect of a top Hollywood cinematographer. It is notable for the subtle manner it conveys the desired mood of impending violence without use of exaggerated camera effects, which have become a cliche of this type of presentation. There are no wierd camera angles, spectacular lighting or hedge-hopping dolly shots to call attention to photographic mechanics. The picture owes its pungent, eery quality to the precise and intelligent way in which the camera was coupled with incisive direction to tell the story.

"House on Telegraph Hill" tells of the adventures encountered by a Polish refugee who comes to San Francisco and takes up residence in a rococo hilltop mansion, after marrying a young man obsessed with the idea of killing the heroine and her young son in order to collect their inheritance. The main suspense element arises from the cat-with-the-mouse tactics used by the heavy to further his murderous ambition. He attempts to murder his wife by pushing her off a cliff, sabotaging the brakes on her car as she starts down Telegraph Hill, and poisoning her orange juice. Throughout the exposition of all this skullduggery, the impression is conveyed that the house itself hides certain sinister secrets of past violence. Ballard's photography is accurately keyed to the varying moods of individual sequences.

In the opening scenes, which take place in the Belsen concentration camp, the camera and lighting combine to create a mood of unvarnished reality and dull hopelessness. Later, when the heroine arrives in San Francisco, the specific glamour of that cosmopolitan metropolis (especially as it would seem to an oppressed refugee) is portrayed in a most effective manner. But it is inside the mansion itself, where the main body of the action takes place, that the camera functions most directly as an instrument of mood.

The lighting in these later sequences is necessarily low-key—a style logically motivated by the architecture and indi-

cated source lighting of the house, as well as by the fact that most of the climatic action takes place at night. However, in photographing these sequences, Ballard avoided "spooky" lighting, grotesque shadows and extreme camera angles. Rather than a "chamber of horrors" effect, the result is a logically conceived impression of a normal situation which slowly takes on an undercurrent of suspense as the would-be killer pursues his murderous plan.

Through all of this build-up the camera is unobtrusive, remaining in the role of the story-teller rather than getting into the act along with the players. The compositions and angles are designed solely to present the action to best advantage, although in some instances camera angles do much to enhance specific psychological effects.

For example, as the apparently normal young husband begins to reveal his homicidal tendencies, the camera adopts lower angles, so that (without benefit of weird lighting or make-up) he gradually begins to look like the sinister individual that really exists beneath his wholesome American-boy facade. In sequences where certain commonplace objects (such as a glass of milk and a sandwich or a glass of orange juice) become props important to the plot, these objects are placed prominently in the foreground of the frame, while the action in the background is played toward them.

Unusually well-executed from the standpoint of photographic mechanics is the sequence in which the heroine's car, having been sabotaged in the brake department, goes out of control and careens down Telegraph Hill, hurtling faster and faster until it overturns at the bottom. An inspired combination of camera and cutting results in such a build up of suspense, that the audience is left gasping when it is finally over.

"House on Telegraph Hill" owes much of its authentic mood to the fact that most of the exteriors were actually photographed in San Francisco. Though somewhat bothered photographically by the characteristic fog of the city as well as by smoke drifting in from a forest fire, Ballard manages to capture the atmosphere of the city by the Golden Gate and use it with full effect. Besides the title locale, other locations include the Union Market, a drugstore on the Union Speedway near Columbus Circle, the Marina, the Embarcadero, the Crocker Bldg., and the area behind another famed landmark, the Coit Tower.

A major set problem had to be overcome when it was discovered that there was no actual house atop Telegraph Hill that even faintly resembled the edifice described in the script. The required building had to have a Victorian type of architecture, gardens in front and in back, plus a driveway and garage adjacent to the entrance.

The building which actually crowned the summit of Telegraph Hill was a well-known landmark, a restaurant known as "Julius' Castle." From its grounds could be seen the famous view which includes San Francisco Bay, Yerba Buena Island, Treasure Island, Alcatraz, Oakland Bridge, Berkeley, Richmond, Angel Island and the constant parade of sea-going vessels in the harbor. The problem was to convert this restaurant into the mansion needed for the title role.

Skilled artists and studio craftsmen went to work. Precise measurements were taken of the restaurant building, its foreground parking area, and the adjoining property of a prominent physician. In Hollywood, a new front was built for the restaurant and the physician's garage, to tie it in architecturally and make both look like a private home. In blueprint a garden complete with every blade of grass and flower was outlined; an imposing wrought-iron and stone gateway built to complete the illusion of an integrated mansion and grounds. Only the first story of the building was thus reconstructed, the upper two stories, complete with rococo towers and cupolas, was a painting printed in at the studio by means of a matte process. Needless to say, the match is a perfect one.

"Julius' Castle" was closed to the public at midnight one weekend, and an all-night studio construction and landscape crew installed the new "mansion and gardens" by the eight a.m. shooting start the next morning. The film assumed a certain historical significance when it was found that the first "take" included in the background what proved to be the last view of the hospital ship Benevolence as it took off on the final voyage before its fatal accident. Another shot from this high vantage point pictured the freighter Mary Luckenbach steaming to anchor after its accidental ramming of the Benevolence.

The problems of shooting on the streets of San Francisco included the usual one of crowds swarming to watch the spectacle and getting into the scenes and under the feet of the crew. For one scene on busy Market Street the camera was set up on a sidewalk elevator below ground and enclosed with canvas and other camouflage. When the set-up was complete, the elevator was raised and the camera poked its nose just enough above ground level to shoot the scene.

The aforementioned automobile crash on the hill called for the most careful planning and execution. Twelve separate takes were made, and three cameras recorded the action. A stunt man, doubling for the ill-fated heroine, rolled the car over twelve different times without materially denting it. On the final take the convertible, instead of landing on its side as indicated in the script, turned completely over. However, clever cutting, gives a perfect impression of the car landing on its side exactly as required.

(Continued on Page 274)

AS THE apparently normal young husband begins to reveal his homicidal tendencies, the camera shoots from lower angles, so that he gradually begins to look like the sinister individual he is.

BALLARD considers the feminine star of "House On Telegraph Hill," Italian actress Valentina Cortesa (center), "the most mobile beauty" of any star he has photographed, a perfect subject for his camera skill.

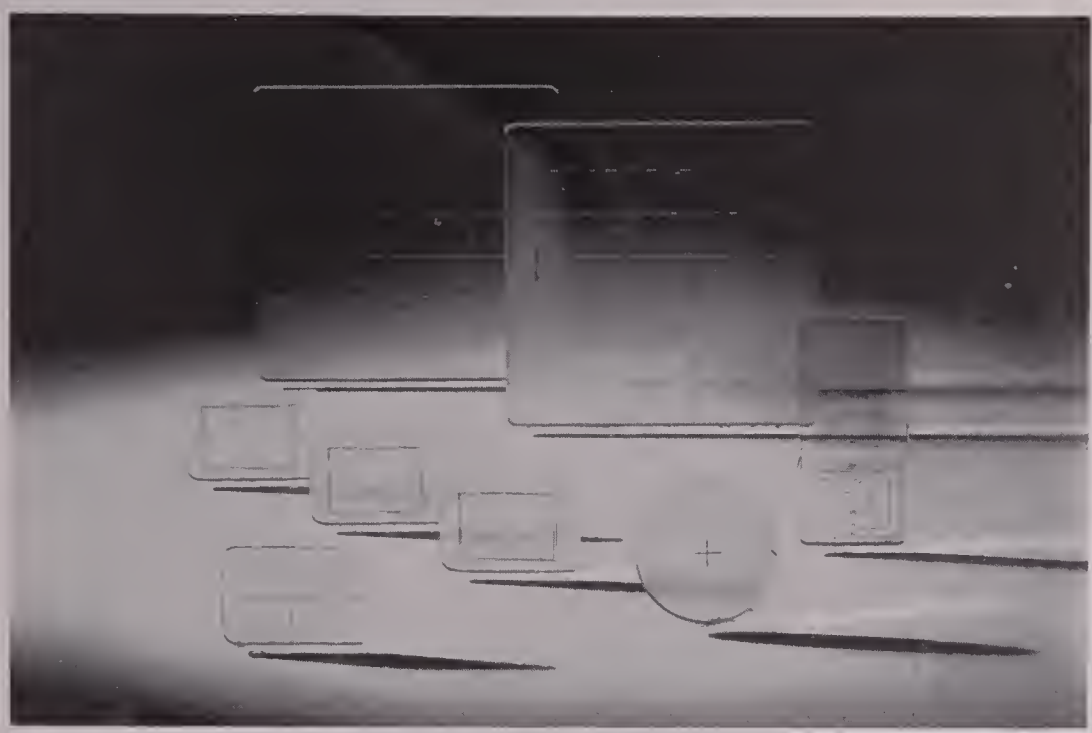


FIG. 1.—Viewfinder ground glasses used in various motion picture cameras. Shown are a round glass for 35mm Bell & Howell camera; 4 glasses for 35mm Mitchell camera (on left); a 35mm Wall camera finder ground glass (on right); and 2 aerial camera ground glasses.

Evolution Of The Viewfinder Ground Glass

Originally a simple piece of frosted glass, today it is a valuable tool of the cameraman, accurately etched to indicate apertures required for 35mm, 16mm and TV films.

By JOSEPH V. NOBLE

Vice-President, Film Counsellors, Inc., New York City

TODAY WE CONSIDER the standard focusing microscope type of viewfinder, found on all professional cameras, as an indispensible part of the camera. However this was not always so. The first motion picture cameras used the film itself as a ground glass, and the focusing of the image was done from the back of the camera by looking directly onto the back of the film. Here the cinematographer could see an upside-down image of the scene he was photographing. He could actually watch this image during photography as well as when lining up between takes.

This of course was possible only in the days of the clear base non-color-sensitive or orthochromatic films. Today's films with opaque, anti-halation base and ultra sensitivity of the emulsion makes this procedure impossible. To overcome the condition a piece of ground glass has been substituted in place of the film for viewing. One of the first cameras to substitute ground glass for film was the Bell & Howell standard motion picture camera. The glass was mechanically placed in exact position behind the taking lens of the camera so that the image size thrown by the lens on the ground glass would be exactly equal to that cast on the film during the actual photography.

This development occurred back in the days of the silent movies. At that time, the entire film height and width was utilized by the picture, and this area was known as "full aperture." In those days the viewfinder glass was simply a plain piece of ground glass without markings. The only markings that were occasionally etched on the glass were a vertical and horizontal center line, to permit easy centering of objects in the viewfinder and keeping title level. (See Fig. 1.)

With the introduction of sound motion pictures, starting in 1927, the picture size on the film was altered to allow room for a photographic sound track to run down one side of the film. This reduced the picture area, and after several experiments it was decided to standardize on the same 3x4 aspect ratio of the old "full aperture," only now this area was reduced in size to fit along the side of the sound track. This area was aptly named "sound aperture" or Academy Aperture, size .868" x .631". The old "full aperture" was then dubbed "silent aperture." When a cameraman looked into the viewfinder of a camera at that time his first question always was, "Is this thing set for sound aperture or silent aperture?" For cameras that were permanently converted from silent "shooting" to sound, an opaque mask was placed in front of the ground glass masking and reducing its area down to sound aperture .868" x .631". However, some cameras were used in this transitional period for both sound and silent filming. Quite often these cameras contained a viewer ground glass which had marked on its ground surface the area of the sound aperture; the total area of the glass visible in viewfinder telescope

(*Continued on Page 278*)

FIG. 2—Standard motion picture ground glass for 35mm Mitchell, scribed for camera aperture (.868" x .631"), projection aperture, 16mm reduction (cutoff) line, horizontal and vertical center lines, and sound center line whenever desired.

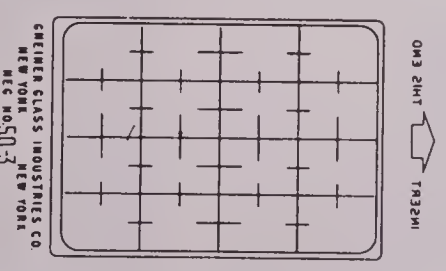


FIG. 3—Special camera effects ground glass for 35mm Mitchell cameras, scribed for same camera aperture, projection aperture, and screen grid pattern dividing and subdividing field in equal squares, plus horizontal and vertical center lines.

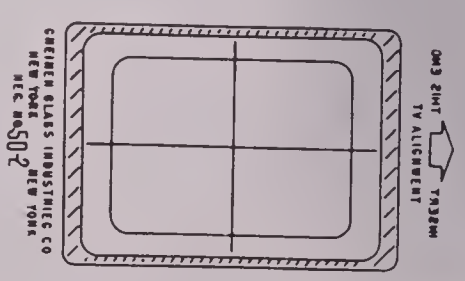


FIG. 4—TV ground glass for 35mm Mitchell cameras, scribed for same camera aperture, TV projection aperture, home receiver area aperture, and horizontal and vertical center lines. Glasses are product of Greiner Glass Industries Co.

Husband And Wife Camera Team

They filmed two Academy Award winners for Walt Disney, in 16mm Kodachrome.

By ARTHUR ROWAN

THE MILOTTES—Alfred and Elva—Walt Disney's intrepid camera team which photographed "Beaver Valley" in 16mm Kodachrome. Al Milotte used a Cine Special camera—of which he has four. Properly winterized," cameras performed perfectly in temperatures low as 10 degrees below zero.

WERE THERE Academy Awards for photography of short subjects as well as feature films, Alfred Milotte unquestionably now would have two of them gracing his mantle. Awards have been made to Walt Disney Productions for the fruits of Milotte's photography—"Seal Island"' (1950), and "BeaverValley" (1951), and only because there is not a separate Academy Awards category for short subjects photography were these fine color featurettes prevented from taking two "Oscars" each, instead of one.

As a result of his camera record of wildlife for Walt Disney's sensational new True-Life Adventure series of short features, Al Milotte is receiving recognition and honors as a leading lensman in this fascinating field. In the amazing assembly of wilderness creatures caught in their life-and-death drama in Disney's "Beaver Valley" featurettes, Milotte has repeated and exceeded his camera exploits in reporting the summer cycle of the seal harems on the Pribilof Islands for "Seal Island."

Both pictures still are being shown in the nation's theatres—two years after their initial release—which is something of a record; and while critics agree both represent the ultimate in the renowned Disney skill for clever editing and musical scoring, it is the unusual photography of unusual subjects that made the two films possible. Wherever "Beaver Valley" is shown, the questions most frequently asked are "How was the cameraman able to get such pictures?" "Where were the beavers filmed?" Professional cameramen express amazement at the patience obviously required to secure such rare photography.

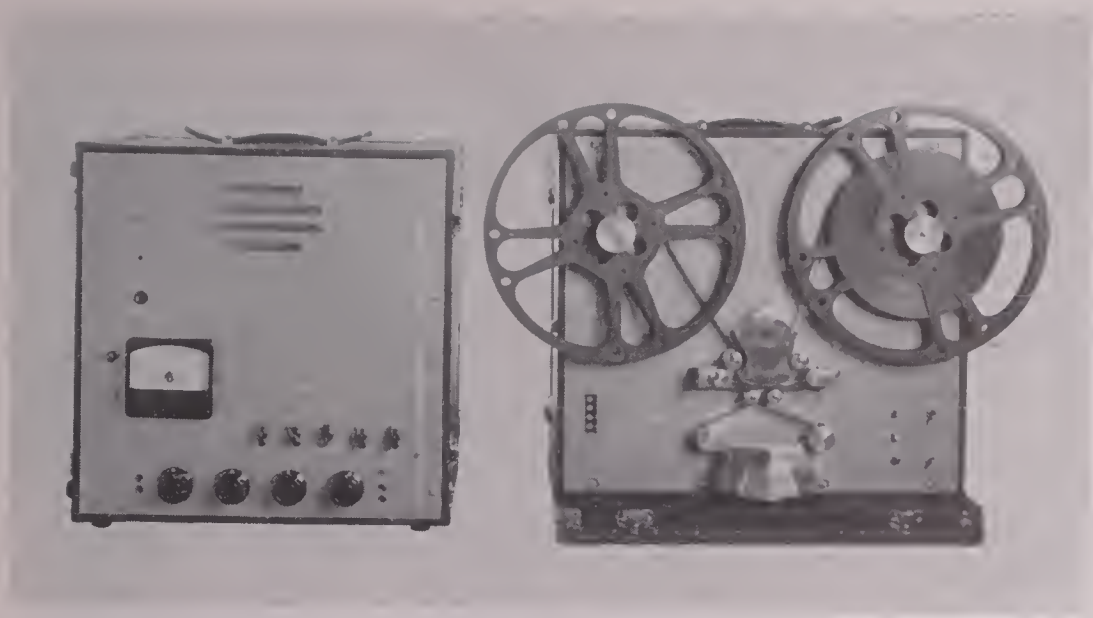
Alfred Milotte and his wife, Elma, have worked together as a photographic team since their marriage in Ketchikan, Alaska, in 1934. They set up a photographic gallery in that town, did routine commercial jobs for a time and then, following a natural bent, began to hunt wild animals with motion picture and still cameras through much of the Northern wilderness, from British Columbia to the Arctic Circle.

They have shared anxious and thrilling experiences in getting their quarry on film in its native habitat. They have been

(*Continued on Page 276*)

ALFRED MILOTTE filmed the progression of new beaver dams on a remote Montana pond, traced beavers through fresh tree cuttings. No reflectors or other booster lighting were used; shooting was done mostly at sundown—some of it in a raging snowstorm.

MAIN OBJECT was to film all the natural activity of beavers possible along with shots of related wildlife. Milotte got remarkable shots of land otter, most playful of all wild animals, and this footage furnished one of the amusing highlights of the picture.



STANCIL-HOFFMAN model S5 portable synchronous magnetic film recorder, which uses either 16mm or 17.5mm film. The power supply, amplifier and controls are in the unit at left. Film transport mechanism is in unit at right. Film capacity, 2100 feet. Units are available for rack mounting.

The Stancil-Hoffman Synchronous Magnetic Film Recorder

Available for either 16mm or 17.5mm magnetic film, sprocket drive insures synchronous recording for motion picture, TV or radio program recording.

By RALPH LAWTON

BEGINNING on this page is the third in a series of articles by Ralph Lawton describing the various magnetic film and tape recorders available for professional motion picture production. In the initial article appearing in our May issue, the Westrex recorder was illustrated and described. The popular Kinevox recorder and associated equipment was described in our June issue. The equipment of still another manufacturer will be described next month.—EDITOR

SYNCHRONISM, of course, is essential to any method of recording sound for motion picture production. It was one of the first problems encountered and solved when magnetic recorders first were adapted to motion pictures. Perfect synchronism has been achieved by most manufacturers of magnetic recorders through use of a central drive sprocket and perforated film, plus the use of a synchronous motor to drive the film transport mechanism. Among these is the Stancil-Hoffman Corporation, Hollywood, California, manufacturer of the Stancil-Hoffman Synchronous Magnetic Film Recorders.

The popular Stancil-Hoffman model S5 has been designed for every phase of synchronous sound recording for the motion picture and television industries by engineers well acquainted with the demands of these industries. In the S5 are included all the facilities necessary for master recording, re-recording and editing. It is designed for both 16mm and 17.5mm magnetic film recording mediums. Both the proper speed and correct "pre" and "post" equalization is provided for either size film.

For portable use the S5 recorder is divided into two sections, as illustrated. The electronic section contains two plug-in microphone preamplifiers and a double jack bridging input. It also incorporates the bias oscillator, line amplifier, recording amplifier, playback amplifier, a small power amplifier and self-contained speaker. On the control panel is mounted a standard VU meter which also indicates the bias current. A high pass speech equalizer is included. The voltage regulated power supply is designed to operate efficiently from vibrator-battery combination power sources.

The mechanical section includes the film transport mechanism, with its sprocket film drive, and the magnetic heads. On the lower part of the mounting panel are interlock push button control circuits.

All S5 recording units come equipped with 110-volt, 60-cycle single-phase hysteresis synchronous motors. Mounting facilities are provided for the addition of interlock motors, which may be 3-phase, 220-volt; DC interlock for location work; or single-phase 110-volt interlock. The recorder will operate in reverse direction as well as forward. This permits effecting a saving of time in threading for short sequence recordings.

Stancil-Hoffman S5 recorders for 16mm magnetic film also operate at twice normal speed (72 feet per minute) forward and reverse. In the forward speed the "pre" and "post" equalization is automatically set to provide flat response at either 36 or 72 feet per minute. The frequency range is extended at the higher speed to 14,000 cycles or more.

Simultaneous playback is available through two output amplifiers—a line amplifier with an output of plus-4 VU and a monitor amplifier with built-in speaker. Either or both amplifiers may be switched from "live" to "tape" (direct to Pec) at any time without effecting recording.

Contributing to the Stancil-Hoffman quality for smooth synchronism and

(*Continued on Page 276*)

STANCIL-HOFFMAN synchronous magnetic film recorders and dubbers in use in recording studios of Moody Institute of Science, which makes scientific films.

EASTMAN

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Dramatic Documentary Approach In Commercial Films

To entertain as well as sell is basic fundamental of George Carillon's formula for making commercial motion pictures.

By CHARLES LORING

THE PARADOXICAL problem in the production of commercial films has always been the reconciling of budget with production value. In the past an erroneous impression was held that unless every penny of the budget went directly toward plugging the sales message, the client would not be getting his money's worth. The result was usually a cut-and-dried formula picture, reeking with commercialism and completely lacking in audience appeal.

It is, of course, true that commercial films are made for the purpose of selling a product or idea, and that it is the primary task of a producer to fulfill this responsibility to his client. But the producer has an equally important responsibility: to interest and entertain the viewer; for unless a film can catch and hold audience attention, its message (and budget) will be wasted.

George Carillon, Inc., with production headquarters in Hollywood, early recognized this responsibility. They have formulated a technique for producing commercial films that combines a powerful selling message with superior technical finish certain to gain the volume of audience interest worthy of a Class A entertainment feature.

In explaining the company's approach to the commercial film, Carillon says: "The present-day filmgoer is blasé in a certain sense. He is used to seeing in the theatre the very best entertainment films that Hollywood produces. He takes for granted today's theatrical picture-making technique. Indeed he has become so 'movie-wise' that he is quite capable of criticizing inept photography, direction

(*Continued on Page 282*)

"WITHIN THESE WALLS," 4-reel 16mm color film sponsored by U. S. Gypsum Co., pictures origin and development of mineral wool as insulating material. Capt. Cook discovered Polynesians using it on roofs.

ESKIMOS, too, discovered insulation qualities in snow and ice which they used in constructing igloos. Set reproduction was constructed and filmed at Charles Chaplin Studio in Hollywood.

USE of top calibre technicians proved a major economy in terms of operating efficiency for George Carillon, Inc., producer of the film. In factory location, 36 setups were filmed in single day.

MAJOR SETS were constructed side by side, so that one group of lights, rigged on a single overhead parallel between them, could be used to light both sets. Easier mobility of camera resulted, too.

"PROFESSIONAL JUNIOR" Camera Equipment...

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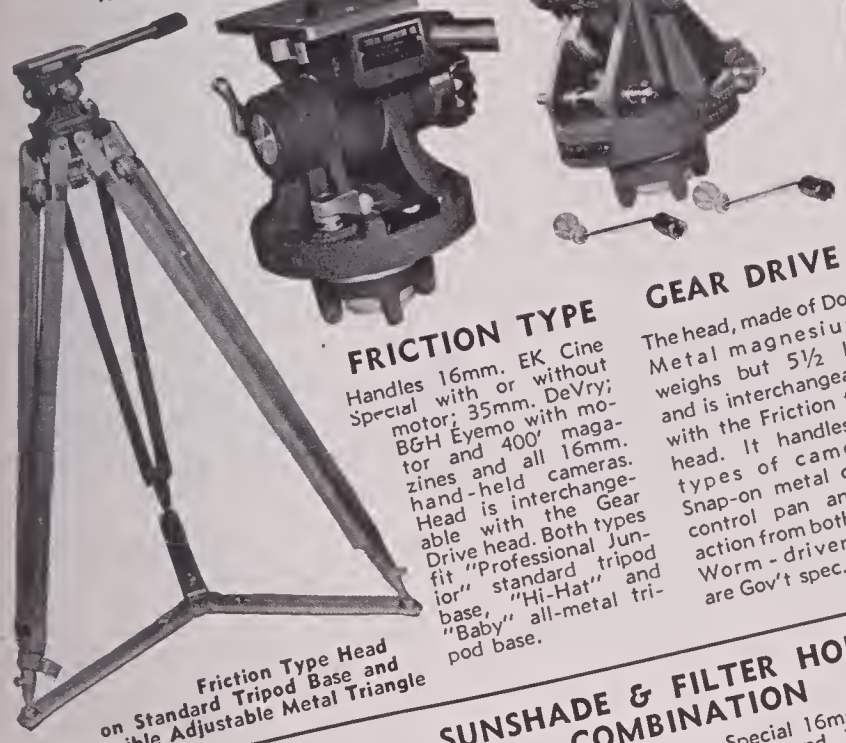


Friction Type Head on Standard Tripod Base and Collapsible Adjustable Metal Triangle

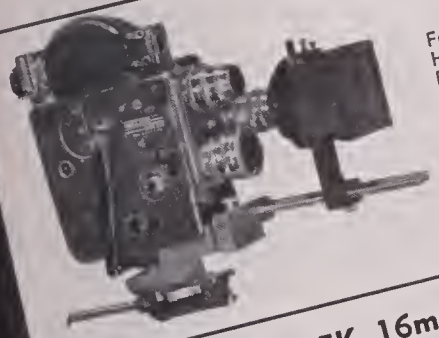
FRICTION TYPE

Handles 16mm. EK Cine Special with or without motor; 35mm. DeVry; B&H Eyemo with motor and 400' magazines and all 16mm. hand-held cameras. Head is interchangeable with the Gear Drive head. Both types fit "Professional Junior" standard tripod base, "Hi-Hat" and "Baby" all-metal tripod base.

GEAR DRIVE

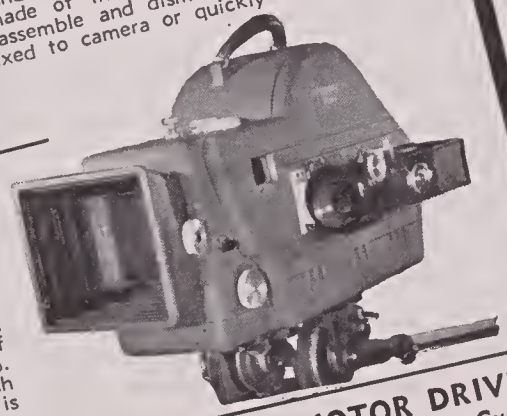
The head, made of Dow Metal magnesium, weighs but 5½ lbs. and is interchangeable with the Friction type head. It handles all types of cameras. Snap-on metal cranks control pan and tilt action from both sides. Worm-driven gears are Gov't spec. bronze.

SUNSHADE & FILTER HOLDER COMBINATION



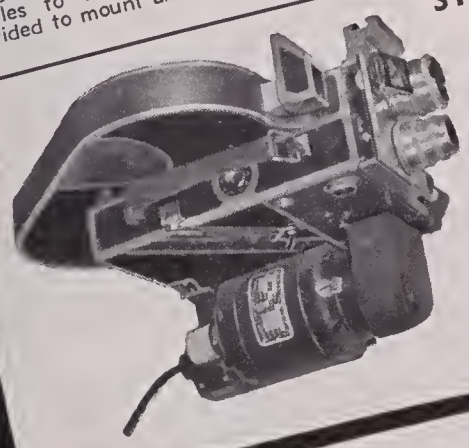
For use with Bolex and Cine Special 16mm. cameras. Holds two 2" sq. glass filters and 2½" round Pola Screen with handle which can be rotated for polarization. Covers all lenses from 15mm. to 6" telephoto and eliminates need of various filters. Precision made of the finest materials. Compact, simple to assemble and dismount. May be permanently affixed to camera or quickly detached.

BLIMP for EK 16mm. CINE SPECIAL



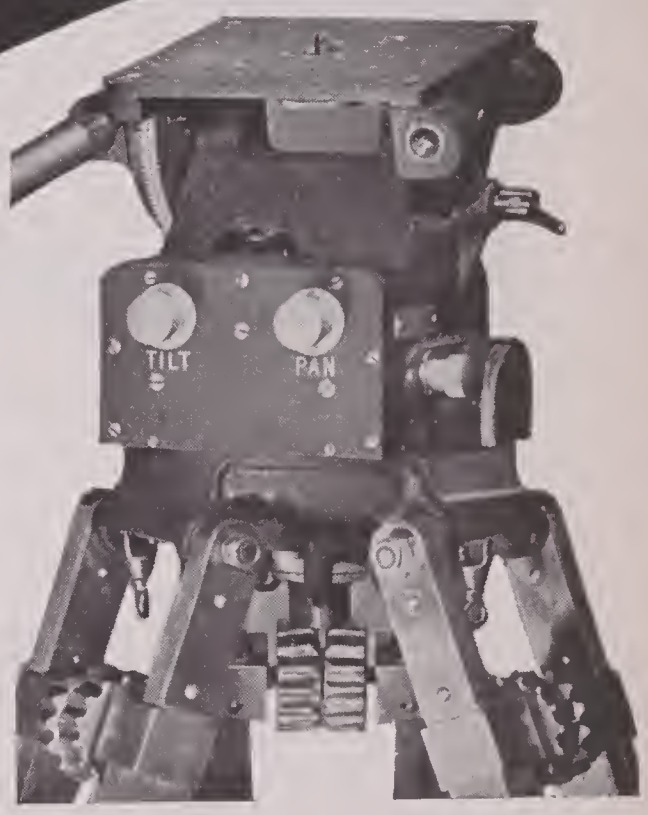
This Blimp constructed of Dow Metal magnesium, is thoroughly insulated to afford absolute silent operation. Exclusive features: Follow focus mechanism permits change of lens focus while camera is operating in blimp. Blimp takes synchronous motor drive which couples to camera. A dovetail bracket is provided to mount an erect image viewfinder.

SYNCHRONOUS MOTOR DRIVE



110 Volt A. C., Single Phase, 60 Cycle

This motor will run in synchronization with either 16mm. or 35mm. sound recorders. It is provided with mounting platform which permits removal of magazine while camera remains mounted on motor. Drive coupling attaches to single-frame shaft of camera and is mated to spring-steel drive arm of motor gear box. This assures that camera mechanism cannot be damaged if a film jam occurs as the spring steel arm drive will shear. This is easily replaced. A knurled knob on motor armature permits rotating for threading. "On-Off" switch built into base. Platform base threaded for ¼" and ⅜" camera tie-down screws. Rubber covered cable with plugs included.



Small GYRO Tripod

This light weight GYRO Tripod performs with all the efficiency of larger, heavier and costlier tripods now in use.

New, small size GYRO tripod handles all 16mm. professional type cameras: Mitchell 16mm.; Auricon single system; Maurer 16mm.; motor-driven Cine Special; also 35mm. motor-driven Eyemo with 400' magazine. It features Super Smooth Pan & Tilt Action.

Positive pan-locking knob. Tilt locking lever. Quick wrist action locking knob for leg height adjustments. Pan handle can be inserted at 3 different positions on tripod head for operator's convenience or extreme tilt work. Legs are hard maple specially treated and warp resistant. Tripod head is Dow Metal magnesium and aluminum. Built-in spirit level. Swivel tie-down rings. Platform can be equipped for either ⅜ or ¼ inch camera screw.

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FIG. 1—In author's "double single" system of photographing and recording TV films, the Auricon "pro" camera is used. Small cue-light (arrow) is installed near gate to record guide line on film (Fig. 4).

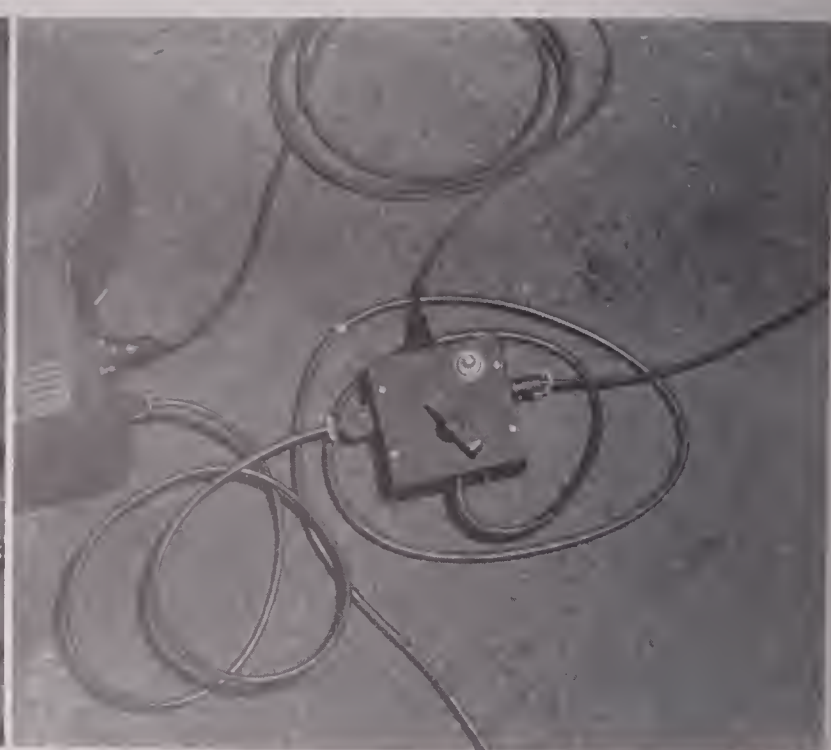

FIG. 2—Master control by means of which director of photography directs operation of multiple cameras, starting or stopping operation of any camera to effect variety of shots from different angles.

Economical TV Filming

Methods, such as the one described here, may be the answer to television's problem of good, low-cost film programs.

By JOHN H. BATTISON

Author of "Movies For TV"

THE CONTINUING swing towards film use in television is focusing attention on the economics of film making and producing comparisons between TV films and those produced by normal techniques for theatrical presentation. In general, television film producers at present are faced with the problem of making *good* entertainment films within very limited budgets. This has naturally resulted in many attempts to reduce film production costs by stealing from television methods and applying a modified TV system to film production. Working along these lines the author, during the course of his teaching classes in Films for Television at New York University, developed the system to be described in this article. A paper on it was also presented at the recent National Association of Radio and Television Broadcasters' Convention in Chicago.[1]

Most readers are familiar with the generally used method of making sound films, which involves the double system in which sound and picture are recorded on separate films. The single system, in which both sound and picture are photographed simultaneously on a *single* film, is also finding more acceptance; however in spite of its apparent simplicity and economy the system presents difficulties in editing which make it more difficult to use. The improved system to be described might be called in effect "the double single system," since it uses two

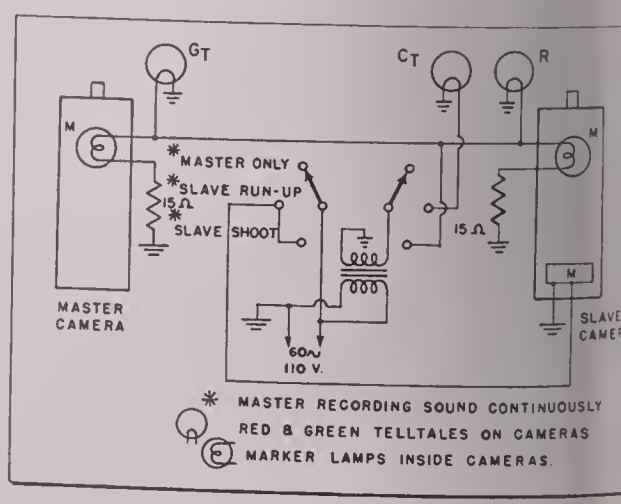

FIG. 3—Schematic drawing showing circuit connections of the master and slave cameras with relation to control box shown in Fig. 2. Control box contains transformers for pilots, etc.

single system cameras, each of which produces a combination sound and picture film.

Two Auricon "Pro" single system sound cameras are used. One is designated the "Master," and the other the "slave." In the system as presently used the Master camera runs continuously once the action commences. The slave camera is controlled by the director or, under his instructions, by the senior cameraman, from a small control panel which can be carried around or held in the lap. (Fig. 2.)

Each camera is modified by the addition of tell-tale signal lights on the top of the case and a recording light which makes a cue mark on the perforation side of the film (Fig. 4). The pressure pad behind the film in the gate has to be modified by drilling a hole with a No. 60 drill in the raised face of the pad so that light from a special focus type lamp mounted on the side of the gate, as shown in Fig. 1, can fall on the film between the perforations and register changes of camera. When the master camera is running the only telltale which is lit is the red one on that camera, and neither of the marker lamps inside the camera is on. When the director calls for action on the slave camera the red telltale on that one is illuminated, and the marker light in each camera goes on. Thus an exposed cue line is produced on the film in each camera *during the time that the slave is running.*

After the films have been processed

(*Continued on Page 281*)

FIG. 4—Arrow points to cue line recorded photographically on edge of film exposed in the slave camera. This line aids editor when intercutting films made by both cameras.

Television Film Production

By LEIGH ALLEN

Karl Struss, A.S.C., recently elected a member of the Sylvania Awards committee, announces that the awards presentation will take place early this fall, in New York. Among the score of awards will be one for the best photography of a TV motion picture.

•

N.B.C.'s signing of former movie executive Henry Ginsberg as consultant, is seen as positive step of network to set up a strong video film production program.

•

Paul Ivano, A.S.C., has been signed to direct the photography of "Hollywood "Newsreels" for producer Erman Pessis. Reels are weekly 15-minute TV news releases.

•

Radio Corp. of America reportedly is working on a system of boxoffice television. Tradenamed the Skiatron system, it has been successfully tested over WOR-TV in New York. Other pay-as-you-see TV systems currently in stage of further development are Phonevision, and International Telemeter, in which Paramount Pictures have an interest.

•

Edward Cronjager, A.S.C., has been signed by Morris M. Wein to direct the photography of new series of telepix to star Charles Coburn and Spring Byington. Titled "Bed and Board," series started rolling at General Service Studios, Hollywood, June 27th.

•

Utilizing film to sell the rich potential of the Southern California TV market, KNBH recently completed a 17-minute color film, "The Gold Rush Is Still On," which will be exhibited across the country during July in an effort to graphically show Midwest and Eastern ad agencies the sales potential of the west coast region.

•

Charles W. Phelan, president of Films For Television, Inc., Beverly, Mass., announces the sale of its studio and laboratory to Harry Mamas, former Warner Bros. cameraman. Company produces "open end," syndicated TV shows on films.

•

While interesting speculation continues as to whether TV is seriously cutting into motion picture theatre attendance, results of a poll recently conducted by the Minneapolis Star-Tribune reveals figures that indicate more families in the Minneapolis area owning television sets go to their neighborhood theatres than families without TV sets.

THE KIND of filming assignment every TV newsreel cameraman hopes for but rarely gets, is enjoyed by WPIX-TV news cameraman Lester Mannix, seen here shooting a group of lovlies at Rockaway Playland, New York.

•

Speaking of surveys, still another conducted recently by a group of N. Y. banking houses reached the conclusion that TV has a long and rough road to travel before it becomes *the* mass entertainment medium of the nation. Said a spokesman:

"Television is still a groping business that will require from two to three years to reach the proper basis for analysis." A significant conclusion was that "nearly all top TV shows must be on film."

•

A.S.C. Directors of Photography engaged in photographing TV film productions during June, were as follows:

PHIL TANNURA, "Trouble With Father," Hal Roach Studio.

WALTER STRENGE, "Trouble With Father," Hal Roach Studio.

JAMES VAN TREES, "Groucho Marx Show," C.B.S.

KENNETH PEACH, "Hollywood Wrestling," Jerry Fairbanks.

BENJAMIN KLINE, "Fireside Theatre," and others, Green Film Corp.

GUY ROE, untitled series, Williams Productions.

LESTER WHITE, "Murder Rides The Night Train," Jerry Fairbanks.

JACKSON ROSE, "Buster Keaton Comedies."

ELMER DYER, "Craig Kennedy" mystery series, Adrian Weiss Prodns.

EDWARD CRONJAGER, "Bed and Board," Morris M. Wein.

•

NATURALLY IT SELLS...

reaching as it does the majority of cameramen and producers of motion pictures in the U.S. and 67 foreign countries

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The Cine Amateur Today

Have U. S. amateur movie makers lost their way on the road to today's most rewarding hobby?

By ALVIN D. ROE

IS THE AMATEUR movie maker — the ciné amateur of the U. S. — losing interest in his hobby? Have increasing pressures of other interests, particularly television, greatly diminished his movie making activity? There is considerable evidence that the American amateur has not kept pace with his European brothers. Whereas British and French ciné hobbyists returned to movie making with increased zeal following World War II, Americans—having been appreciably slowed in their activities during war years—never have gotten back into stride.

This is borne out in the decreased sales of both film and ciné equipment. Considering our tremendous population growth and the fact the hobby, once having gained impetus—as it did in the early "thirties"—should have reached a tremendous volume by this time, the question remains "Why the lack of interest on the part of so many old time movie amateurs?"

There seems to be a number of answers to this question, but none quite so valid as that which follows a close survey of the amateur's activities in France and England, following end of the war. One clue to the European amateur's sustained interest lies in his long established practice of *working collectively*. The success of so many French amateurs in this respect is related by Pierre Boyer, editor of the French *Ciné-Amateur,* writing in *International Film Review* (No. 3, 1949). Reminding that the amateur cinema was born in France, whence it has invaded the world, he states:

"The amateur cinema, once brought within the range of individuals, was bound to thrive and prosper, but would achieve worthwhile progress only in so far as it was fostered and practised collectively. Groups were formed and ciné clubs were born, hesitant at first, but in time growing stronger. Rapid progress followed; the course was being set, the impulse provided, and today in France, the result is seen in the establishment of more than one hundred societies functioning regularly from one end of France to the other.

"It is from the organization of these (societies) that the strength of the French amateur cinema initially comes—an organization of spontaneous growth, modeled on a tentative framework that, when tested in practice, proved an unqualified success. Each society gathers into itself all the ciné camera owners in the district, welds them together, gives them a common aim and so gradually builds up the general structure of the French amateur cinema, based on the Federation Francaise des Clubs de Cinema d'Amateur."

Compare these basic aims of the French ciné groups with the average American movie club organization and we see quite a wide difference both in approach and in activities. The major criticism of so many U. S. ciné clubs is that they have been dominated by the few serious workers in their group, leaving the rest as little more than observers on the sidelines whose principal activity as far as their clubs are concerned, is attending meetings to view the pictures of their more ambitious brother hobbyists. There are exceptions, of course — but they are rare, indeed.

"Thanks to the cine camera, a medium of self-expression of unprecedented power has been put into man's hands. With the cine camera, every man can in accordance with his temperament reveal to us something of his personal philosophy, his reactions to life in the world and in society; he can take us inside his work and his activities; he can express in his own way, untrammeled by censorship or by commercial considerations, what he thinks, what he loves, and what he desires. For the language of the cinema is universal."

—Pierre Boyer

Boyer, who is International Technical Adviser to the influential Union Internationale du Cinema d'Amateur (UNICA), goes on to say:

"Abroad—especially in Europe—similar movements have seen the light of day. Their present importance depends on their relative enthusiasm. Spain, Italy, Norway, Luxembourg, Denmark, England, Czechoslovakia, Poland, Germany and many other countries constitute the present UNICA organization. UNICA organizes each year in a different country the *Congres International,* and the *Concours International.* This "Davis Cup" (competition) of the amateur ciné world has been offered every year—war years excepted—since 1934, when the union was founded on the initiative of a few pioneers. France has, from the beginning, consistently shone in this sphere, carrying off several years in succession the most sought-after prizes or the first place classification by nations.

"The position that France has won is due in far greater measure to her understanding of the spirit of amateur cinematography than to purely technical successes. We must define this spirit.

"There is no doubt that the snapshot-album way of practicing ciné photography has an absorbing interest. It is charged with great emotion, having as it does the power to create the illusion of life, and to enable us to follow, in a progression too soon completed, the birth, life and disappearance of our children and dear ones. In this it must be admitted, lies its principal attraction for individuals.

"But is that the only attraction? By no means. Thanks to the ciné camera, a medium of self-expression of unprecedented power has been put into man's

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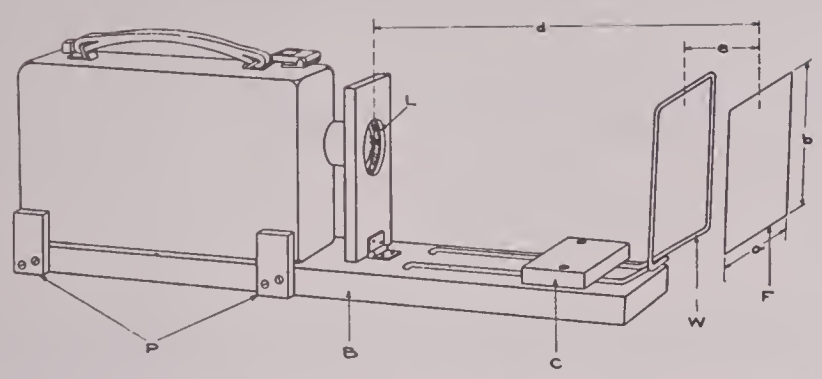

DIAGRAM shows construction details for a simple device for filming ultra-closeups. Adapted to any cine camera, the amateur can achieve high-magnification cinematography otherwise attainable only with very expensive optical equipment. Construction details are explained in the accompanying text.

Nature Photography With Any Cine Camera

Simple, easy-to-build gadget opens up new filming horizons for the cine amateur.

By JOHN FORBES

THE MOST IMPORTANT problem in applying the ordinary cine camera to nature photography is that of focusing on small objects at close range. The average cine camera lens will focus on objects from infinity down to two feet. It is not calibrated for shorter distances, due to the fact that depth of focus decreases rapidly as the plane focused on approaches the camera, and it becomes impractical to estimate the subject-distance accurately enough to insure sharp focus.

Moreover, the finder systems on most cine cameras are not valid for very short subject distances, because of the displacement of the finder axis from the camera lens axis. Overcoming these afflictions will permit the application of the cine camera to nature photography.

Classified below according to focusing distance and field size are four subject classes in nature photography:

1—Normal objects at normal distances, which can be photographed without additional equipment.

2—Small objects normally examined at about ten inches. (The majority of subjects fall in this class.)

3—Small objects which cannot be closely approached—for example, birds. (Except with telephoto lenses.)

4—Very small objects normally examined through a magnifying glass.

The second and fourth classes — normally beyond the range of cine cameras—can be photographed successfully by means of two auxiliary attachments to the camera: a) extension tubes, or b) the use of an auxiliary lens and the "focal frame" device, which we shall presently describe here. Being less costly than extension tubes and because it provides for accurately setting focus between object and lens without the need for sighting through the taking lens—which obviously is impossible except with a few cameras such as the Cine Special and the new Pathe-16 — the latter method is recommended for the average exploring or neo-scientific cine cameraist.

The "focal frame" may be easily constructed by the average amateur in his home workshop. Shown in diagram above, it consists of a wooden base to hold the camera, the auxiliary lens, and the wire frame which affords a means of centering subject with camera and at

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TABLE I

Depth of Focus

Radius of disk of confusion=0.0025cm.

Subject distance for 25mm lens with supplementary lens	Overall Angular Magnification	Magnification on film*	Depth at f.5.6	Depth at f.1.9*
Inches	x 0.5		cm	cm
20	x 0.5	x0.05	24.0	8.0
10	x 1	x0.1	5.8	2.0
5	x 2	x0.2	1.4	0.5
2	x 5	x0.5	0.23	0.08
1	x10	x1.0	0.057	0.02

* These data apply to camera lenses of all focal lengths.

TABLE II

Data for 16mm cameras with 25mm lenses, and 8mm cameras with 12.5mm lenses.

Photographing Distance d	Field Size bxa	Displacement e	Supplementary Lens L	
Inches	Inches	Inches		
39	12x16	6	1.0 dioptre	Spectacle lenses
19½	6x 8	3	2.0 dioptre	
13	4x 5¼	2	3.0 dioptre	
11¼	3⅜x 4½	2	3.5 dioptre	
10	3x 4	1½	4.0 dioptre	
8	2⅜x 3⅛	1	5.0 dioptre	
			150mm focal length	Camera Anastigmats
			100mm focal length	
			75mm focal length	
			50mm focal length	
			25mm focal length	

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(*Continued from Page 272*)

the same time automatically position the camera at the right distance from subject for sharp focus.

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The proper supplementary lens can be mounted easily with cellulose cement in a wooden upright, using a stepped circular hole made by an expansion bit. This lens is mounted close to the camera lens, and so that its center is on the camera lens axis. A decentering error of 1/16-inch is not objectionable. The wire frame is not placed exactly at the plane of sharp focus, because it has been found impossible to surround all objects with the frame. It is therefore set 1½ inches closer to the camera. Experience has shown that the estimation of the field position and limits offers no difficulty with this arrangement.

The frame of ⅛-inch diameter wire is made to exceed the field limit by about ¼-inch on all sides. The ends of the wire are secured to the base B, and cleat C holds the frame in place. The frame is bent so that its geometrical center is on the camera lens axis. If one side of the frame appears in preliminary pictures, the frame may be shifted or bent as required. In order to attach the camera to the base B a hole is drilled for a screw (e.g. a ¼-inch machine screw will serve) to engage with the tripod bushing of the camera. This hole is so placed that the camera rests against the blocks PP to assure replacing it exactly. The blocks PP are placed on the side shown to permit easy winding and reloading. This will vary, of course, depending on the make of camera to be used.

If desired, the supplementary lens mount may be hinged at the base, to permit removing it temporarily for distance photography, with which the frames does not interfere.

The accessory known as the "Cine-Kodak Titler" can be used in the manner outlined: The easel which takes the title card frame, does not show in the picture. The focus comes exactly at the frame, and the field size is 2½ x 2⅜ inches. This is rather small for most subjects.

The supplementary lens—which is used in the support L—is not only the simplest method of photographing objects at short distances, but it also has a decided advantage, since the indicated "F" stop of the camera lens remains valid, even for very short distances. Thus, by placing the auxiliary lens in front of your camera lens, there is no need to increase the "F" stop above that determined by a meter reading when the camera lens alone is used. The same aperture setting is used for the photography of small objects at close range as for distant objects; and color photography is quite practical, providing the supplementary lens is large enough in diameter to avoid cutting off the marginal rays.

When the lens is focused for infinity, the focal length of the supplementary lens required is equal to the distance of the supplementary lens from the object to be photographed. This is independent of the focal length of the camera lens. The supplementary lens may be regarded as creating a virtual image of the object at infinity, for which the camera lens is focused. For object distances down to eight inches, simple lenses from dime-store spectacles have proved satisfactory, even when camera lens aperture is set at f/1.9. Of course, the better the quality of the supplementary lens, the better the photographic result, and for highly accurate work, such lenses as the simple spectacle lenses of the Bausch & Lomb "Celex" double convex type are recommended. Still another is the theoretically preferable plano-convex type, mounted with the plane side facing the object to be photographed.

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(*Continued from Page 261*)

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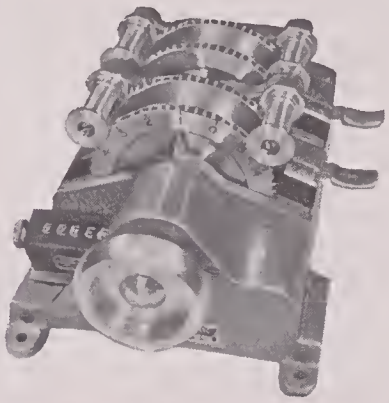

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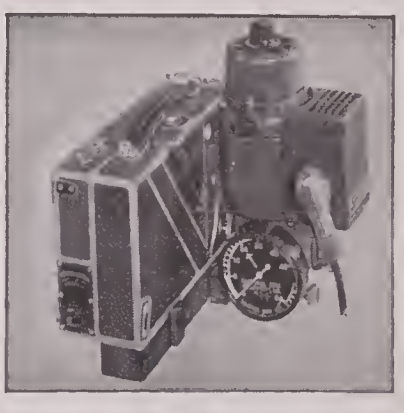

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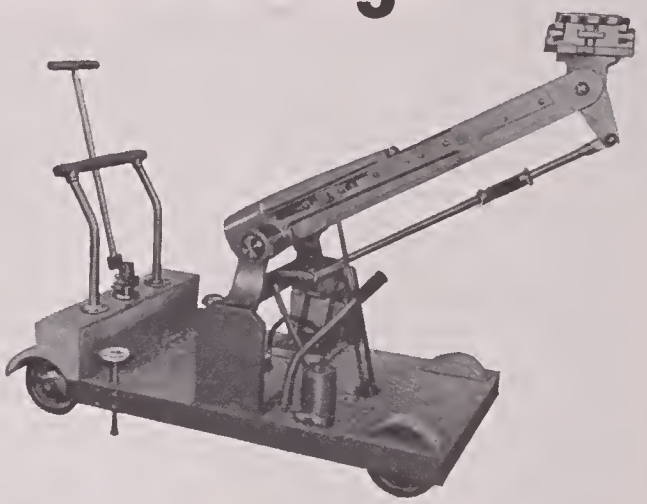

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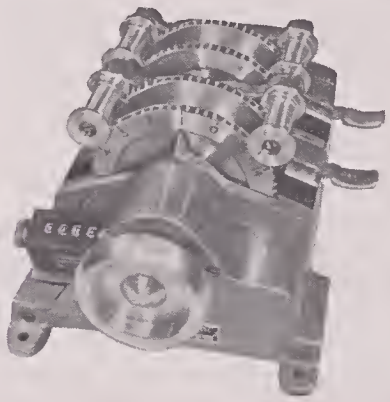

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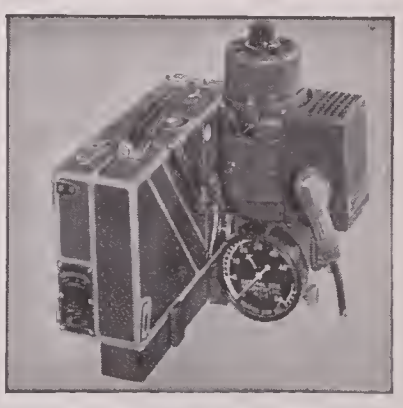

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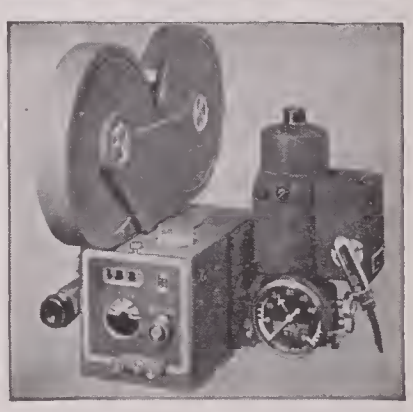

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HUSBAND AND WIFE CAMERA TEAM

(*Continued from Page 263*)

menaced by grizzly bear, the charge of a bull moose, stampeding caribou and assorted perils in stalking mountain sheep and goat amongst high crags. They have shared every hazard and hardship on innumerable field expeditions for scientific and entertainment films. Their peak achievement as Walt Disney's camera team is "Beaver Valley."

The assignment took months of patient and resourceful watching and continuous filming in remote regions of Montana and Minnesota. Together with the intimacies of beaver family life in the lodges on their self-made lagoons, the Milottes got remarkable shots of land otter, most playful of all wild animals, and of many other creatures ranging from wildfowl and frogs and racoons to coyote, moose and salmon-fishing black bear.

Those who have seen "Beaver Valley" will agree that the scenes are not haphazard shots of wild creatures. They have continuity and tell the dramatic story of courtship and battle, birthing and survival in terms often of strange human parallel. Most remarkable of all is the capture of comedy in the antic of bird and animal in their domestic and social life.

The Milottes spent two months searching for a location for shooting scenes for "Beaver Valley." This they finally located in Montana — twenty miles from Anaconda. Here they came upon picturesque ponds where beavers had set up four "houses" in the bank of a channel connecting two ponds. Living in a trailer on the location, the Milottes spent 4 months here and thus were able to photograph the beavers in their progressive activities through late spring, summer and autumn.

The success of the "Beaver Valley" filming assignment, according to Alfred Milotte, was a matter of knowing the animal, his habits and habitat — then trailing and photographing him. Before undertaking the assignment, Milotte did considerable research, scanning public library bookshelves for whatever pertinent information he could gather. The most helpful information, however, came from Montana State forestry experts. They took him out into the wilderness and taught him how to look for such indicators as beaver droppings, scents, etc. They showed him how to transplant natural beaver scents to attract the animal to locations best suited for photography. At one time, Milotte even tried limburger cheese as "bait" on the theory that most rodents like cheese, and beavers being members of the rodent family, might likewise like cheese. The theory failed to work out, however.

Once the Milottes found a likely beaver location, the next step was to set up the camera with an unobstructed view of the nearest aspen trees, which the beavers were expected to attack and fell in their nocturnal dam-building operations. Time and again the camera was set up in such locations only to have the beavers fail to appear.

One of the first things the Milottes did, once they found a likely beaver habitat, was to erect a high platform for a camera blind. This was constructed mainly of two-by-fours. One night, beavers cut down one of the two-by-four supports and carried it off to the site of their dam.

In capturing the dam-building, food-providing and family life of the beaver, the Milottes on their riverside camera setup consumed innumerable bags of Crackerjack, whittled and knitted and otherwise whiled away the tedious hours, week after week, from spring thaw to winter's first snowfall, in order to complete the life-cycle of the animal. The cautious beaver chooses to work only a brief hour each day, and this just before sundown with its rapidly failing light. More than 90% of Milotte's filming was done at dusk, after sundown. Using mostly a 4-inch telephoto lens on his Cine-Special, such shots were made at f/1.4. Unless inadequate light prevented, Milotte used two filters over his lens and Commercial Kodachrome film. One filter was the usual conversion filter and the other the correction filter recommended by Eastman.

He used a Weston exposure meter consistently and didn't try to correct for the late afternoon light. The use of Commercial Kodachrome, he says, made possible a lot of difficult shots in poor light.

One of the highlights of "Beaver Valley" is a sequence of underwater shots of beaver and otter. These were made possible through use of a crude but nevertheless effective homemade submarine camera box, constructed on the site.

One of the demands Walt Disney makes of those filming material for his True-Life Adventure films is that nothing but authentic nature must get on the film. No phoney emphasis, camera trickery or false editing must "manufacture" or distort the natural fact. And neither time nor expense is permitted to interfere with the expert labors of the cameraman.

Disney makes an interesting comment on the function the camera plays in picturing wildlife for his featurette productions, as contrasted to his creation and comical use of animated fable animals:

"In the authentic drama of wild life," he says, "the entertainment provided by the factual camera must approximate the excitement and emotional effect we get through our animals of fable — like Mickey Mouse, Donald Duck, and the ones created for 'Bambi,' 'Dumbo,' 'Pinocchio,' 'Song Of The South,' and 'Cinderella.' To employ film and camera with the comprehension of the very spirit of nature behind all its exciting activities is in itself an art akin to the arts of animation."

Alfred Milotte's qualifications are strikingly revealed in his spectacular lensing of the beaver and fellow creatures of the Montana swamplands in nature's own colors. In addition, he has an acute sense of the picturesque and of unposed drama in the battle for existence which spells entertainment as well as information on the screen.

Today, the Milottes are in the field again, shooting the life story of some of North America's biggest mammals for a forthcoming True-Life Adventure. While on these assignments, Alfred Milotte is always on the alert to pick up extra footage as stock shots which Disney can use in supplementing his regular feature output of animated cartoons.

Thus these explorations into the realm of nature, to be followed at the rate of one or two a year, will keep the Milottes—both Alfred and Elma—busy for sometime to come.

"It's a wonder we're still married, after all the trials of trail and camp we have endured," said Elma, "but Al is a wonderful guy to go on trips with and we know how to deal with our problems in a calm and reasonable way."

And besides, both *love* their work. How can they fail?

STANCIL-HOFFMAN MAGNETIC RECORDER

(*Continued from Page 264*)

wow-free recording is a balance tight-loop filter of special design which minimizes flutter. The powerful torque motors of the recorder enable the machines to handle reels of magnetic film up to 2100 feet capacity. According to the manufacturer, the S5 is the only recorder of this film capacity offering the advantages of rewind and reverse fast forward dual-speed.

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assembly is of plug-in construction, affording instant replacement without the need for direct factory attention. Azimuth or head alignment adjustments are accessible from the front and the heads are rigidly locked in correct position, although easily moved and adjusted, when necessary. The alignment, once set, cannot shift with normal handling and use.

A footage counter operates both forward and reverse, adding or subtracting the amount of film passing through the recording head. Where desired, remote footage counters may be installed and connected to the interlock wiring system. All functions of operation of the recorder are relay controlled, so it is a simple matter to add any number of remote controls both for recording and reproducing.

Stancil-Hoffman S5 units may be had in portable carrying cases, for rack mounting, in rack cabinets, or in consoles. Wiring of the units is independently terminated so that the cordage may be rearranged, or units conveniently relocated at any future time. A typical rack-mounted installation is to be seen in the accompanying photo showing Stancil-Hoffman equipment in the recording department of the Moody Institute of Science. Of interest is the fact that in order to use space most advantageously,

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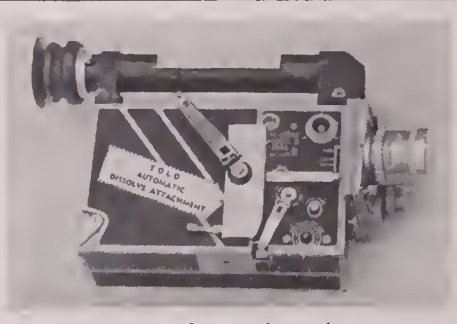

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S5 units are generally operated vertically; however, the equipment may be operated in either plane—vertically or horizontally.

Another interesting fact is that with each Stancil-Hoffman recorder, there is included without extra charge an S-H model BE1 bulk magnetic film eraser with capacity for reels up to 16 inches in diameter. This accessory makes it possible to erase full reels of recorded film without having to unwind and then rewind them. With the reel placed on the bulk eraser, a switch is thrown and in the space of seconds, powerful demagnetizing forces clear every inch of the film of all recording—make it ready for instant use again.

For the technically minded, here are some additional facts concerning Stancil-Hoffman recorders. Frequency response on the 16mm equipment is plus or minus 2 DB from 45 to 7500 cycles; with 17.5 mm film, the rate is the same up to 15,000 cycles. Flutter or wow, with 16mm film, is less than 0.2% RMS; with 17.5 mm it is less than 0.1%. The 16mm magnetic film equipment affords a playing or recording time up to one hour; and while this is reduced to 24 minutes for the 17.5mm recorder, this capacity may be enlarged on special order.

The playback signal-to-noise ratio and distortion is the same for 16mm as for 17.5mm—maximum total harmonic distortion is 1.5% from full normal level. Signal-to-noise ratio will be at least 50 DB on playback.

Among the well-known concerns who now have in use or on order Stancil-Hoffman S5 recorders are: King Film Productions, Atlanta; Encyclopedia Brittanic Films; Ambassador Films, Chicago; Great Commission Films; Sampaguita Pictures, Inc., Manila; Univ. of Minnesota; Univ. of Southern California; Music Corporation of America; Producers' Service of Hollywood; KLAC-TV; Motion Picture Service Co., San Francisco; and Sovereign Film Studios, Canada.

Base price of the S5 recorder is around $2142.00—a complete system costs about $2500.00, less microphones—all FOB Hollywood. Stancil-Hoffman film phonographs are also available as companion equipment.

VIEWFINDER GROUND GLASS

(*Continued from Page 262*)

was the silent aperture, and in addition there were two sets of center lines, horizontal and vertical.

During this time the Mitchell camera became the standard of the industry, and the Society of Motion Picture Engineers published the standards of the full (silent) aperture area and the sound (Academy) aperture with specifications for proper use.

The next step in new development occurred during World War II. The Signal Corps Photographic Center in New York City had under its direction approximately two hundred camera crews. These crews operated throughout the world and made educational, training, documentary and newsreel films. The productions were as a matter of course photographed on standard 35mm film. However, the majority of release printing was done on 16mm film for ease of distribution, handling and showing. This introduced a new problem and development. When 35mm film is reduced onto 16mm film a certain amount of the picture area is cut off (lost) in the process. An added loss or cut off is caused by the aperture of the 16mm projector. Consequently "cutting off" titles, heads, and other important details and information at the sides and top and bottom occurred by the time the reduction print was viewed on the 16mm screen. At the beginning an attempt was made to make allowances for this discrepancy by sending out directives and diagrams to the cameramen in the field asking them to compose for this masking. This method proved unsuccessful. It was seen that a new ground glass for the camera was necessary, indicating a 16mm cut-off line. This development was accomplished jointly by the Camera Branch of the Signal Corps Photographic Center and Mr. Leopold E. Greiner of the Greiner Glass Industries Company. (See illustration No. 2.) The 16mm cut-off viewer ground glass was widely distributed in the armed services and very satisfactorily solved the problem. This ground glass has also been in considerable use by civilian producers since the close of the war.

The successful development of this ground glass led the Signal Corps Photo Center and Greiner Glass Industries to experiment with other types of ground glasses for special purposes. One of the glasses developed and produced was for special camera effects. This ground glass subdivided the projection aperture into 64 squares. (See illustration No. 3.) This was very useful in aligning titles, matts and special effects, becoming a useful adjunct to a growing line of viewfinder ground glasses.

The advent of television introduced still a new problem to the motion picture cameraman. Films that were designed to be shown on television home receivers were subjected to a new type of masking. Television sets in the beginning used the round (circle) tube. Later, set manufacturers using round tubes, masked the top and bottom (flat), leaving the sides curved. Eventually the full rectangular tube was developed, and it is this tube which is coming more and more into wide use for practical purposes. It was obvious that with the variety of TV set masks, important elements and information of the picture and title could easily be cut off and lost before being seen on the television home receiver, because no two home television receivers transmit picture areas alike, and also because no practical standards and practices are now at hand for adjusting the feature of home TV receivers. Again a special viewfinder ground glass was developed, this time for television program film productions.

Greiner Glass Industries Company used the TV alignment specifications of The Society of Motion Picture and Television Engineers and designed a TV viewfinder ground glass adhering strictly to the specifications as set forth: a TV alignment ground glass scribed with three rectangles, representing (1) a standard camera aperture size .868" x .631", (2) a TV projection aperture which is narrower by approximately 3% on the sides of the frame (rectangle) than on top and bottom, and (3) an active picture (home receiver tube) area aperture, representing 80% of the TV pro-

(ADV.)

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jection aperture. The 80% area is important when titles within close areas or confines are photographed, and will remain an integral part of the ground glass. The 80% active area (3) is useful in the preparation of film carrying important information such as advertising copy and illustrations. It has become a general practice to "overshoot" this active picture area (3) by approximately 3/5 of the area between (3) active aperture and (2) TV projection aperture, as the largest area to be filmed for TV production. Tests by the Society of Motion Picture and Television Engineers indicated that the 80% area is the area which can be counted upon to reproduce on the average home television receiver tube.

This TV viewfinder ground glass has been most useful to cameramen and producers who use it and abide by its standards in making films for television that will be seen to their best advantage on the average home TV receiver set. (See Fig. No. 4.) Greiner Glass Industries Company made exhaustive tests over a prominent New York City TV network and has proven by means of the station monitor board that nothing has been left to chance and guesswork. The engineering staff of the network agrees that when the scope and purpose of the pattern is followed, good resolution and well reproduced films for TV are the result.

The title of this article "The Evolution of the Viewfinder Ground Glass" is only partially accurate. Perhaps rather than the word evolution we should say that the viewfinder ground glass, like Topsy, "just growed." At any rate, it has come a long way from a plain piece of glass with a frosted surface, to an extremely accurate, highly valuable tool of the cameraman.

NOTE: Joseph V. Noble, the author, served with Signal Corps Photographic Center at Long Island City, New York, during World War II, and was responsible for much of the Corps' development work. He was connected with Philco research and development prior to World War II.—ED.

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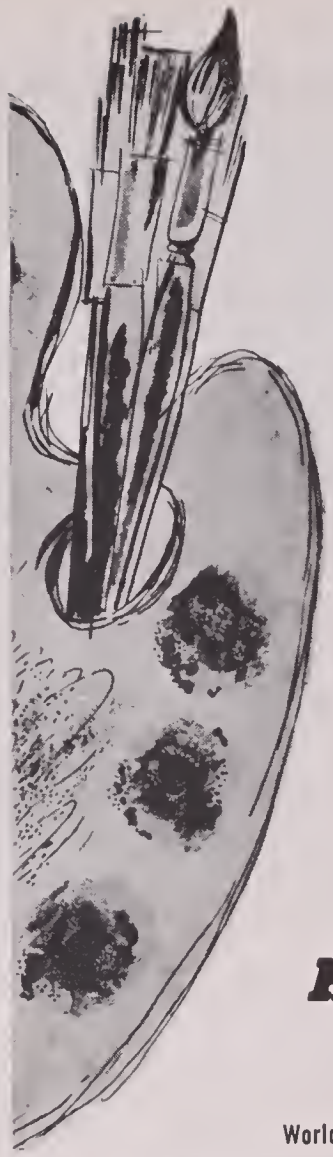

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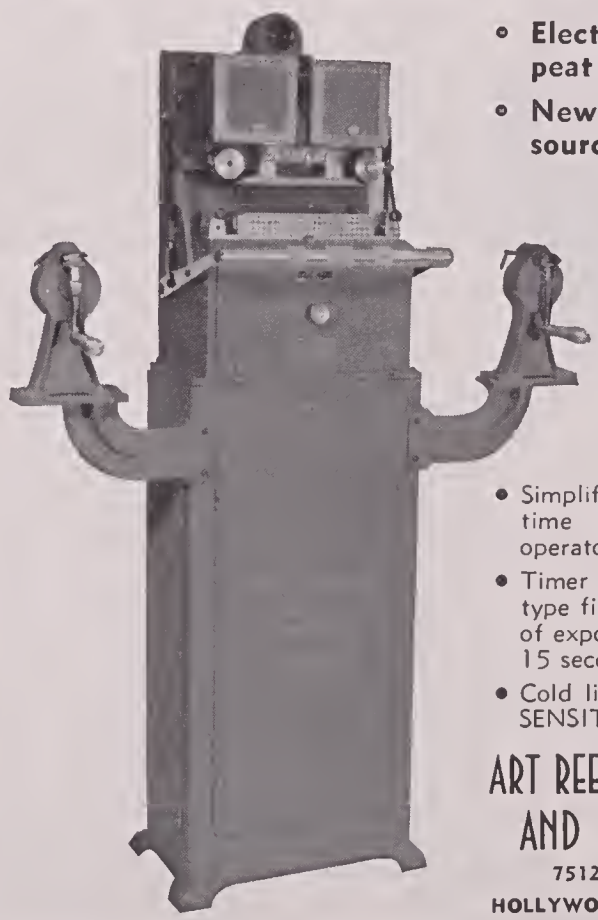

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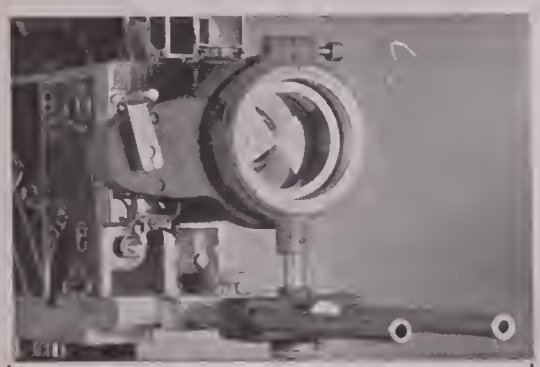

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DETAILS of a new combination aerial combat-reconnaissance camera have been announced by its manufacturer, Bell & Howell Company of Chicago. Designated Type A-6 by the Air Force, it is a light-weight, portable 35mm motion picture Camera designed to Air Force specifications by the company in cooperation with Air Force engineers. Substantial Air Force orders have been received for the camera. It has already recorded combat operations in the Korean air war. Mounted in TF33 aircraft, flying behind rocket bearing fighter planes, the camera records the rocket's impact on the target area.

Installed in the nose of reconnaissance aircraft, the camera records enemy-held terrain and fortified positions. The films are later evaluated by intelligence officers to assist in working out tactical operations.

A unique feature of this 35mm camera is a pre-threaded external film magazine. The magazine may be removed from the camera and replaced with another in ten to fifteen seconds.

The camera, installled with an electric motor drive in aircraft, may be operated by the pilot in reconnaissance fighter planes by remote control. A red light flashing on the instrument panel indicates that the camera is taking pictures.

In heavier aircraft the camera is operated by another crew member. Mounted on a movable tripod-like bracket, it photographs bomber formations and tactics of attacking enemy.

The camera is also used on the ground for taking motion pictures of aircraft landings and take-offs, and for photographing tests of experimental aircraft.

The camera is designed to operate at the temperature extremes of a hot tropical run-way or the sub-zero cold of an altitude of 40,000 feet.

To keep the film from stiffening and the lubricant flowing freely at below zero temperatures, a "built-in" film magazine heater is provided. It is equipped with electrical heating coils, thermostatically controlled.

The camera's new type viewfinder was designed especially for aerial combat use. A moving object is easily framed and followed with the bright finder. The finder image seen by the cameraman is in focus and superimposed upon a completely unobstructed field of view.

A three-lens turret makes it possible to shift from a normal to a telephoto lens with ease. Lenses with focal lengths from one to ten inches are supplied with each camera and any three may be used on the turret at one time.

Movie Collection

Seven hundred films dating from 1893 to the early sound films have been collected by James Card, assistant curator in charge of motion pictures at the George Eastman House, Rochester, N. Y. Most countries producing films are represented in the collection. Earliest film in the collection is Thos. Edison's "Fatima," produced in 1893.

ECONOMICAL TV FILMING

(*Continued from Page 269*)

they are run through a synchronizer together, and whenever a marked portion of the master film is found the corresponding marked section of the slave film is spliced in. Since the two films each carry the same sound tracks (single system sound) and the marker lamps are positioned so that the cuts occur at the same relative positions on each film, no sound is lost and the presence of the 26-frame sound lead does not introduce any problems in sound or picture editing. Thus, if only one print is required, the spliced master and slave films can be used on the air. Or, if copies are needed, they can be made by printing from the "composite" print.

This is a simple system and many refinements can be added. For example, the directors panel has a three-way switch with "Master Run," "Slave Run-up," and "Slave Shoot" positions. In the first position only the master camera runs; in the second, *both* cameras run, but the marker lights do not come on. This switch is used to allow the slave to come up to speed before cutting the action to it. In the third position the marker lights come on and the slave telltale goes on. Of course fades could be made in the cameras by adding synchronized irises to them.

When using this system film production requires a certain amount of preparation on the part of the producer or director. If, for example, a film of a dance band is to be made, it will very likely be necessary to include long, medium, and close-up shots of it as well as the vocalists. In the usual method, if pre- or post-recording was not to be used, it would be difficult to get intermingled long shots and close ups without starting and stopping the orchestra. In the double single system the master camera is set for an establishing shot with perhaps a wide angle lens. After the desired footage has been exposed on this scene the slave camera is started from a closeup position of the orchestra leader. While the slave camera runs the master is prepared for a medium shot of the brass section by selecting a one-inch lens and lining up the shot. On cue from the director, the slave camera stops and the master camera (which has been running all this time and recording both sound and picture—although this footage is only for protection in case anything went wrong with the slave shot) resumes operation and is the active camera. Of course, during the time that lenses are being changed on the master camera the picture image is of no use, since it

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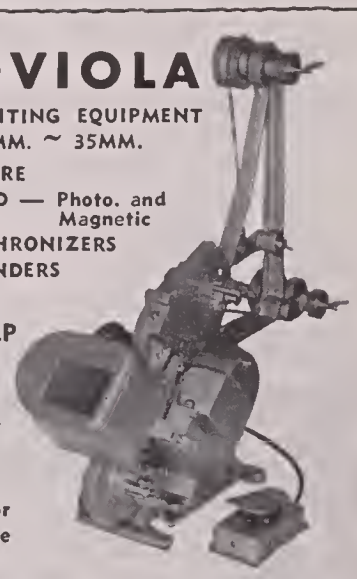
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will be out of focus as well as improperly exposed.

The next shot may call for an extreme closeup of a pretty singer or some other business, which requires a different lens or camera position. By cutting the action to the slave camera at the proper moment a perfect transition to the new shot can be made and the film splice will be no more difficut to make than an ordinary silent one since the sound lead is automatically taken care of in the duplication of sound track on the two strips of film.

Another example of this use might be a conversation between two people. If only one sustained angle was used for a long talk it would become quite boring for the audience. On the other hand, were ordinary single system used, where the camera position would have to be changed after each line of dialogue, this would require greatly increased shooting as well as posing many problems of sound matching and synchronizing. However, by using the two cameras and cutting from one to the other—in rhythm with the dialogue, only a very short time would be required to shoot the sequence if the actors knew their parts and delivered their lines without a fluff.

A saving of film could also be effected if the master camera ran intermittently also, in the same manner as does the slave. But the amount of film saved would not be very great unless very long sequences and productions were attempted. It would be a relatively simple matter to insert an automatic delay switch to bring the cameras up to speed before making the cuts.

Although the Auricon "Pro" was used for this experiment, and of course worked very well, it could also be applied to the "Cine Voice," or the newer Berndt-Bach "Super Pro." In fact, the latter with its 33-minute film capacity would be ideal for use in this system.

Note [1] See also Tele-Tech, page 37, June 1951.

Note [2] The author is also author of *Movies for TV* published by Macmillan, N. Y., December 1950.

DRAMATIC DOCUMENTARY APPROACH

(*Continued from Page 266*)

or cutting. For this reason he naturally expects major studio excellence in any picture he takes time to view, even though it be a commercial or documentary film. To meet the demands of both client and audience, we have developed an approach that combines the technique of the photoplay with the specific requirements of the commercial film."

The latest Carillon production, a 16mm color film for U. S. Gypsum titled "Within These Walls," is an excellent example of this dramatic documentary approach. A four-reel feature depicting the development and use of mineral wool as an insulating material, the film goes far back into history to reproduce scenes of outstanding beauty and audience appeal. Much of its success is due to an excellent script slanted to entertain as well as to inform. The result is a picture which, without obvious commercialism, does a subtle job of selling the sponsor's product while at the same time entertaining the audience.

"Within These Walls" traces man's need for a perfect insulating material back as far as the Roman occupation of Spain, when cork was widely used as an insulating material. We see also how similar problems were solved in cavernous medieval castles and in peasant huts, in Indian pueblos, in Eskimo igloos, in a Welsh laboratory, and in an American home of the Victorian era. All of these sequences are staged in elaborate settings with a great deal of production value.

Perhaps the most exotic set is that simulating a Hawaiian village during the days of Captain Cook. Complete with jungle and native huts, this elaborate set was constructed on the sound stages of the Charles Chaplin Studios in Hollywood, as were most of the other settings. The scenes filmed in this village were skillfully intercut with vivid footage of an erupting volcano to emphasize an important story point.

In addition to these historical settings, the script called for two modern homes (each with a practical kitchen laid out by the kitchen planning division of the Southern California Gas Co.), a modern laboratory, manufacturing locations and home construction locations. In all, thirteen major settings were used, both on the stages and away from the studio.

While the film was produced on a substantial budget, the finished product looks as if it cost twice as much as it actually did. This effect was produced primarily by means of intelligent planning. No detail was spared to give the film the utmost production value. In addition to the elaborate sets, a highly trained major feature production crew

was used, a cast of 62 principals, 35mm sound by Glenn Glen, and a complete original musical score. In short, every element of production was the very best that Hollywood production facilities had to offer.

Since the script called for approximately 60% narrated sequences and 40% direct dialogue, advance planning made it evident that much time and costly stage rental could be saved by having two separate units shooting simultaneously on the stages. The problem of viewing daily "rushes," in order to check footage before important sets were struck, was solved by a special arrangement with Eastman's Hollywood laboratory whereby the Kodachrome footage could be processed as soon as the day's shooting was completed, and picked up at 8 o'clock the next morning to be viewed immediately by the director and the cutter. In this way, a constant check was kept on the quality of the footage.

Before a camera turned, Carillon aided by production manager Carl Pingitore and unit manager Oscar Lau planned every sequence down to the last detail. A good many short cuts in shooting were devised, but none that would detract in the least from the quality of the final product. Every move of every player was worked out in advance on miniature sets. Major settings were constructed side by side, so that one set of lights rigged on a single parallel between them could be used to light both sets. When shooting on the one set was completed, the lights could be quickly swung around to the other set and the lighting blocked in while the rest of the set-up was being executed.

The use of top-notch technicians proved a major economy in terms of operating efficiency and subsequently in time saved. In one factory location, for example, 36 separate set-ups were completed in one day. In order to insure perfect continuity and eliminate the necessity for retakes, the cutter was constantly on the set as continuity advisor.

One innovation developed on the picture resulted in a great saving of time and in much smoother flow of action in the film. For economy's sake, all professional films are shot out of sequence, the shots being grouped for maximum efficiency. This means that a medium shot may be filmed several hours or even days after the long shot which it immediately follows in the script. The major problem has always been that of matching cast positions and overlapping action between continuous scenes. A script girl customarily checks these details, and her vigilance goes far toward insuring visual continuity. But during the filming of "Within These Walls," a Polaroid

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Filming Must Go On!

WITH BLOOD streaming down his face, Japanese newsreel cameraman, Hisaya Matsumoto, 34, keeps his Bell & Howell Eyemo camera going to record the violent clash between Korean demonstrators and Tokyo police at the Korean High School, recently. Twenty-seven policemen were injured, ten seriously, when fights began during a protest meeting by 2,000 Koreans. Fifteen of the demonstrators were hurt in the fighting. (Acme Photo).

Land Camera was used to shoot continuity stills. After each good take, the actors "froze" in position, and a still was shot with the Polaroid camera. The picture was developed in the camera in a matter of seconds, and became available for use in checking details of position or gesture for other set-ups within the sequence.

It is the usual practice to underscore a commercial film with "canned" music from a library, but "Within These Walls" (like other Carillon productions) has the advantage of a complete original music score. Written by imaginative young composer Hoyt Curtin, the music is precisely tailored to the changing moods and locales of the film. Special themes were included to point up such scenes as the erupting volcano, the Hawaiian village, the Spanish town, the Indian pueblo, the Eskimo wasteland, an ocean voyage in a schooner, as well as various manufacturing sequences. The result is a musical score perfectly integrated to the demands of the film.

Special mention should be made of the scene design and set dressing. With so many elaborate sets, there might have been a natural tendency to cut corners in this department. Instead, no effort was spared to make the sets as complete and as authentic as possible. Costumes, likewise, fit in perfectly with the demands of the script.

"Within These Walls" is the latest of a trio of commercial films made by Carillon for the same client. "Secrets of the Masters" dealt with paints and pigments. "My Father's House" treated the subject of complete remodeling of old houses. All three films, besides putting over the client's message, are so entertaining to watch that they might easily be used for purely educational purposes. This factor, plus the lack of blatant commercialism, makes the films eagerly welcomed by schools and other organizations that would not book an out-and-out commercial picture.

The enthusiastic reception given these pictures, not only by the client, but by the audiences that have viewed them, tends to bear out the theory that it is possible to produce within a reasonable budget commercial films that sell the client's idea, yet are sufficiently interesting that they hold up perfectly as entertainment films as well. George Carillon Inc., launching into a full schedule of commercials and dramatic films for television, again proves that Hollywood technical know-how is in a class by itself, no matter what the type or subject of the film.

CINE AMATEUR TODAY

(*Continued from Page 271*)

hands. With the ciné camera, every man can in accordance with his temperament reveal to us something of his personal philosophy, his reactions to life in the world and in society; he can take us inside his work and his activities; he can express in his own way, untrammeled by censorship or by commercial considerations, what he thinks, what he loves, and what he desires. For the language of the cinema is universal. On the plane of pure cinematic art, researches and experiments are open to him; he can strike out on new lines of technique, form and thought. What a magnificent testing ground. And what a magnificent introduction to the understanding of the cinema!"

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(*Continued on Page 287*)

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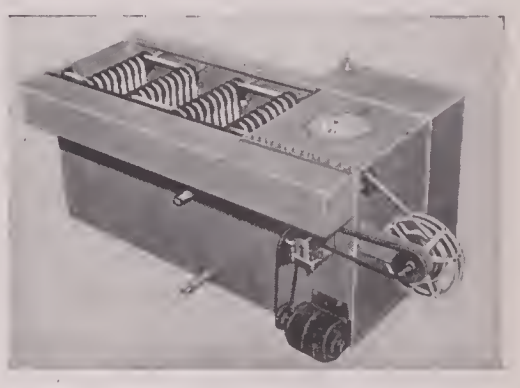

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Allied Artists

• HARRY NEUMANN, "Disc Jockey," with Herb Jeffries, Lennie Kent, Russell Morgan, Nick Lucas, Martin Block, Gene Norman, Bill Anson. Will Jason, director.

Columbia

• WILLIAM SNYDER, "Ten Tall Men," (Harlburt Prod. in Technicolor) with Burt Lancaster, Jody Lawrence, Gilbert Roland. Willis Goldbeck, director.

• PHIL TANNURA, "Chain of Circumstances," with Margaret Fied, Richard Grayson, Marta Mitrovich and Harold Kennery. Will Jason, director.

• HENRY FREULICH, "Corky of Gasoline Alley," with Scotty Beckett, Jimmy Lydon, Susan Morrow, Don Beddoe, Patti Brady, Kay Christopher, Dick Wessel and Gordon Jones. Edward Bernds, director.

• ELLIS W. CARTER, "California Conquest," (In Color) with Cornel Wilde, Teresa Wright, John Dehner and Alfonso Bedoya. Lew Landers, director.

• FAYTE BROWN, "Pecos River," with Charles Starret and Smiley Burnette. Fred Sears, director.

Independent

• HAL MOHR, "The Big Night," (Waxman-UA Prod.) with John Barrymore, Jr., and Preston Foster. Joseph Losey, director.

• JACK CARDIFF, "African Queen," (Horizon Prod.) (shooting in Belgian Congo) with Humphrey Bogart, Katherine Hepburn and Robert Morley. John Huston, director.

• ROBERT DEGRASSE, "Chicago Calling," (Arrowhead Pic. Corp.) with Dan Duryea, Mary Anderson, Gordon Gebert, Ross Elliott and Jo Dennison. John Reinhardt, director.

• STANLEY CORTEZ, "Fort Defiance," (Melford-UA Prod.) with Dane Clark, Ben Johnson, Peter Graves, Tracey Roberts. John Rawlins, director.

• ERNEST LASZLO, "Mutiny," (King Bros. Prod.) with Angela Lansbury, Mark Stevens, Gene Evans and Patric Knowles. Edward Dmytryk, director.

Lippert

• JACK GREENHALGH, "FBI Girl," with Csear Romero, George Brent, Audrey Totter and Tom Drake. William Berke, Producer-director.

M-G-M

• WILLIAM C. MELLOR, "Westward The Women," with Robert Taylor, Denise Darcel, Hope Emerson, John McIntire, Julie Bishop. William Wellman, director.

• ROBERT SURTEES, "The Light Touch," (Shooting in Italy) with Stewart Granger, Pier Angeli, George Sanders, Rhys Williams, Norman Lloyd, Mike Mazurki, Larry Keating. Richard Brooks, director.

• RAY JUNE, "Too Young To Kiss," with June Allyson, Van Johnson, Katherine Givney, Paula Corday and Larry Keating. Robert Z. Leonard, director.

• HAROLD ROSSON, "Lone Star," with Clark Gable, Ava Gardner, Broderick Crawford, Lionel Barrymore, Beulah Bondi, Moroni Olson, William Farnum and James Burke. Vincent Sherman, director.

• ROBERT SURTEES, "The North Country," (Technicolor) with Stewart Granger, Wendell Corey and Cyd Charisse. Andrew Marton, director.

• RAY JUNE, "Just This Once," with Janet Leigh, Peter Lawford, Lewis Stone and Richard Andreson. Don Weis, director.

• JOHN ALTON, "Singin' In The Rain," (Technicolor) with Gene Kelly, Debbie Reynolds, Donald O'Connor, Jean Hagen, Millard Mitchell and Douglas Fowley. Gene Kelly and Stanley Donen, director.

• ROBERT PLANCK, "Belle of New York," (Technicolor) with Fred Astair, Vera-Ellen, Keenan Wynn and Alice Pearce. Charles Walters, director.

Monogram

• MARCEL LEPICARD, "Let's Go Navy" with Leo Gorcey, Huntz Hall, Charlita, Dorothy Ford, Allen Jenkins and Tom Neal. William Beaudine, director.

• ERNEST MILLER, "The Longhorn," with Wild Bill Elliot, Phyllis Coates, Lane Bradford, Marshall Reed, Carol Henry and Stan Jolley. Lewis Collins, director.

Paramount

• GEORGE BARNES and PEVERELL MARLEY, "The Greatest Show On Earth," (Technicolor) with Betty Hutton, James Stewart, Cornel Wilde, Dorothy Lamour, Gloria Grahame, Charlton Heston and Lyle Bettger. Cecil B. DeMille, director.

• HARRY STRADLING, "My Son John," with Helen Hayes, Van Heflin, Robert Walker, and Dean Jagger. Leo McCarey, director.

• CHARLES LANG, "Aaron Slick From Punkin Crick," (Perlberg-Seaton Prod.) with Alan Young, Dinah Shore, Robert Merrill and Adele Jergens. Claude Binyon, director.

• JOHN SEITZ, "Warbonnet," (Technicolor) with Charlton Heston, Peter Hanson, Joan Taylor, Susan Morrow, Richard Rober, Don Porter, Ian MacDonald, Ted de Corsia, George Marshall, director.

• DANIEL FAPP, "Anything Can Happen," (Perlberg-Seaton Prod.) with Jose Ferrer, Kim Hunter, Kurt Kasznar, Eugenie Leontovich. George Seaton, director.

R.K.O.

• HARRY WILD, "The Las Vegas Story," with Jane Russell, Victor Mature, Vincent Price, Hoagy Carmichael and Brad Dexter. Robert Stevenson, director.

• NICK MUSARACA, "A Girl In Every Port," with Groucho Marx, Marie Wilson, Bill Bendix, Don DeFore, and Teddy Hart. Chester Erskine, director.

• J. ROY HUNT, "Overland Telegraph," with Tim Holt, Richard Martin, Gail Davis, Mari Blanchard. Leslie Selander, director.

• HARRY STRADLING, "I Want You," (Goldwyn Prodn.) with Dana Andrews, Dorothy McGuire, Farley Granger, Peggy Dow, Robert Keith, Mildred Dunnock, and Ray Collins. Mark Robson, director.

Republic

• WINTON HOCH, "The Quiet Man," (Technicolor) with John Wayne, Maureen O'Hara, Barry Fitzgerald, Victor McLaglen and Ward Bond. John Ford, director.

20th Century Fox

• CHARLES G. CLARKE, "The Golden Girl," (Technicolor) with Dennis Day, Mitzi Gaynor, Dale Robertson and Una Merkle. Lloyd Bacon, director.

• LUCIEN BALLARD, "Let's Make It Legal," with Claudette Colbert, Macdonald Carey, Zachary Scott, Barbara Bates and Robert Wagner. Richard Sale, director.

• JOE MACDONALD, "Viva Zapata," with Marlon Brando, Jean Peters, Margo, Anthony Quinn, Arnold Moss. Elia Kazan, director.

• MILTON KRASNER, "The Marriage Broker," with Jeanne Crain, Scott Brady, Thelma Ritter, Michael O'Shea, Zero Mostel and Frank Fontaine. George Cukor, director.

• LIONEL LINDON, "East Is East," (Jos. Bernhard Prod.) with Don Taylor, Cameron

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Mitchell, Yoshiko Yamaguchi and Marie Windsor. King Vidro, director.

• HARRY JACKSON, "Lydia Bailey," (Technicolor) with Dale Robertson, Ann Francis, Charles Korvin, and William Marshall. Jean Negulesco, director.

• LEON SHAMROY, "With A Song In My Heart," (Technicolor) with Susan Hayward, Rory Calhoun, Thelma Ritter, David Wayne and Max Showalter. Walter Lang, director.

Universal-International

• CARL GUTHRIE, "Finders Keepers," with Tom Ewell, Julie Adams, and Evelyn Varden. Frederick de Cordova, director.

• MAURY GERSTMAN, "Reunion In Reno," with Mark Stevens, Peggy Dow, Gigi Perreau, Frances Dee and Leif Erickson. Kurt Neumann, director.

• IRVING GLASSBERG, "The Door," with Charles Laughton, Boris Karloff, Sally Forrest, Richard Stapely, Michael Pate, Paul Cavanaugh. Joseph Pevney, director.

• CHARLES BOYLE, "The Cimarron Kid," (Technicolor) with Audie Murphy, Beverly Tyler, Leif Erickson, James Best, Yvette Dugay, Noah Berry, Jr., Palmer Lee and Rand Brooks. Budd Boetticher, director.

• CLIFF STINE, "Week-end With Father," with Van Heflin, Patricia Neal, Richard Denning, Gigi Perreau, Virginia Field, Jimmy Hunt, Janine Perreau, and Tommy Rettig. Douglas Sirk, director.

• RUSSELL METTY, "The Treasure of Franchard," (Technicolor) with William Powell, Julia Adams, Charles Drake, Rosemary deCamp, Tommy Ivo and Chubby Johnson. Ted Tetzlaff, pirector.

• CHARLES BOYLE, "Battle of Apache Pass," (Technicolor) with John Lund, Jeff Chandler, Beverly Tyler, Susan Cabot, John Hudson, Bruce Cowling. George Sherman, director.

• MAURY GERTSMAN, "Meet Danny Wilson," with Frank Sinatra, Shelly Winters and Alex Nicol. Joseph Pevney, director.

• IRVING GLASSBERG, "Here Comes The Nelsons," with Ozzie Nelson, Harriet Nelson, David Nelson and Ricky Nelson. Frederick de Cordova, director.

Warner Brothers

• TED MCCORD, "Force Of Arms," with William Holden, Nancy Olson, Frank Lovejoy, Gene Evans, Dick Wesson. Michael Curtiz, director.

• ROBERT BURKS, "As Time Goes By," with Gene Tierney and Ray Milland. William Keighly, director.

• WILFRED KLINE, "Bugles In The Afternoon," (Cagney Prod.) with Ray Milland, Helena Carter, Hugh Marlowe, Barton MacLane and James Millican. Roy Rowland, director.

• EDWARD B. DUPAR, "The Tanks Are Coming," with Steve Cochran, Eve Miller, Philip Carey, Paul Picerni and Eugene Baxter. Lewis Seiler, director.

16mm Sprocket Intermittent

General Precision Laboratory has produced a 16mm sprocket intermittent that is standard on four of the PA-series projectors developed specifically for television studios and theatre TV. New sprocket intermittent is said to provide greater efficiency in light transmission, reduce film wear and film guide abrasion and is virtually silent.

CINE AMATEUR TODAY

(*Continued from Page 285*)

ciné hobbyists, and particularly as a member of a club group.

Today we see this more evident in England, than in France perhaps, where almost everyone genuinely interested in making amateur films is a member of a cinema club or society. Many of these groups are quite limited in membership numerically, simply because each member is a worker. Many clubs discourage opening its membership to any but avid movie makers, and thus few clubs carry the deadweight of the "social" member who comes to meetings to see pictures but rarely makes anything worthwhile to exhibit himself.

In England, as nowhere else in the world of amateur movies, we see avid groups of ciné amateurs organized very much the same as professional production companies, the members serving in various capacities such as cameraman, director, lighting technician, grip, script clerk, etc., and working harmoniously together in the production of serious films. Most British filmers, while not lacking in individuality, prefer to work together. They learned early enough that a serious film cannot easily be made by lone workers.

Some idea of the scope of these activities may be had from a perusal of the "News of Societies" column of any issue of *Amateur Ciné World,* British publication devoted to amateur movie making. The June, 1951, edition reports on the current activities of 67 amateur organizations within the British Isles. The following condensations of some of these reports will give the reader an idea of the scope and calibre of the British amateur's group filming efforts:

"Plans are being made by the Astral Cinema Club for filming exteriors for *Deadline* in 16mm. Interiors have proved successful but technicians had to double as actors; actors are still urgently needed."

"Work has begun on interiors for the film being made for the Birmingham Education Committee by the Birmingham Cinema Society. Three groups within the club are each engaged in filming a short."

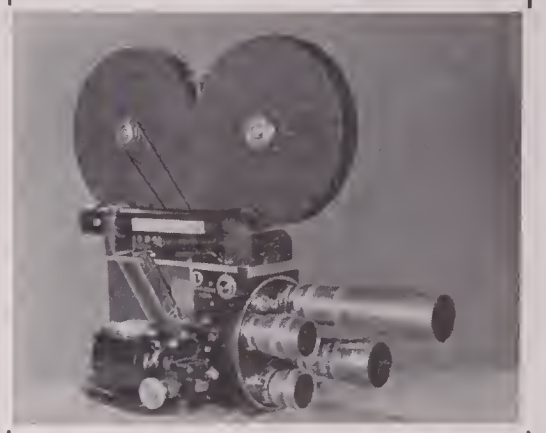
"Camerawork has commenced for *Ordeal?* — 9.5mm film being made by Birmingham Forward Films. Film consists entirely of interiors."

"The script for the first production to be undertaken by Centaur Film Unit has now been completed. This will be a comedy in 9.5mm and will be shot entirely out of doors."

"Backgrounds have now been drawn

(*Continued on Page 290*)

MORE CONVENIENCE with LESS EFFORT



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WHAT'S NEW

In Equipment, Accessories, Service

(Continued from Page 258)

Westrex Corporation, 111 Eighth Avenue, New York 11, N. Y., announces its new 1951 Series-1100 Standard Magnetic Recording Systems. These are available in

either fixed studio or portable models for use with 35mm, 17½mm or 16mm magnetic film.

Each complete system includes two dynamic microphones, a microphone floor stand, a 2-position Mixer-Transmission unit, a Magnetic Recording machine containing the power unit and auxiliary equipment, a complete set of spare glassware and fuses, and interconnecting cables for operating from single phase, 50 or 60 cycles, 115-volt power source. Complete system weighs approximately 175 pounds.

Complete technical data, prices, etc., may be had by writing the Westrex Corporation.

To meet increasing demand from small users for various types of motion picture film leader, Eastman Kodak Company has announced that it will now supply four different film leaders in bulk. These will be offered in both 16mm and 35mm widths in the following types:

1) Eastman No. 3 clear safety leader —a clear, transparent support approximately .0055" thick.

2) Eastman No. 6 black-and-white opaque safety leader, which is approximately .00825" thick, and is black on one side, white on the other. (Both this leader and the one described above will be supplied in standard lengths of 1,000 feet; 16mm rolls will be packed two to a can, 35mm one to a can.)

3) Eastman No. 6 green safety leader is approximately .0095" thick and was developed for use in processing machines where long life is most important consideration. This is supplied in 800 ft. rolls in both 16mm and 35mm.

4) Kodak white leader, which is approximately .0060" thick and is the leader that has previously been known as Customer's Leader when supplied in bulk. This is available in 8mm width in 50-ft. rolls and in 100-ft. rolls in 16mm. It is also available in 16mm in 1,000-ft. rolls.

Above leader stock can be supplied in either sound or silent perforations or unperforated.

The Dyson Tele-Viewfinder enables the TV director or cameraman to compose his scenes or conduct rehersals without resorting to use of the TV camera. Finder, operating on zoom principle, gives accurate fields for 90mm, 135mm, 8½", 13", 15" and 17" television camera lenses. Wide angle adapters are included for 35mm and 50mm lenses, which snap over the finder lens. Finder shows same ratio of magnification and perspective as

corresponding TV camera lenses. Priced at $39.50 each, the Tele-viewfinder is sold by The Camera Mart, Inc., 70 West 45th St., Yew York City,N. Y.

Two new panheads have been introduced by Testrite Instrument Co., 57 East 11th Street,New York 3, N. Y. The Gear-Drive panhead for movie cameras gives smooth, automatic panning action, plus a steady camera at any desired angle, for

which the gear-driven method it noted.

The Model C Panrite does not have the gear feature but is suitable for all movie and still cameras. This sells for only$2.95. The Gear head retails for $7.95, plus tax.

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(Continued on Next Page)

Classified Ads

(*Continued from Preceding Page*)

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When appearing next to this important "must" news, advertising in this magazine gains prestige and importance.

~

AMERICAN CINEMATOGRAPHER
Advertising Department
1782 No. Orange Drive, Hollywood 28, Calif.

THE CINE AMATEUR TODAY

(*Continued from Page 287*)

for the opening scenes of the feature cartoon, *The History of Walton,* being produced by the Ashley Film Unit. A complex multiplane technique is to be used to give a three-dimensional effect on a long panorama of Neolithic landscape. Experiments are to be made shortly on 9.5mm Kodachrome — a stock which is to be reserved exclusively for the Unit's cartoon work."

"Professional methods were adopted by the Coventry Film Unit when portrait photographs of all members were taken. Prints are being filed and will be used to assist the director in casting future productions. The construction of a camera boom for the club is being discussed."

"Work has begun by the Eccles Amateur Ciné Group on the special Festival Year production, *A Policeman's Lot,* 16mm comedy. To consist mainly of exteriors, it will be filmed against a village background."

"The instructional film, *Treatment In The Hot Pool,* which was made for the Spa Committee by the Grosvenor amateur film group, and which deals with the hot spring treatment of arthritis, was recently screened before 200 medical students in Edinburgh. *All That Glitters* is now well under way and the production of *The White Goddess* will be resumed shortly."

Needless to say, the ambitious film making activities evidenced by the above reports have no parallel among amateur groups in the U. S. This is not a jibe nor meant as anything but helpful criticism. Our amateur movie makers have for the most part lost their way along the road leading to a most rewarding hobby. It is plain, if only by drawing comparisons between the U. S. ciné cameraist and the European, that the former's great need is to join together and work collectively for the fruitful rewards the hobby holds for the serious ciné amteur.

Perhaps the reason we see so many amateurs produce one great film, never to repeat the success again, is that they found working alone far too demanding of time and resources. How much more fun could be had by playing just a small part in a production group—the cameraman, director, editor, or script clerk — working jointly in the production of many films, than in the solitary effort that so often results in dampened enthusiasm?

(To Be Continued)

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Motion Picture Film Department

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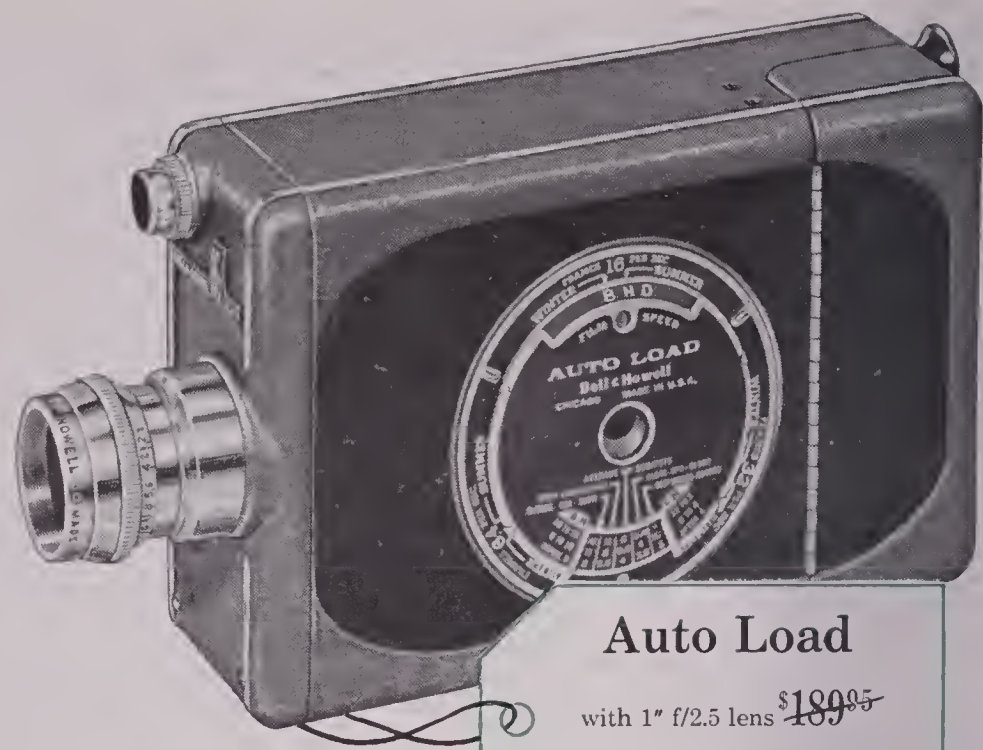

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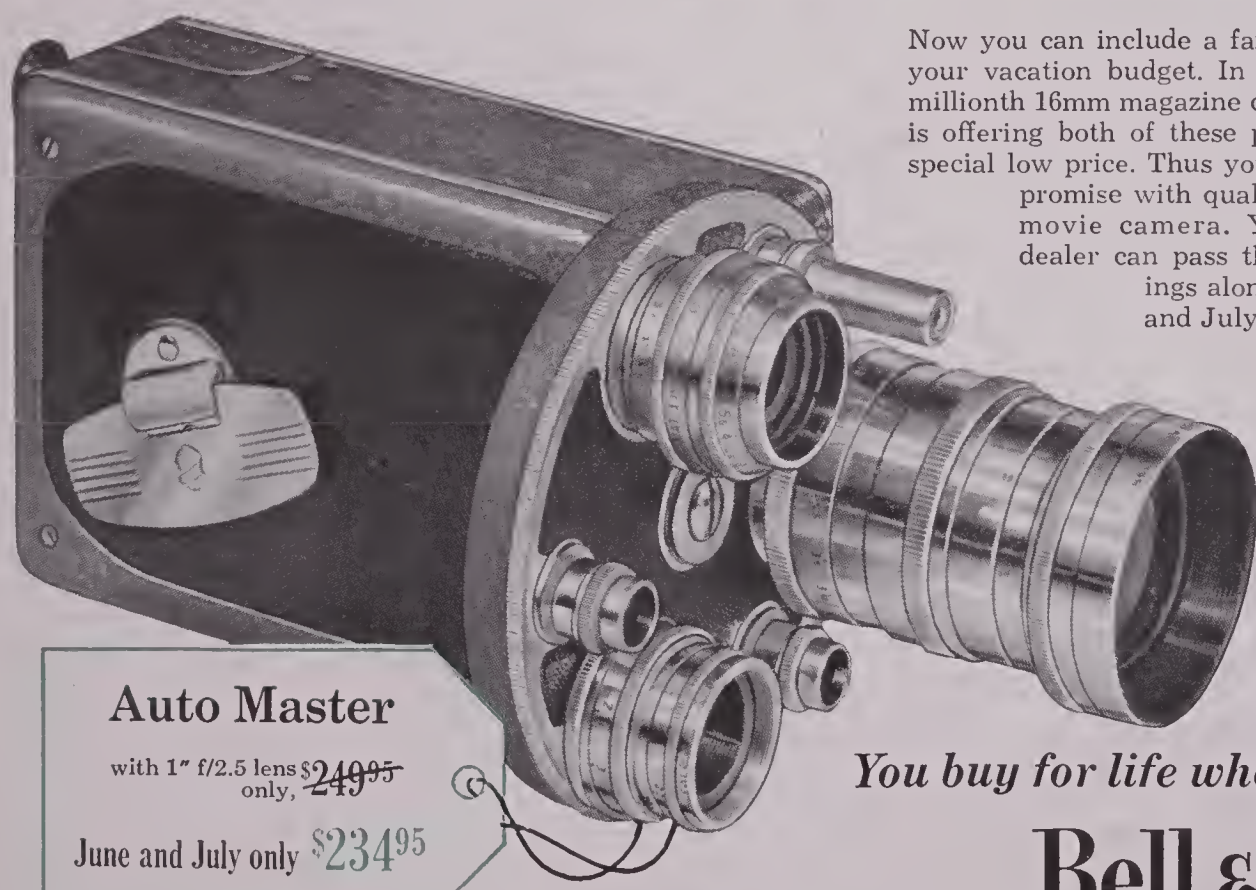

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COPY

Movie lot paradise for 20th's "Meet Me After The Show," photographed by Arthur Arling, A.S.C.

THIS MONTH • **3-Dimensional Movies In Color**
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AUGUST 1951

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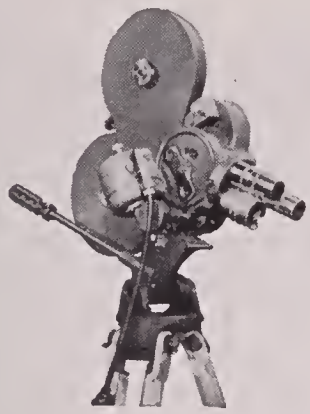

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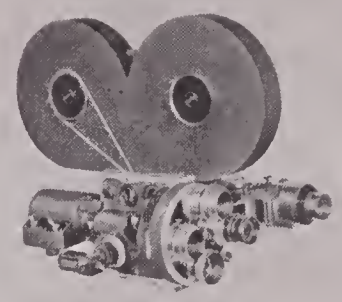

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ON THE COVER

ARTHUR ARLING, A.S.C., directs the photography for a scene for 20th Century-Fox's "Meet Me After The Show," starring Betty Grable and McDonald Carey. South seas lagoon scene was staged on lake in studio's back lot. Huge backdrop scaffolding in background is used when staging scenes on lake in miniature.

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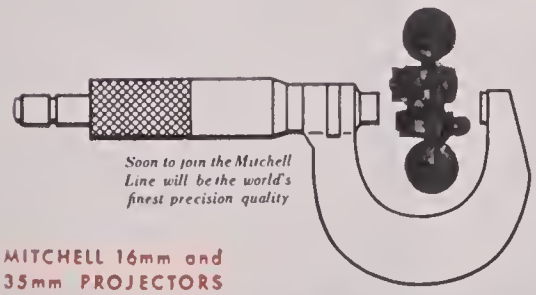

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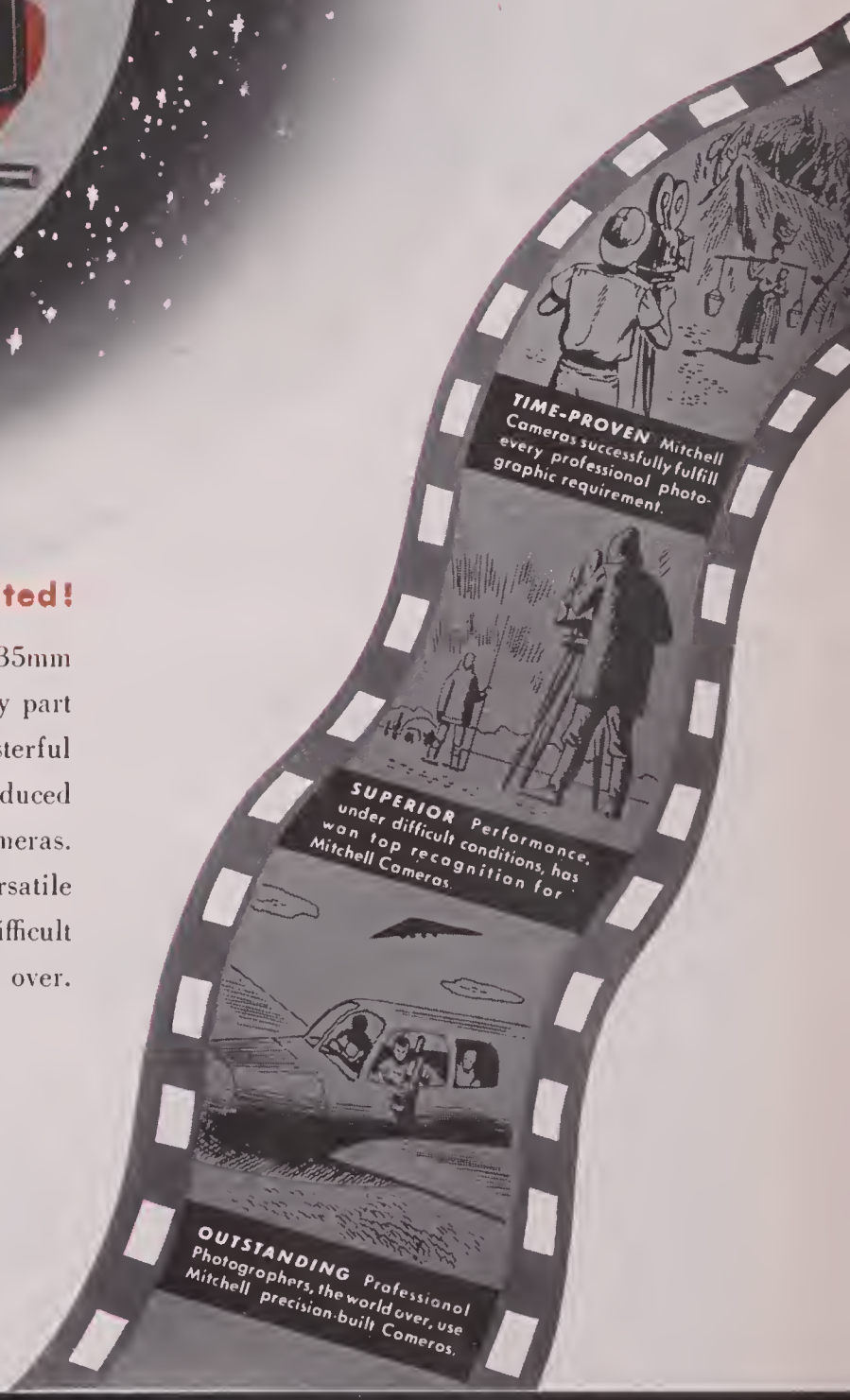

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Bulletin Board

CAMERAMAN Milton Krasner, A.S.C., (right) and director George Cukor discuss with pretty Jeanne Crain a take for "The Marriage Broker," forthcoming 20th Century-Fox production co-starring Miss Crain and Thelma Ritter.

Elmer Dyer, A.S.C., found time between his TV filming assignments for Louis Weiss to direct the photography of "Buffalo Bill," a wagon-train story with a western locale produced by Jack Schwartz at Eagle-Lion.

•

Ray Rennahan, A.S.C., and his camera crew doubled as volunteer firemen to fight an unscheduled forest fire that broke out while Paramount's "Denver & Rio Grande" company was shooting on location at Durango, Colorado last month.

•

Jack Russell, A.S.C., is presently in Singapore, shooting for Soundmasters, Inc. Assignment also will take him to London, Paris, Rome, Athens, Cairo, Bombay Madras and Colombo.

•

Producer-director Herb A. Lightman, preparing to direct the suspense thriller "Black Orchid" from his own original screen-play, plans a unique filming procedure for the feature. A 50-foot motor cruiser will be outfitted as a "floating studio" to accommodate lights, generator and camera equipment. Craft will also serve as quarters for production crew while at sea, as well as an "ocean-going camera dolly." Much of story is to be filmed at sea, and on shores of Mexico west coast.

•

"The North Country," MGM production mentioned in this column last month as being filmed in Technicolor, is instead being photographed in the new Ansco-MGM color process. Picture is MGM's first major production to be filmed with the new process.

•

Barton D. Keith, president of the Hollywood Hotel Company and formerly associated with Sam Hayes in the production of TV films, succeeds William Crespinel, A.S.C., as vice-president of Kinevox, Inc., following latter's disposal of interest in company to Len Roos, A.S.C., president of Kinevox.

•

Newly elected as Associate Members to the American Society of Cinematographers, are William A. Cushman and Norman F. Oakley, both of whom are executives in the Photo Products Department of E. I. DuPont de Nemours & Company, New York City.

•

David Bradley, whom Herb A. Lightman profiled in our May issue, is directing his initial picture at MGM. Bradley, once an avid amateur movie maker, and whose 16mm production of Julius Caesar displayed his talents to MGM's front office, was signed by the studio and carefully groomed for a major production directorship. His initial effort is "The Enemy," starring George Murphy and Nancy Davis.

Ernest Haller, A.S.C., leaves for India September 25th, where he will shoot three pictures for The Film Group, headed by Forrest Judd. Title of initial picture in series is "Monsoon." Two of the three pictures will be filmed in color. Assignment is Haller's first as a free-lance director of photography since terminating his long term contract with Warner Brothers Studio.

HALLER

•

Fred Whitney has joined the staff of the Society of Motion Picture and Television Engineers to take charge of test film technical operations. Performance testing is essential to efficient use of motion picture films in theatres, schools and television broadcasting. Test films available from the Society are the major performance standards available to all manufacturers and users.

•

Harry Dugan, for years a top travel film maker, has his most pretentious effort todate playing on Broadway. It's an Irish travelogue, which Dugan wrote, directed and photographed over a period of two years. *(Continued on Page 334)*

ROBERT SURTEES, A.S.C., (left) directing the photography of MGM's "The North Country," demonstrates to Stewart Granger novel fill-light unit which he developed for use with studio's new Ansco-MGM color process. U-shaped reflector holds nine blue photofloods, encircles camera lens and finder. Lights may be controlled in groups or in full assembly, are also controlled from dimmer switch.

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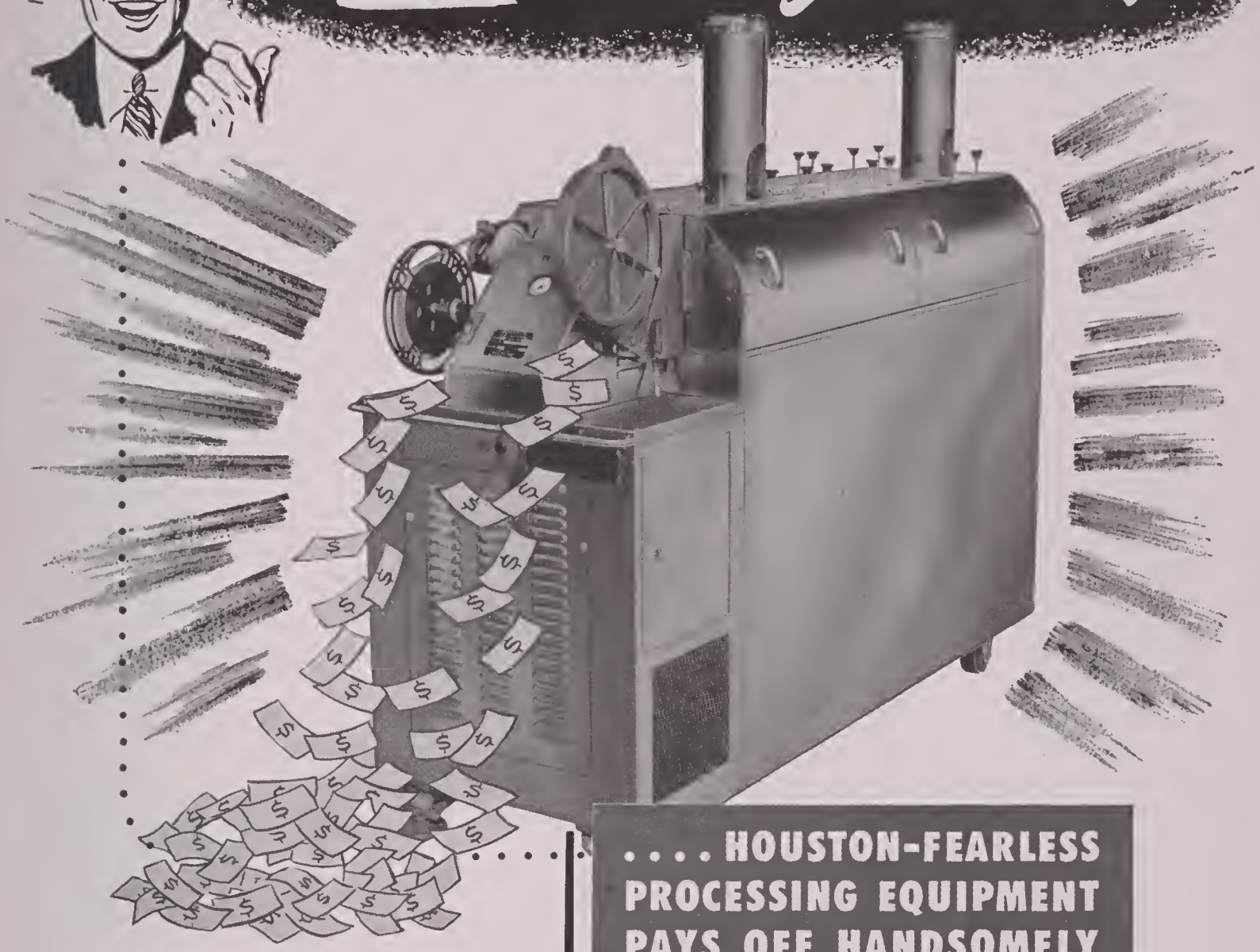

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Model 22 is the same high Houston-Fearless quality that has been standard of the motion picture industry in Hollywood and throughout the world for 20 years. Other 16mm and 35mm Houston-Fearless black and white and color equipment to serve your particular requirements.

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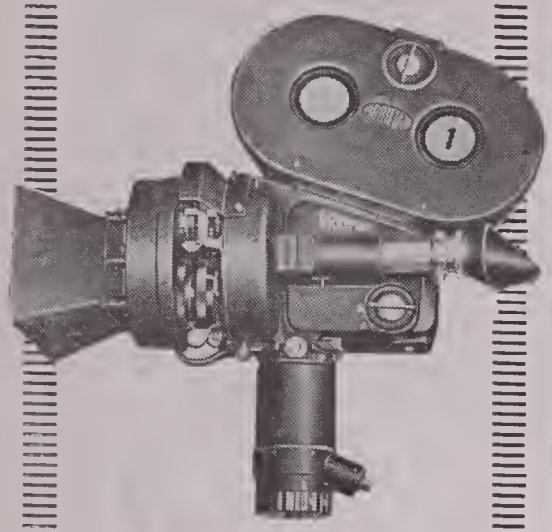

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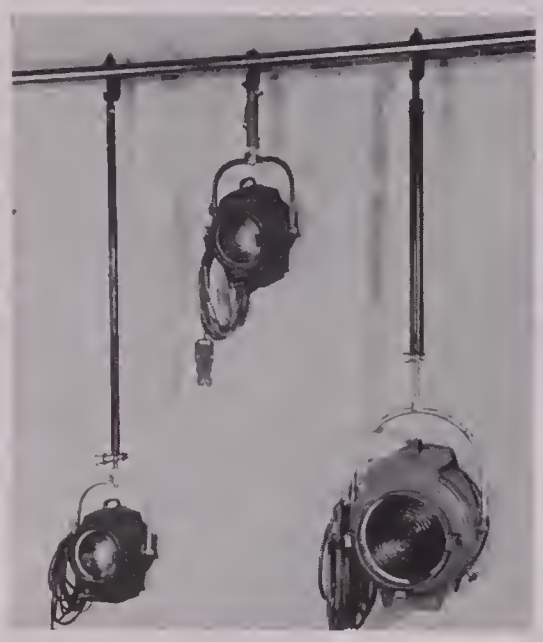
WHAT'S NEW

in equipment, accessories, service

PNEUMATIC LAMP HANGERS—J. G. McAlister, Inc., 1117 No. McCadden Pl., Hollywood, announces a new product of interest to TV stations—a pneumatic lamp hanger for mounting set illumination lamps from overhead pipe stringers. They are especially designed for use where space above pipe is limited or non-existant.

Pipe clamping device is an inverted



"V" which is placed over pipe. Unit may be rigidly locked to pipe by turning the tubular shaft from lower end. Lamp may be raised or lowered by releasing positive-locking latch at lower end of tube. An air lock within tube cushions raising or lowering action of lamp unit.

Two sizes are available, as illustrated. Either will support almost all types of lamps currently in use for illumination in television studios.

•

NEW RECORDER PROJECTOR—A new 16mm recorder-projector, providing the first means of directly recording commentary or musical background magnetically on the edge of 16mm picture film, has been announced by the RCA Victor Division of Radio Corporation of America. Announcement of new machine followed development of method for applying a stripe of magnetic oxide (for sound track) one-tenth inch wide on edge of 16mm films. Striping can be placed on film either before or after film has been exposed in camera, or even if film already has an optical sound track.

Tradenamed the RCA "400" Magnetic Projector, unit was displayed at the Annual Trade Show of Audio-Visual dealers in New York recently.

•

INFRARED AND ULTRAVIOLET DATA BOOK—A completely revised edition of its Kodak Data Book, "Infrared and Ultraviolet Photography," has just been announced by Eastman Kodak Company, Rochester, N. Y.

The new edition brings up to date all available data on Kodak films and plates for infrared and ultraviolet photography and information on their most effective use in both technical and general picture taking. Numerous illustrations, charts, diagrams, and data sheets make this a valuable book for both still and motion picture photographer. Price is 35 cents per copy at Kodak dealers.

•

NEW 8MM CINE CAMERA—Bell & Howell Company announces the latest addition to its line of 8mm cine cameras—the 134-V, spool-film-loading camera

with many new features, including improved exposure calculator, five speeds—16, 24, 32, 48 and 64 frames per second, and an attractive scratch-proof grey-black wrinkle finish. Weighing but one pound ten ounces, price of camera is $109.95, including Federal excise tax.

•

• **S.O.S. CINEMA SUPPLY** Corporation says no unusual engineering ability is necessary to operate the Bridgamatic

(*Continued on Page 334*)

Announcing

THE NEW AURICON "SUPER 1200"

16 MM SOUND-ON-FILM CAMERA . . . Featuring

★ Instant ground-glass focusing through the Camera lens, shows the exact frame and focus at all distances.

★ Self-blimped for completely quiet studio operation.

★ 1200 foot film capacity for 33 minutes of recording.

★ Variable shutter for fades, dissolves or exposure control.

★ Two independent finder systems in addition to ground-glass reflex focusing; one finder for studio use, the other for telephoto work.

★ $4,315.65 complete for "High Fidelity" 16mm single-system sound-on-film, with Amplifier, Microphone, and three Carrying Cases (lenses additional). Also available without sound equipment.

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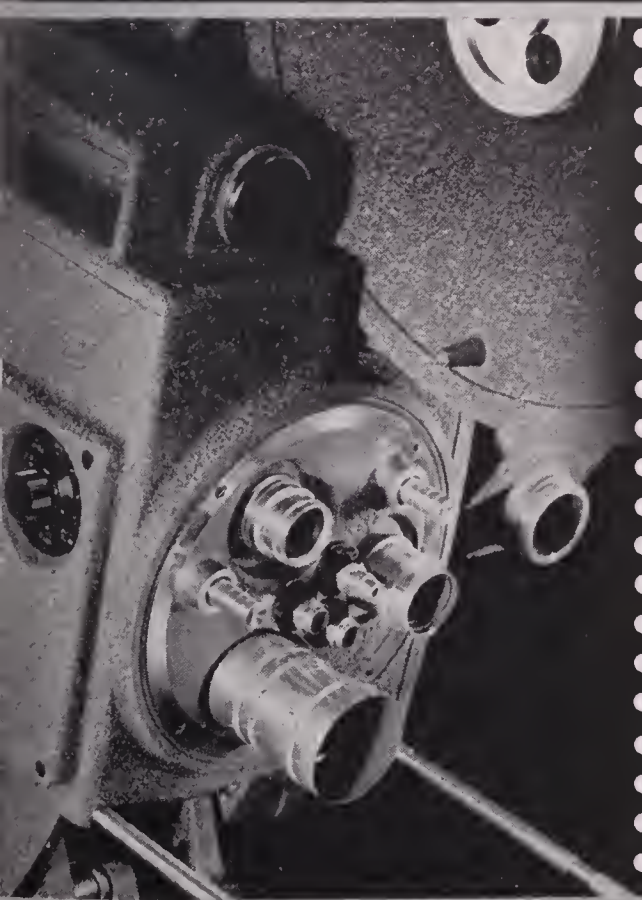


The quiet operation of the Auricon "Super 1200" is silent proof of precision design. Its only equal as a superb photographic instrument is another Auricon "Super 1200".

Auricon Hollywood

MANUFACTURERS OF SOUND-ON-FILM RECORDING EQUIPMENT SINCE 1931

THE COMPANY took advantage of naturally foggy days to shoot many of the atmospheric exteriors for "Showboat." Boat, in background, is largest movable prop ever constructed for a Hollywood motion picture.

"Showboat"—Example Of Well-planned Photography

Technicolor photography achieves new heights in pictorial excellence in MGM's greatest musical film.

By GEORGE SIDNEY

Photos by George Sidney and Eric Carpenter

NOTE: George Sidney and Charles Rosher, A.S.C., together have made three pictures at Metro Goldwyn Mayer studio — Sidney, the youthful director with an unsatiable yen for photography and Rosher, the old master painter with a Technicolor camera who recently completed the photography of "Showboat," which Sidney directed.

In the following article, Sidney, who recently was elected president of the Screen Directors' Guild of America, tells something about the cinematography of this picture and describes some of the unique procedures employed by director of photography Rosher that have made the picture a photographic masterpiece.

No mean photographer himself, Sidney became an avid camera fan at the age of ten, is now preparing for early publication a volume of photos which he personally shot with his Rollei camera during the filming of "Showboat."

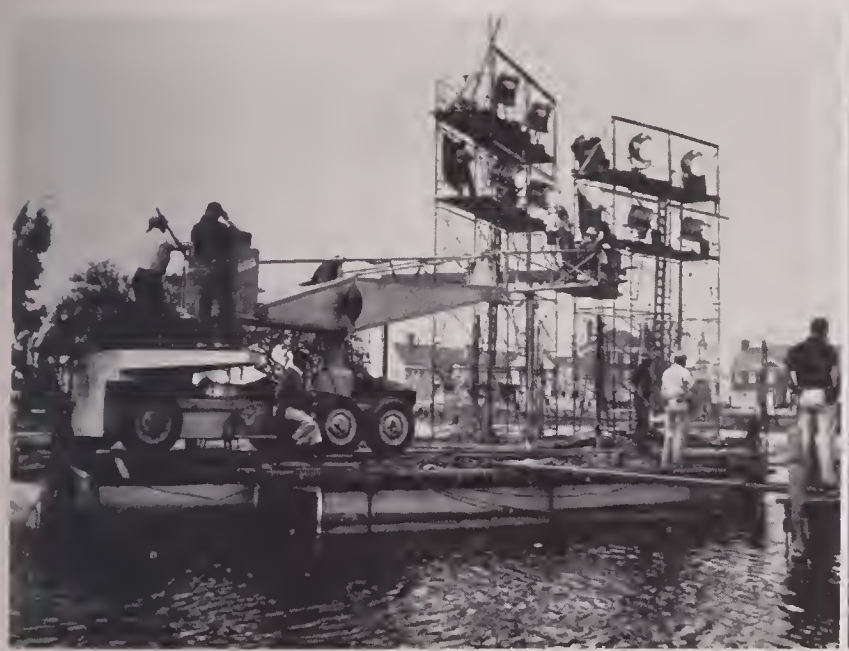
Before starting the production, Sidney personally scouted locations for the picture along the Mississippi river, photographing likely locations and river craft with his Rollei and 16mm ciné camera. Results were screened at the studio as an aid to preparation of the "Showboat" shooting script and the art direction.

Says Sidney: "No other picture in a long time has had such color quality, such consistency of color and lighting continuity.—EDITOR.

DIRECTOR George Sidney (with pipe) discusses composition of next shot with cameraman Charles Rosher, A.S.C., while producer Arthur Freed looks over assemblage of players on upper deck of the showboat "Cotton Blossom."

HISTORIC tree on MGM's lot three had to be removed to permit construction of lengthy dolly tracks for tracking shot. Cameraman Rosher (extreme right foreground) directs operation of crane.

HOLLYWOOD'S largest camera crane was mounted on a barge in order to make the scores of shots of action on the boat, and the many trucking shots of boat itself moving on the lake in lot three.



AUGMENTING vast lighting equipment used for exteriors were these giant arcs erected on parallels mounted on barges floating on lake. These enabled Rosher to direct "artificial sunlight" from any angle.

SHOOTING a scene for the opening of "Showboat." The Technicolor camera is at far left, out of picture, so that oil derrick, in distance is covered from camera viewpoint by tall tree at left of derrick.

THE DEGREE to which people become absorbed in a motion picture, and become subjectively involved in a kind of emotional third dimension, is the measure of a picture's success. Because motion pictures are a visual medium, a successful picture often depends on the cameraman's skill in enhancing the action pictorially, leading the audience into this emotional state.

"Showboat" is an example of this cinematographic ingenuity. Throughout its entire length, it is replete with deft cinematic touches that point up a player's role or enhance a situation with observable effect on the audience.

One example is the unobtrusive way the camera captures the moods of Howard Keel and Kathryn Grayson after they meet in the opening sequences, and follows them casually as they move about the boat, and through a number of candid closeups makes the audience feel with them the love - at - first - sight that motivates the story. It is director of photography Charles Rosher's camera artistry that leads one to feel the deep grief of Ava Gardner as she sings "Can't Help Lovin' That Man," and makes William Warfield's rendition of "Ol' Man River" the highlight of the picture critics have claimed for it.

Many unusual photographic problems were encountered in filming "Showboat." Most of them were anticipated early and plans consequently made for overcoming them in a series of preproduction huddles that took place before we started shooting. "Showboat" is the third picture in a row that Rosher and I have made together; so by now we have become pretty much of a team. He knows the kind of photographic results I like, and I know that no photographic effort is impossible for him. A photography enthusiast since I was ten, the camera has always been my most absorbing interest. Rosher, also became a photographic enthusiast at an early age. Today he is happiest when assigned to a color production permitting him opportunity to interpret the story in new pictorial accomplishments.

Those "old master" touches in many of the colorful scenes of "Showboat" were no accident. They were the end result of countless sessions when together we pored over endless volumes in my library of art and photographic books.

(Continued on Page 323)

FIG. 1—Simplicity of installing polarizing attachment on Bell & Howell 16mm projector is demonstrated here by the author, Major Robert V. Bernier, who developed the new method for three-dimension motion pictures at Wright-Patterson Air Force Base, Dayton, Ohio.

Three-dimension Movies, In Color

Alternate frame principle is basis of new method for making and showing "3-D" movies with ordinary cameras and projectors.

By MAJOR ROBERT V. BERNIER

Technical Photographic Service Section, Materiel Division, Wright Air Development Center

SIX FACTORS must be present to achieve the best results in three-dimensional color movies. These are light and shadow, perspective, color, focus reaction, movement of the viewpoint, and stereoscopic vision. All of these are present in the new system we have developed at Wright Air Development Center, Dayton, Ohio. The process became possible following the development of a barrel-shaped polarizer that revolves in front of the lens of the camera or projector. When films are screened by this system, persons in the audience wear polarized glasses that allow the left and right eyes to see alternately every other frame projected on the screen. The result is a true synthetic vision of the real subject itself.

FIG. 3—Direct drive polarizer attachment, showin barrel and mounted polaroid filter. The filter rotat before projector lens, is heart of the alternate fram technique described by author.

The success of future entertainment three-dimensional films, if and when they make their debut, is dependent not only on the appeal that this added feature might have, but also dependent on the quality of the screen image. Therefore present quality standards will have to be maintained or even improved upon.

To be sure, there are applications of the three-dimensional motion picture other than for entertainment purposes. These are principally in the fields of education, industry and science. Here, portability of equipment and low production cost are prerequisites to the use of such films. For this reason, 16mm film seems to be the choice medium for motion pictures of this type.

The original decision to concentrate effort on improvements to the alternate frame technique was based on the possible advantages which could be had by maintaining full frame standards and at the same time confine at least the projection to a

FIG. 2—Major Bernier aided by Master Sgt. John C. Blotner, Jr., prepare to shoot a scene for a three-dimensional color motion picture, using a Cine Special camera.

IG. 4—Polarizer attached to a Bell & Howell 16mm rojector which is specially equipped with a Morgana lm movement. This solved the excessive flicker prob- m. Polarizer is gear-driven by projector.

FIG. 5—Bell & Howell 16mm Filmo camera with stereo alternate frame selector. The camera mechanism is coupled with the gear train which drives a 180 degree shutter in front of the beam splitter.

FIG. 6—Clip of 16mm alternate frame stereo film exposed on double perforated Fastax film. Note difference in position of objects in R and L frames.

single standard film. Fig. 6 shows a sample strip of alternate frame stereo movie film. On projection the right eye will see every alternate frame, the left eye will see those in between. Note the difference in position of objects on adjacent frames with respect to each other and to the edge of the film.

The projection requirements for alternate frame film are substantially the same as they are for stereo film of other systems. The right and left eye images must be registered properly on the screen and must be selectively polarized for their respective eyes. With this system it has been the practice to use the same type of attachment on the projector that was used on the camera. Such an attachment, a beam splitter with synchronized shutter, was tested prior to the development of the present adapter. The latter was developed in an attempt to eliminate the screen registration problems characteristic of the beam splitter attachment.

Fig. 7 and 8 show the principle of it's operation. Refering to the diagrams, the polaroid filter 16 is semicylindrical and positioned to be rotated on its axis, which is in the same plane as but normal to the lens axis. Polarization of the filter (20) when viewed from the lens position is 45 degrees upward and to the left. The film frame (22) having a left stereoscopic image therein is centered on the lens axis. The image (24) on the screen (18) may be seen with the left eye only by a viewer wearing standard Polaroid spectacles. In Fig. 8 the film (12) has been advanced so that a frame (26) having a right stereoscopic image thereon is centered on the lens axis while the filter (16) has been revolved one hundred eighty degrees from the position it occupied in Fig. 7. It is noted that, in Fig. 7, the outside of the semicylindrical filter (16) is presented to the lens (14) while in Fig. 8 the inside of the semicylindrical filter is presented to the lens (14). Moreover, the same axis (20) of polarization which, in Fig. 7, extended upwardly and to the left, now extends upwardly and to the right. Thus the image (28) on the screen (18) may be seen with the right eye only by a viewer wearing standard Polaroid spectacles.

Three stages of evolution of the barrel type polarizer attachment were first, a barrel driven through a gear train by power transmitted by the film itself; second, the same attachment geared to operate at three times its original speed so that it could be used on a projector incorporating the Morgana shuttle movement, and third, an entirely new gear housing driving the same type of barrel polarizer through a direct power shaft on the projector.

In the first stage described above, the film is threaded through a sprocket drive on the attachment. The latter has no other power connections to the projector. This attachment was first designed so that it could be used on most any 16mm projector. The movement of the film through the sprocket drive was sufficient to keep the polarizer in synchronization with its movement through the film gate. An adjustment knob on the attachment provided for changing the position of the drive sprocket with respect to the power sprocket on the projector. The increase or decrease in distance, by one frame length, between the two sprockets served to synchronize the rotating polarizer with right or left frames, at will, during projection. This was necessary to compensate for discrepencies in the right, left, right, etc., sequence in the film due to threading or splicing errors.

As predicted the flicker at 24 frames per second was considerable. Increasing the speed of projection to 36 frames per

(*Continued on Page 319*)

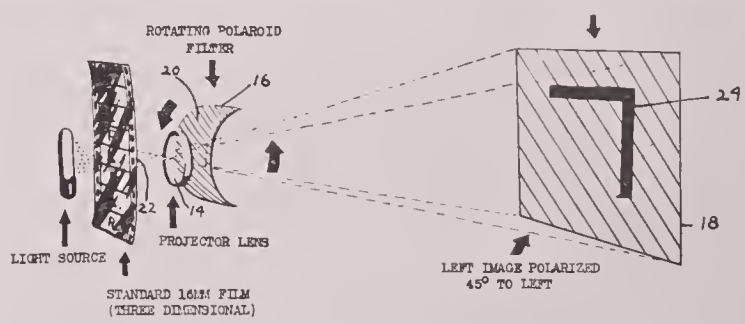


FIG. 7—Diagram above and below illustrate principle of alternately and selectively polarizing right and left screen images. Here rotating filter is in place for left image registration.

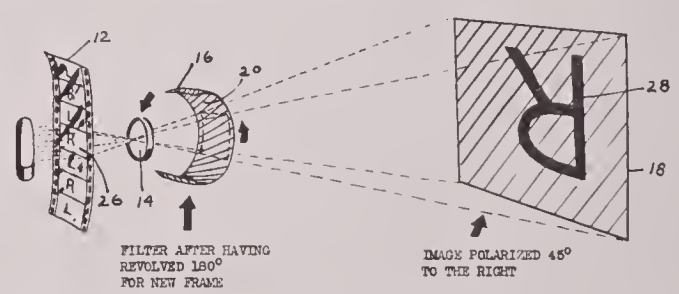


FIG. 8—Rotary polarizing filter in place for projecting a right hand frame image. Fig. 6, above shows respective frames.

A BELL & HOWELL "Specialist" camera and Colortran lights are basic equipment employed by Ramsey Corporation engineers in making visual time and motion studies of major factory operations. Most studies are filmed at high speed to provide slow motion analysis.

You Can't Argue With The Camera!

How the Ramsey Corporation made its own movies of product manufacture operations to establish a fair scale of pay rates.

By WILLIAM A. VOGLER
Industrial Engineer, Ramsey Corporation

THE RAMSEY CORPORATION, manufacturers of automotive and industrial piston rings, adopted the motion picture camera to establish just and accurate pay rates after a long series of time, motion and method study procedures had failed to create good relations between management and its employees.

In the first two decades of its history, the company had grown from a small shop with one employee, to a four-plant organization with some 900 or 1000 employees. We were operating as a Union shop, with straight piece work as the basis of compensation in all production departments. The piece rates had developed from time studies made by foremen and superintendents, men who had gained some knowledge of scientific management from short courses, text books, and practical experience. There are two fundamental elements to every time study and the resultant rate—the job to be done, and the method to be used. At one time we believed that the best move we made was to introduce a course of time study by elemental motions.

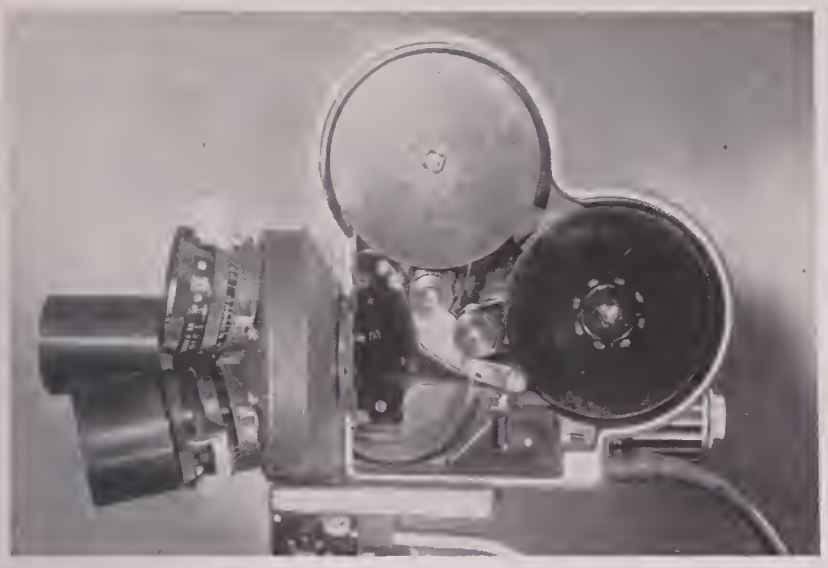
The men, however, often were skeptical and would gang together to defeat both the method and rate. To prove that time was being lost by idleness, for example, we installed time recording instruments wired to the machine in dispute. The resultant chart was compared to the operator's time card. Chart and time card had to agree or the grievance on part of the operator was invalid. Only when a grievance developed and we wanted an air-tight case did we discover that there still were certain inequities in elemental motion time standards. This led us to adopt the motion picture camera and projector for analysis purposes and to establish for ourselves accurate elemental time allowances.

In the beginning our research developed that motion picture equipment on the market was totally inadequate for our purpose. The machine operated at speeds of 16, 24, 32, or 64 frames per second. In the case of 16 frames, a frame represented a time interval of .0010417—a very clumsy base unit and subject to considerable error when used for lengthy computations. Mechanically, also, these speeds were only nominally correct. Variations in motor speeds, change of voltage, friction, and other factors made precision impossible.

Of the cameras considered, we found the Bell & Howell model 70-H 16mm. camera, after certain modifications were made, best adaptable to time and motion work. The modifications included recalibration of the speed dial to show the camera speed in terms of frames per minute, i.e., exactly 500, 1000, 2000, 2500, 3000, 3500 and 4000. This change—one of the most important—made it easy to compute the time for each element of a job and eliminated errors caused by losses in dropping fractions when the speed was calibrated in the conventional way. Also, the old frame counter on the projector

(*Continued on Page 328*)

WITH the film method of time and motion study, work methods may be analyzed at leisure, away from the factory. False or unnecessary movements, not seen in actual operation, stand out clearly when the film is projected in slow motion.



SIDE VIEW of new Arriflex 16mm camera, showing film path and double sprocket film transport system. Newer models will provide for 200 and 400-foot external film magazines.

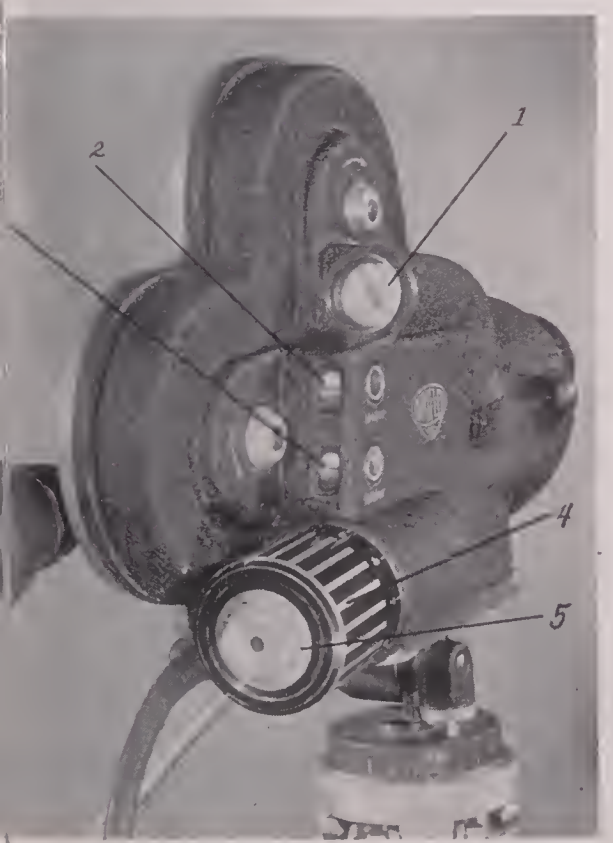
LATEST type lens turret is a feature of the camera which provides diverging lens seats, permitting use of telephotos and wide angle lenses mounted together without interference in latter's field of view.

The New Arriflex 16mm Camera

Incorporating all the advantages of the Arriflex 35, the new 16mm model also has a number of outstanding features of its own.

By RAY SCOTT

THE LONG ANTICIPATED 16mm version of the famous German-made Arriflex camera made its initial appearance at the recent Cologne Fair, and is soon to be distributed in the United States by Kling Photo Supply Corporation in New York City.



REAR VIEW of camera, showing some of its special features: (1) tachometer, (2) footage counter, (3) frame counter, (4) rheostat, and (5) motor reverse switch.

The Arriflex 16, which weighs only 6½ pounds, incorporates all the advantages which gained a world-wide reputation for the Arriflex 35. In addition, the "16" possesses a number of outstanding improvements and refinements, which further enhance its all around application, and are certain to make it a favorite camera in the production of television and industrial films.

One of its principal features is the mirror reflex viewing system, which permits the cameraman to view and focus through the taking lens, even with the camera running. Its predecessor, the Arriflex 35, is said to be the first motion picture camera offering this efficient feature. It functions with equal perfection in the "16." Because of the smaller dimension of the 16mm camera, the mirror reflex system is constructed on an entirely new basis, and many improvements have been added — one of the most important being the increase in size of the shutter opening to 180°.

An excellent optical system produces a clear, well-defined image that shows every detail of the picture uninverted and right side up, and correct for parallax. It does not matter whether the lens is wide open or stopped down, or whether the camera is running or still. Film and groundglass images have identical focal planes—obviously very critically adjusted.

The groundglass image is viewed through a 10-power adjustable magnifier. The finder tube is constructed in such a manner that it is impossible for light to strike the film, even when the eye is removed from the rubber eyecup. The eyepiece is intended for sighting with the right eye. An extension piece for left eye sighting can be supplied as an accessory.

The lens turret accommodates 3 lenses and affords quick changeover. Instant mounting or removal of lenses is provided by a convenient bayonet mount, the same as on the Arriflex 35. Long focus and telephoto lenses can be used without any limitation as to size, because the turret is so constructed that the optical axes of the three lenses diverge from each other. Thus, wide angle lenses may be mounted next to telephoto lenses without danger of the latter cutting into the field of view of the former. The taking lens, of course, when in position for shooting, points directly forward at the object or scene. The turret provides still another advantage: it is so

(*Continued on Page 332*)

RCA's portable magnetic film recorder, type PM-62, which features immediate playback, forward or reverse drive, fast rewind, and torque motor feed and takeup. Same basic unit is also available for rack mounting.

The RCA Magnetic Recording System

Portable field or studio models are designed for high-quality professional recording on either 16mm or 35mm film.

By RALPH LAWTON

THIS IS THE FOURTH in the series of articles by Ralph Lawton describing various magnetic film and tape recorders designed for use in professional motion picture production. Previous articles have described the Westrex (May), Kinevox (June), and Stancil-Hoffman (July) recorders and recording equipment. Another descriptive article will appear in the September issue.—EDITOR.

IT WAS INEVITABLE that the Radio Corporation of America, which was among the first to pioneer in optical recording equipment for sound pictures, should extend its operations in the newer field of synchronous magnetic film recording. RCA's magnetic recording system, especially designed for major motion picture production, was first demonstrated by the company at the Spring (1950) Convention of the Society of Motion Picture and Television Engineers.

The system, which includes a new magnetic recorder-reproducer, mixer amplifier, recording amplifier assembly, and power supply, has been designed for high-quality professional recording in film production; 16mm, 17½mm and 35mm systems are available—that is, using perforated magnetic tape in these sizes—either in portable carrying cases for location work, or as rack-mounted equipment for use in the studio. Heart of the new system is the magnetic record-reproducer unit, which features a unique, high-quality head housed in a special metal shield box.

The portable recording unit is designated as the PM-62 system, and is mounted in a portable case of plywood and fibre construction with flush-mounted handles at each end for carrying. It is designed to permit use of recorder while in the case, with the doors on the operating side either in open or closed position. The doors have 180° swing. Transparent Lucite windows are placed so the operation of the two film reels and the dash pot windows can be observed when the recorder is in use with the doors closed. Mounted on split hinges, doors may be removed from case entirely, when desired.

Access to rear of the recorder is obtained by removal of the back of case by means of six camlock fasteners. Ventilation for motor and mechanism is provided by two screened openings at the back.

The recorder can be furnished with almost any type motor drive desired. Torque motors are used for takeup and hold-back. Inertia controlled drums at the recording and playback positions combine with spring idlers in a tight loop drive to provide smooth, constant film motion. Provision is also made for operation in either direction at standard recording speeds, also for high-speed rewind.

Normal reel capacity is 1000 feet and special non-magnetic split reels of various capacities are available to speed loading and unloading.

A single control switch operates the recorder for recording or reproducing. A separate toggle switch and a roller-operated switch control the torque motors for rewind and automatic end-of-reel shutoff.

(*Continued on Page 322*)

★

RCA's new triple track magnetic channel which affords recording of three tracks on a single 35mm film, simultaneously or at different times, or for putting dialogue, sound effects and music dubbing masters on a single film.

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SCENES, enlarged from 16mm frames, of newsreel material photographed by author for station WHEN. They illustrate the good quality photography required for TV. 1) Fire, downtown Syracuse; 2) freight train wreck, Mallory, N. Y., April, 1951; 3) airline crash, Oneida, N. Y.; pictures were secured after 50-mile-battle with traffic; 4) ordination of Bishop Cunningham, Syracuse, N. Y.

Shooting News Films For Television

Like a fireman, you've got to be ready to go anywhere, anytime, in this touch-and-go game, where scoring a "beat" on competitive cameramen is just one of the rewarding experiences.

By D. LISLE CONWAY

Director, Photographic and Special Events Dept., WHEN, Syracuse, N. Y.

IN THE ARTICLE "Station Production of TV Motion Pictures," which appeared in the June issue, I pointed out that at present television stations with their own motion picture production setup usually confine their activities to three types of films: promotional and program production, commercial or "spot" films, and TV newsreel films. The latter, perhaps, are the most exciting for the cameraman. It challenges his ingenuity and his stamina and brings him in direct contact with the most important local happenings of the day.

Such news coverage may be classified as 1) the planned special event, such as American Legion or Labor Day parade, or local beauty contest and 2) spot news filming of disasters, such as train and plane wrecks, fires, police work, etc.

With the planned special event, you have the advantage of pre-planning both in terms of footage to use, locations for shooting, and scope of coverage. Usually the cameraman is accompanied by an assistant whose job it is to make brief descriptive notes of content of each take, including data concerning length of shot in terms of seconds. This becomes highly important later in supplying data to the news editor who usually prepares the commentary that will accompany the picture while the film is being processed. After the footage is processed and sent to the editor for screening and cutting, only a minimum of revision in the script will be required.

Because popular special events invariably are covered by cameramen from competitive stations, it becomes a matter of getting shots quickly, rushing them through processing and scripting, and putting the whole on the air ahead of the competition. And of course, your chief aim always is to make your pictorial account better in every way: better camera angles, exposure, and overall interest.

Because sponsors and advertising agencies will be watching your work on the air, as well as the general video audience of your locality, station prestige will often rise or fall on the quality of this phase of its telecasting.

With this phase of TV film production, careful research can pay off handsomely. It will enable you to determine in advance the place and time where each subject you plan to film will be. You can check in advance the light and shadow conditions at the scene, and thus avoid shooting at the wrong time of day or from the wrong camera location for the prevailing light. You can determine in advance such important things as probable weather conditions, and the aperture settings for your lens, and with this information assembled you can move easily into the area, set up your camera, make the shot or shots, and move on to the next location with a minimum of time.

Parades, of course, are more or less static subjects. After the first few shots, it's advisable to change pace and vary them. Instead of recording float after

float from the same camera position, get closeups of such interesting highlights as the bandleader, a pretty majorette, the important local personality riding in the lead car, and reaction shots of kids in the crowds watching the goings on with rapt interest.

The best coverage of such events often will result where the cameraman uses a handheld camera and is free to move about the parade area, getting up on marquees or second floor windows, etc., for high angle shots. The more angles and human interest that can be gotten on film, the more interesting material the editor will have to work with back at the station when it comes time to assemble the newsreel for the air.

When the event is over, the race to get the pictures on the air begins. If there is competition in the area, then undoubtedly the processing tanks will be in readiness at the station by the time the film arrives, in an effort to score a "beat." Most stations producing films for TV have their own rapid film processing equipment, such as Houston, Bridgamatic, etc., and it is a simple matter to put the films through the "soup" in a matter of an hour or less.

Television has an advantage over motion picture theatres in that it is unnecessary to process the film to a positive or make positive prints. The polarity of the film projection chain (Iconiscope, film, camera, and associated equipment) can be reversed electronically so that a negative film becomes positive when telecast and the image seen on home receivers is correct pictorially.

The descriptive notes pertaining to the various takes now become important. The news editor writes his tentative script from these, basing the length on the time indicated for each take in the notes. Then when the film comes out of the processor and is sent to the editor, he uses the cameraman's notes for reference in identifying and cutting the film, as directed by the editor in his narration script. Thus when the film goes on the air, instead of putting the narration on a sound track, it usually is spoken by a commentator as the film is projected on the pickup tube.

The most challenging of all camera coverage is the filming of spot news events. Such an assignment can come to the cameraman at anytime—during the shooting of a special event or some other assignment away from the studio, or in the middle of the night. When a big airliner crashed near New York City recently, there was the inevitable phone call from WHEN's news editor that sent me scurrying to the scene. It was about fifty miles away. First meager reports said about twelve persons were believed killed. It was five p.m. The

(*Continued on Page 329*)

Television Film Production

By LEIGH ALLEN

JULY PRODUCTION: The following cameramen were actively engaged in Hollywood in photographing films for television during the past month:

LUCIAN ANDRIOT, A.S.C., The "Amos 'N Andy" series. Hal Roach Studios, Culver City.

GORDON AVIL, "The Big Story Book" series. Television Associated Prodns., Hollywood.

JOSEPH BIROC, A.S.C., series of musical short subjects. Snader Telescriptions, Hollywood.

WILLIAM BRADFORD, A.S.C., The "Gene Autry" series. Flying A. Prodns., Hollywood.

LEONARD CLAIRMONT, "Mr. Green Thumb," Voglin Corp., Hollywood.

ELMER DYER, A.S.C., "Craig Kennedy, Criminologist" series. Louis Weiss & Co., Hollywood.

RAY FOSTER, "Cameras And Models In Action," series. Paul Parry Prodns., Hollywood.

FRED GATELY, "Vanishing Wall," New World Prodns., Hollywood; "Special File" and "Voyage of the Scarlet Queen," Allegro Prodns., Hollywood.

PAUL IVANO, A.S.C., "The Loving Family" series. Green Film Prodns., Hollywood.

BENJAMIN KLINE, A.S.C., "Cry Of The City" series, Bing Crosby Prodns., Hollywood; "Fireside Theatre" series, Frank Wisbar Prodns., Hollywood.

FELBER MAASDEN, "The Jonathan Story" series. Wilkins-Gooden Prodns., Hollywood.

JOHN MAC BURNIE, "Roy Rogers" series. Roy Rogers Prodns., Hollywood.

VIRGIL MILLER, A.S.C., "Rupert Hughes Playhouse" series. Trans-World Pictures, Hollywood.

IRA MORGAN, A.S.C., "Dick Tracy" series, "Brenda Starr" series, P. K. Palmer Prodns., Hollywood.

PETER O'CROTY, Series of 12-min. patriotic pictures. Peter O'Croty Prodns., Hollywood.

KENNETH PEACH, A.S.C., "Cisco Kid" series. Ziv Transcriptions, Hollywood.

CLARK RAMSEY, "Superman" series. Superman, Inc., Hollywood.

GUY ROE, A.S.C., "Invitation Playhouse" series. Williams Prodns., Hollywood.

MAX STENGLER, A.S.C., Series of 12 short subjects. Teleclix, Hollywood.

WALTER STRENGE, A.S.C., "Trouble With Father" series. Roland Reed Productions, Beverly Hills, California.

STEWART THOMPSON, "The Calico Kid" series. Royal Five Prodns., Hollywood.

JAMES VAN TREES, A.S.C., "Groucho Marx Show," and "Who Do You Want To Be?" Filmcraft, Hollywood.

LESTER WHITE, A.S.C., Bigelow Theatre series. Jerry Fairbanks Prodns., Hollywood.

•

Mack Stengler, A.S.C., directed the photography on the new series of Horace Heidt Show films, shooting on 35mm film, following Heidt's decision to abandon 16mm for the wider film.

•

A Research and technical unit has been set up by IATSE Photographers Local 659, in Hollywood, which will advise TV producers, especially newcomers, of photographic techniques and time-saving methods applicable to the production of motion picture films for television.

•

Number of known TV film production companies presently in Hollywood, according to *Hollywood Reporter* columnist Dan Jenkins, now totals 88.

•

Influx of new TV film producing units on the Eagle-Lion lot in Hollywood has changed minds of owners against selling. As of July 1st, there were more than 30 film and TV movie producers active there.

•

KNBH's TV Newsreel cameras beat the live TV cameras to the air with pictures of recent refinery fire in Wilmington, Calif. Station got on air with its newsfilm just 55 seconds ahead of KTLA with its live telecast of the conflagration. To secure pictures of blaze, KNBH flew cameraman Danny Rouser to the scene in a Paul Mantz plane.

•

A title registration bureau for TV film producers has been set up by National Society of Television Producers, to be administered by writer-producer Martin Mooney. Registration fee is $1.00, and is renewable after six months if proof of activity is available.

•

Virgil Miller, A.S.C., who directs the photography of the new Rupert Hughes series of twenty-six 30-minute TV pix for Trans-World, will shoot all the pictures on 35mm color film. Company will make a black-and-white print for

(*Continued on Page 334*)

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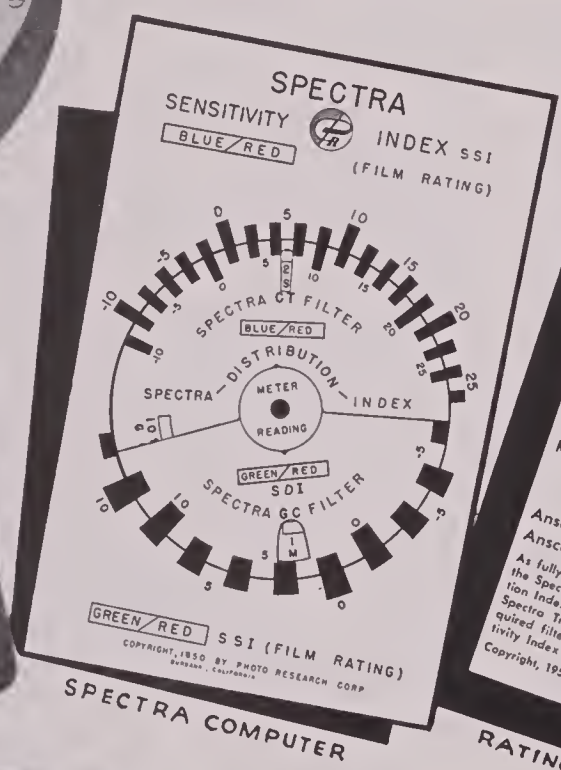

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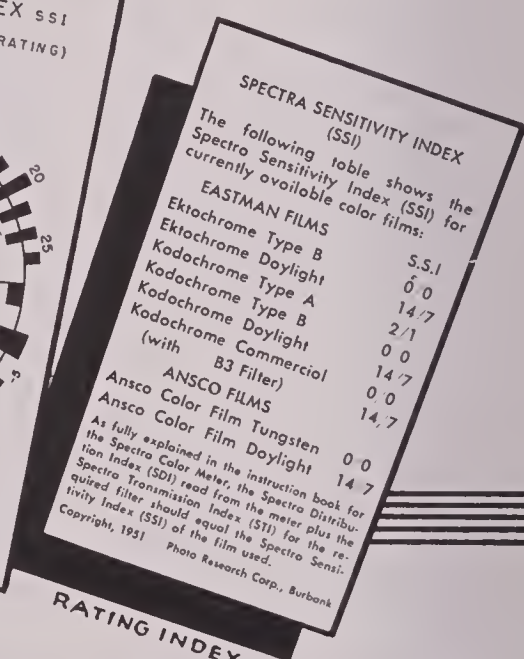

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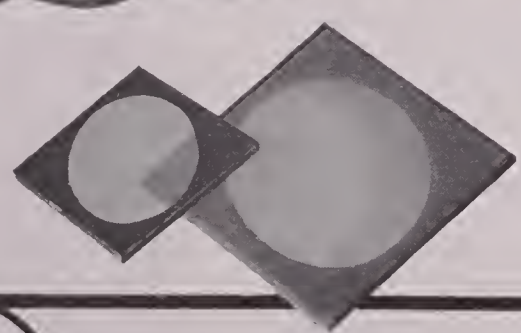

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SUNRISE MINUS TEN MINUTES — from this vantage point author Taylor photographed his time lapse exposure study of a desert sunrise.

SUNRISE PLUS TEN MINUTES—the sunrise sequence completed, the photographer focused his camera on the highway winding out of the desert valley.

THE ROAD BACK HOME—the sun, now well up, made the desert a little less glamourous. Still, it had its photogenic points.

Filming A Desert Sunrise

Dramatic record of changing pre-dawn sky and desert colors photographed on Kodachrome in single-frame interval exposures.

By CHESTER TAYLOR

MY ALARM CLOCK rang at 3 a.m. one morning a few weeks ago. By five o'clock the city was more than fifty miles behind me, and ahead lay the desert wasteland with its uncanny, early-morning loneliness.

It was many years ago that I first became fascinated by the beauty of a desert sunrise, and I resolved then that some day I would capture the colorful event on motion picture film—pictures in color that would show the indescribable beauty of the blue and purple light that flares briefly in the eastern sky some twenty minutes before the sun makes its appearance; pictures of the gray-white surface fog that seems bent on hiding in the desert valleys and canyons in order that it might escape the on-coming light of day. Recognition would also be given the ever-changing yellow, orange and red light of the sky that prevails five to ten minutes before the sunrise. And finally, that ball of fire that appears magically from below the horizon to balance itself on top of some distant mountain peak.

These were my thoughts as the miles slipped by on the desert highway that morning. In the back seat of the car was my 16mm Bolex, loaded with Kodachrome and mounted on the tripod, ready to go into immediate action. The gray of the eastern horizon was getting lighter and a glance at my watch indicated the sunrise was only forty minutes away. Time was running short and I knew that I must find the location for the camera setup in the next few minutes.

It was something like ten minutes later, after the highway had wandered around through some desert hills and curved out into a level valley, that I found the ideal spot from which to shoot. It was a sagebrush-covered hill that rose a good hundred and fifty feet above the road, and offered a commanding view of the valley and the rolling mountains in the distance.

By the time I had made my way up the hill and got the Bolex set up, the sun's scheduled rising was only twenty minutes away. A light reading was taken from the brightest section of the sky and the lens opening set for single frame exposure.

In composing the scene in a manner that would lead the eye in from the foreground to the distant mountains where the sun was to appear, I had for a compositional element white flowering desert Yucca plants. One was positioned in the immediate right foreground, another farther down in the mid-foreground, and still another that had shed its white flowers, in the mid-background. The latter was to act as a pointer to indicate the approximate place on the

(*Continued on Page 321*)

HERE COMES THE SUN!—Chester Taylor gets set to operate his camera, one frame at a time at intervals, to record the colors of a sunrise on the California desert.

PLANNING your photography in sequences in advance has the added value of teaching you to think cinematically and to shoot more creatively.

Consider Screen Results First..!

The way to economize on film is to avoid making too many shots that must be eliminated when editing. Better planning will give you more film to shoot.

By CHARLES LORING

FOR MOST AMATEUR movie makers, film cost is an important item. It directly controls the extent of their movie making activities. Yet it is surprising the amount of odd shots and deleted footage many amateurs have stored away that, were it spliced together, would represent a lot of film that otherwise might have been used for good shots. This suggests there is a definite place in amateur movie making for economy, and that is in planning filming so that there is no waste footage in haphazard shooting—no shots that ultimately are relegated to the scrap heap when editing.

Lest this suggestion for economy be misconstrued, it is pertinent to point out that *results on the screen* is what should be considered first, regardless of the subject or project to be filmed.

In professional movie making it is the setup, the talent and the technicians that account for the major cost of shooting. Time, of course, is the real cost item here, and—unlike with the amateur—film cost is secondary. In the studio, several takes of one scene is commonplace practice, whereas with the amateur, he usually has to get the shot right the first time, if he is to have enough film to complete his picture.

We are concerned here with economizing on film where it would ordinarily be wasted through careless or haphazard shooting methods. Many amateur movie makers have had the experience of shooting a subject, only to find out in the cutting room that they have failed to get all of the shots necessary to cover the story fully. In order to avoid making this same mistake again, they usually go to the opposite extreme the next time and cover the subject so extravagantly that much of the footage is repetitious, and has to be discarded. This practice is especially deadly when the subject happens to be a static one; showing it from a dozen different angles and letting the footage run long won't make such a subject any more interesting.

The best way to avoid both under-coverage and over-coverage of a subject is to pre-plan shooting as carefully as possible. This cannot always be done—and, indeed, it should not be carried to an extreme where it will take all the joy out of what started off to be a casual outing or vacation trip. Pre-planning need not be a chore, nor is it necessary in most cases to write an actual shooting script. A simple scene schedule listing in sequence the scenes needed to tell a complete story will usually do the trick quite adequately. It will not only keep you from omitting essential scenes, but it will also make it unnecessary to shoot everything in sight in order to make sure you have covered the subject.

Planning your shooting sequences in advance has the added value of teaching you to think cinematically and to shoot more creatively. It is good discipline in that it leads you to formulate sequence and continuity in your mind before transferring it to film. The ability to visualize the cut film thus not only saves raw stock, but gives the resulting picture a much more professional finish.

Sometimes a subject is so overwhelming in scope that it is difficult to decide in advance what should be included and what should be left out. If you try to cover every facet of your subject you will almost surely end up with a lot of superfluous footage. Even if these extra scenes are interesting in themselves, they usually do not contribute enough to the telling of the main story to warrant being included in the final cut. In a case like this it is doubly important to find out in advance, if possible, just what is going to happen—and plan your shooting to encompass the important points.

In the case of a public affair or pageant, for example, it is often possible to secure in advance a schedule of events from one of the officials or the public relations committee. If you are going to film some event or process that happens more than once, such as a circus or an ice show, study it one time through one performance without trying to shoot anything. Take notes on the important features to be covered, and then film it according to a plan.

With both amateur and professional, more footage is discarded for mechanical and technical faults than for any other

(*Continued on Page 318*)

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CONSIDER SCREEN RESULTS FIRST

(*Continued from Page 316*)

single reason. Some of this is due to inadequate technique, but even more is the result of just plain carelessness. Unsteady camera handling, for example, is a common reason for the resulting footage to be jumpy and not good enough to be shown. Wherever possible a tripod should always be used. When this is not possible, the cameraman should brace himself against something solid enough to insure a steady camera.

Another basic rule is to check the interior of the camera for dust and grit, as well as cleaning the aperture plate and opening before each new roll of film is loaded. This will eliminate the waste that goes with scratched film or fuzz on the frame margins. Another often tragic waste is that which results from a loss of loop. After threading a new roll of film in the camera, run off a few feet of film with the camera door open to make sure that the loops are holding. It goes without saying that exposure and focus should be double-checked before each scene is shot—but we are saying it nevertheless, because carelessness in this department accounts for a great majority of wasted film.

After you have checked all of the technical things that might go wrong camerawise, turn your attention to the scene itself and check to see if there are any elements that could go wrong and force you to make a retake. Where actors are used and certain characters are slated to open a gate and walk toward the camera, for example, be sure to check the gate to see how it opens and if it can be opened easily without awkward fumbling on the part of the actors. For the same reason, check nearby traffic (human and otherwise) and take a last look at your background to make sure that nothing will pop up in the scene that you hadn't bargained for.

Professional movie scripts go into great detail to break each sequence up into separate scenes or shots, but even so, it is still standard practice in some major studios to shoot each sequence in its entirety from eight or ten angles, and then let the editor select the take that he wants in assembling the final cut. While this may be a sure-fire way of insuring complete coverage of the action, it is also very wasteful for the amateur in terms of time and the amount of film stock used.

The producer or cameraman forced to work on a somewhat smaller budget than a Hollywood studio will do better to break his action up into separate scenes and angles, and stick to this plan in shooting. When he has made a satisfactory take from the first angle, he should then set up for the second shot and overlap the action by repeating just a bit of the action that took place at the end of the first shot. This will give enough extra footage to insure a smooth cut, but not enough to result in any great waste of film.

In order to reduce retakes and consequently the amount of film used, rehearse each scene as many times as necessary until perfection is attained and the scene is ready to shoot. These "dry runs" not only help your actors to achieve a smooth performance, but enable your assistants to get used to the pattern of action so they can follow it more smoothly.

It is often wise to make a master medium long shot of the entire sequence, especially if the camera is on a dolly and can be moved in and out for variety during the course of the scene. In this way you will have a variety of angles with a minimum waste of film. You may decide that certain actions demand a close-up or special emphasis in camera angle. If so, these portions of the scene can be repeated from the desired angles and cut in to the master scene later. It is usually well to protect yourself in this way, if only because it will help you to tighten up in the cutting room a scene that proves too slow in pace when you view your "rushes." If these cut-in shots are kept short, the duplication (and consequent waste of repetitious film) will be held to a minimum.

In Hollywood it has always been the practice to take a scene over and over again until a perfect take is "in the can." This means that one scene might be filmed 20 or 30 times before perfection was reached. This uneconomical practice has been somewhat modified by recent slashes in budget which have been universally adopted. Today the scene will be taken several times—but a take that is *almost* right will often be accepted as O.K. The part that was "almost right" will be covered by a cut-in shot, such as a closeup or angle shot of that particular bit of action. This practice has resulted in a tremendous saving in time, money and film—and the amateur or professional 16mm producer will do wise to adopt it.

Often a long scene will progress beautifully until it is about half-way shot. Then an actor will blow his lines, the cameraman will execute a jerky camera movement, or a light will go out. Instead of doing the whole scene over from the very beginning, the practice now is to "pick up" the scene from a

Wins Gray Achievement Award

R. C. HARDCASTLE—winner of first Ralph E. Gray Achievement Award.

The Movie Makers Club of Oklahoma City has announced R. C. Hardcastle, club's president, winner of the first Ralph E. Gray Achievement Award.

The club was endowed with the annual award by Ralph E. Gray, renowned amateur movie maker and honorary member of the Oklahoma club.

It was Gray's desire to provide recognition for the member of his club who annually makes the greatest contribution toward the advancement of amateur movie making as a hobby. He has stipulated that a prize-winning picture was not to be a consideration in selecting candidates for the award. "A member may not be able to win a picture contest with his films," said Gray, "yet he may make outstanding contributions toward the welfare of his fellow movie makers. I believe, therefore, such achievement should be recognized as readily as the making of an outstanding 8mm or 16mm film."

The award is in the form of a engraved plaque, which remains in the club headquarters. Names of the annual winners are engraved thereon, and a framed scroll indicative of the award is given the winner for his permanent possession.

Gray, a native of Oklahoma, and an amateur movie maker for many years, has received many national awards for his films. His 16mm Kodachrome record of the Mexican volcano Paricutin was acquired by MGM and released as a short subject two years ago.

Soundman Jack Clink operating Kinevox recorder for Edgar M. Queeny during the filming of "Latuko" on the African veldt.

The Sound was Recorded on a ***KINEVOX!***

A leading national magazine, in a recent issue, acclaimed the "remarkable sound track" of "Latuko," filmed in Africa in 16mm color by Edgar M. Queeny. It said:

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point in the action just before the place where things started to go wrong. The gap in action is then covered by a cut-in shot as above.

The cutaway shot is an extremely valuable device, not only in the dramatic sense, but as a way of saving film also. Simply described, it is a shot which cuts away from the main action momentarily, in order to show another segment of the same situation. For example, in a horse race sequence, the running of the horses is the main action—whereas, shots of the fans cheering their favorites from the stands are definitely cutaway shots. Because it is the natural tendency of an audience to forget details from scene to scene, short cutaway shots can cover sizable gaps in time and action. Thus, the first part of a horserace might be shot, and also the last part as the horses come into the home stretch. A few short cuts of fan reaction in between will satisfactorily bridge the gap in action, and incidentally save a great deal of the extra film that would have been needed to follow the entire race. Since reaction shots heighten an audience's response to a screen situation, they serve an important dramatic purpose, as well.

In the final analysis, then, the object of all this economy of film stock is not to make fewer movies, but to make more movies with less film. It's merely a matter of making your available film supply go farther and count for more in terms of footage that finally appears on the screen.

3-DIMENSION MOVIES

(*Continued from Page 307*)

second helped somewhat but it was soon realized that some other approach to the problem would be necessary. The Morgana shuttle movement proved to be the solution to the flicker problem. This unique movement was designed to eliminate the same sort of flicker in the two-color process. A search uncovered the existence of one of these mechanisms at the Bell & Howell plant in Chicago. It was procured and mounted on a Bell & Howell Show-Master projector.

The first film-driven polarizer attachment was re-geared to revolve at three times its former speed so as to correspond to the new framing speed of the Morgana movement. Previously while one eye was getting the benefit of three "flicks" the other had to wait through a period of 1/24 second. Now with the Morgana movement the fluxation of light, with respect to either eye, was uniform. The system which involves shuttling one frame backwards for every two forward, facilitates progression of the film through the projector at standard sound speed, and at the same time provides a flicker frequency of 72 frames per second, or 36 frames per second per eye.

Fig. 3 shows the final product in the evolution of the barrel polarizer. In Fig. 4 it is shown attached to the Bell & Howell Showmaster projector, which in turn is equipped with a Morgana movement. The polarizer in this case is powered through its gear train direct by the gear mechanism of the projector, and not by the film. This change was found to be necessary due to the lack of the film-driven model to stay in exact synchronization at the higher speed required with the Morgana movement.

The alternate frame principle offers certain advantages over the split image system. Both the right eye image as well as the left eye image, each occupy a standard full frame on the film. This feature provides for maintaining the quality standard for 16mm projection. The alternate frame principle also facili-

tates projection through a single undisplaced axis from the projector aperture straight to the screen. Because of this feature there exists no requirement to manually register the two images on the screen.

Registration, on the other hand is accomplished during filming or during processing and is accurately maintained in the film gate aperture of the projector and likewise on the screen. Effects which should result from calculated lateral image displacement are faithfully reproduced on the screen. In contrast the usual type of beam splitter displaces the axis of, and re-registers the stereo images separately. As a result the effects intended at the time of the photography are seldom accurately reproduced on the screen. In addition, and because of projectionist errors, vibrations, etc., the beam splitter system can be the cause of misregistration which in turn results in eyestrain. Unfortunately many believe, unjustly, that such eyestrain is characteristic of any and all three-dimensional pictures.

Although the Morgana movement accomplished wonders in solving the flicker problem it introduced a limitation in the allowable rate of action of moving objects. Any fast subject movement, especially laterally, appears considerably jumpy on the screen. The reverse shuttling feature of the Morgana movement, of course, is directly responsible. To be sure this new bug is troublesome, but it is not nearly as detrimental as was the flicker condition. (Patents are now being procured on an improvement which will eliminate this last remaining bug.)

Four different cameras have been adapted by the author for alternate frame stereo motion picture photography. With this equipment a wide variety of applications have been possible. It should be noted that the mission of the Stereo Sub Unit, WADC Photographic Service Section, Wright-Patterson Air Force Base, is to accomplish any type of stereo photography which it might be called upon to perform.

Sixteen-millimeter cameras which have been adapted for alternate frame stereo photography are: the Bell & Howell Filmo (Fig. 5), the Eastman High Speed, an Eastman High Speed with Graham transmission, and a Ciné Special. Each of the modified cameras listed now accomplish the requirement of exposing the right and left stereoscopic images on alternate full frames of the film.

Cameras equipped with barrel type shutters lend themselves conveniently to alternate frame stereo adaptation. In such cases the barrel type polarizer principle can be incorporated as an integral part of the shutter. A split polaroid filter on the lens of the camera then provides for alternate selection of the right and left views on each 180 degrees rotation of the shutter. The axis of polarization of either half of the split filter on the lens is 45 degrees to the vertical and opposed by 90 degrees. Since the axis of polarization of the filter in the shutter is also on a 45 degree diagonal it acts, together with the split filter on the lens, to alternately eclipse either half of the latter during each half revolution. Thus, when a beam splitter is centered in front of the lens, the displaced right and left views therefrom, entering their respective halves of the lens, are recorded selectively on alternate frames of the film. This method of selection is particularly advantageous in high speed work where, otherwise, a mechanical shutter selector would be impractical.

Both of the modified Eastman High Speed Cameras mentioned are equipped with a polaroid filter mounted in the barrel shutter compensator.

The compensator was specially constructed by Eastman Kodak Co. It contains a sheet of polaroid mounted between two optical glass plates. The refracting action of this optical assembly corresponds to the specifications of the standard Eastman high speed compensator. Since there are no additional moving parts involved in the high speed stereo adaptation, the camera can be operated at its maximum speed. There is one disadvantage in this system however, in that light equivalent to two lens-stops are lost through the polaroid filters.

Because of the simplicity of the optical selection of right and left images provided by the barrel shutter, one of the Eastman high speed cameras was modified to provide constant film speeds over a range from 1 to 176 frames per second. This was accomplished by powering the camera with a Graham transmission.

The beam splitter used in the attachment shown on the Bell & Howell camera in Fig. 5 provides a choice of either a 2½" interocular or a 6" interocular. The latter is used with either the four or six inch lens to maintain normal depth proportions. The six inch beam splitter is equipped with a parallax-free viewfinder which incorporates a half-silvered beam displacer. This feature provides a method of accurately registering the right and left beam splitter images with respect to the central viewfinder image. The actual registration of the separate images is accomplished by rotating the outer mirrors of the beam splitter. The rotation of the mirrors in effect converges or diverges the two viewpoints of the system in accordance to the effect desired when the film is screened.

At normal and slower speeds mechanical shutters can be operated and synchronized by the camera or other means.

Artist With Pen And Camera

This month, Emedio Angelo, better known simply as "Angelo," will interpret some of the doings of studio cinematographers with pen and ink for the American Cinematographer.

EMEDIO ANGELO—artist and amateur movie maker

Angelo, whose famous cartoons appear daily in the Philadelphia Inquirer, Hollywood Citizen News, and numerous other dailies throughout the nation, is also an avid amateur movie maker. His 16mm color film, "Portrait of A Painter," won Honorable Mention in American Cinematographer's 1950 Annual Amateur Motion Picture Competition.

Angelo's interest in movie making began in the summer of 1927, while he was in Europe on an art scholarship. There he met the late Rex Ingram, who invited him to come and watch him make pictures at a Paris studio the next day.

Later he acquired a ciné camera and has been making 16mm amateur films ever since. His first effort was made jointly by Justin Herman, who today produces short subjects for Paramount Pictures in New York. Angelo did a stretch in the art department of Walt Disney Studio, on "Snow White," which served to whet his appetite further for movie making. Subsequently he met Lewis Jacobs, exponent of the Experimental Film, who gave him tremendous encouragement; and this influence is evident in Angelo's "Portrait of A Painter."

His initial cartoon contribution, inspired by the filming of "The Greatest Show On Earth," appears on page 326 of this issue.

Referring to Fig. 5, the Filmo mechanism is coupled with a gear train which drives a 180 degree shutter out in front of the beam splitter. This shutter accomplishes the same task as the optical selectors do in the high speed cameras, i.e., the selective exposing of the right and left stereo images on alternate frames of the film.

Another type of mechanical selector was designed for use in time lapse photography. Here advantage was taken of the pulse timer which periodically actuates both a light circuit and the camera. A solonoid and step relay connected with the light circuit actuates a small oscillating shutter at every other impulse. The shutter is mounted on the lens and positioned over one of two apertures in a diaphragm also over the lens. Thus, on every other impulse the shutter oscillates to a position over the normally open aperture, causing the exposure to be made through the normally closed aperture. The apertures in this particular case have a displacement of 5/8", but can be expanded by placing a beam splitter in front of the shutter assembly.

35mm three-dimensional entertainment films, in the opinion of the author, could be produced today. A relatively simple modification could be made to present theater projectors to accommodate a special optical attachment designed to eliminate flicker, as well as to selectively polarize alternate full frames. This all-optical attachment, on which additional patents have been filed, will eliminate the need for any mechanical alteration to the film transport mechanism.

In view of the versatility of applications possible with the alternate frame technique, and in view of the full frame quality possible therewith, this system may prove to be a practical as well as a valuable medium of synthesizing natural vision.

DESERT SUNRISE

(Continued from Page 315)

distant mountain where the sun would first be seen.

Camera all set and composition complete, I started to making single frame exposures at one-second intervals fifteen minutes before sunrise.

I spent the next seventeen minutes counting off seconds and making single-frame exposures. First the blue and purple light of early dawn came before my lens. And there was a small patch of surface fog in the distance that tried to hide behind a hill only to be absorbed by the warmth generated by the oncoming light. Ten minutes later my right thumb was still operating the

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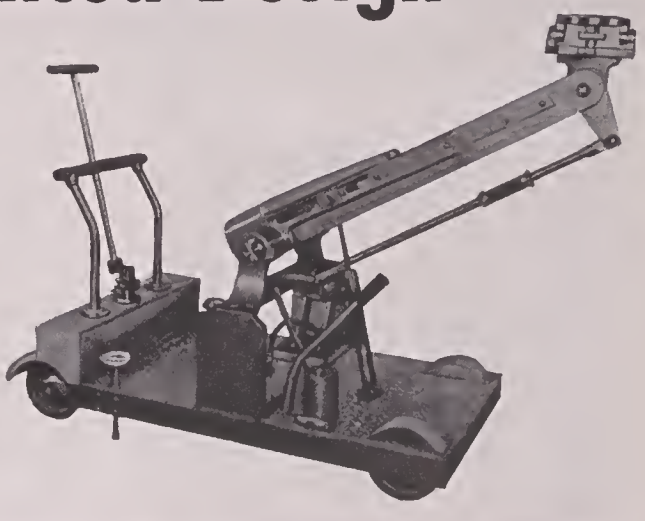

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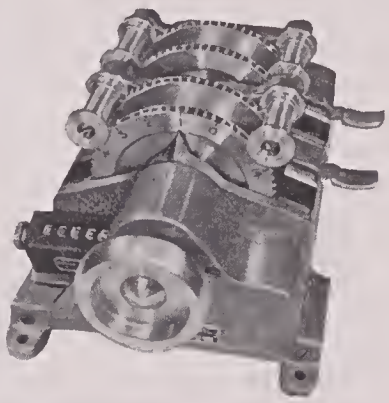

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single frame exposure button as the eastern sky gradually changed from a bluish yellow to a glowing orange. Three minutes before sunrise the sky was a flaming red. My thumb was still working the exposure button as a beautiful ball of fire emerged from behind a distant mountain peak and flodded the desert valley with its early-morning light.

With the sunrise sequence completed, I turned the Bolex around one hundred and eighty degrees and saw through the finder the desert highway as it curved out of the mountains. At this early-morning hour the long shadows of the hill went almost down to the road but left the white flower of a tall Yucca plant in bright sunlight. The white flower and long shadow of the hill served as the foreground and lead-in for the picture. The camera was made ready for sixteen frames per second exposure. As this was the desert during its first hour of sunlight, it seemed a natural follow through shot from the sunrise exposure I had just finished. So I let more than ten feet of film go through the camera and a couple of cars go by on the highway below, for this shot.

Upon leaving the desert an hour and a half later, I came to a long stretch of road that seemed to bounce over a couple of little hills and disappear in the mountain passes beyond.

This was the road back home. The sun was now well up in the sky and the desert had lost much of its pre-dawn glamour. With the Bolex set up along side the car, I exposed several feet of film at eight frames per second while highway traffic rushed by.

This eight frames per second exposure would speed up the action and the pictorial result would tend to give the impression that getting speedily out of the hot desert at this time of the day was a wise decision. **END**

RCA RECORDER

(Continued from Page 310)

Identical magnetic heads of the low impedance type are used for recording and playback. They are mounted within a mumetal box to insure shielding.

The track width of 0.200", centered 0.399" from the outer film edge, is in keeping with the Academy recommendations. Flutter of only .04 percent rms total and a signal-to-noise ratio of 57 db have been attained. The frequency characteristics is plus or minus 1 db in the range from 30 to 10,000 cycles. Overall dimensions of the recorder-reproducer unit are 21¾" high, 23½" wide, and 13" deep. Net weight is 100 pounds.

The recording amplifier assembly consists of a mixer amplifier, a recording amplifier, and a bias oscillator for recording, and an oscillator-pre-amplifier and equalizer for playback operation. Controls include a bias oscillator control and meter, and a selector switch for "off," "record," or "playback," all easily accessible on the front panel. A double jack for monitor headphones is provided. The unit weighs 66 pounds and is 16½" high, 20½" wide, and 13¾" deep.

The two-channel mixer amplifier unit has input impedances of 250 or 300 ohms, and a frequency range of 30 to 10,000 cycles. Controls on the panel include indicator microphone controls for channels 1 and 2, a five-position low-frequency attenuator control for each channel, a range switch for the volume indicator, and a switch for the self-contained test oscillator. This equipment is 9½" high, 12½" wide, 10½" deep, and weighs 27 pounds.

The self-contained high-and-low voltage power supply operates from any 110 or 220 volt, 60-cycle source. The power supply weighs approximately 104 pounds and measures 19¾" high, 17½" wide, and 10¼" deep.

In addition to the magnetic recording equipment described above, RCA has recently announced a new triple track magnetic channel for motion picture studio sound recording departments and for sound recording laboratories. This new RCA equipment makes it possible to record three different sound tracks on a single 35mm film, simultaneously or at different times. This makes it possible to put all three dubbing masters on a single

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film with consequent marked reduction in raw-stock costs, not to mention the savings in storage space.

The equipment also makes possible putting multiple-channel music scoring on a single film, providing immediate playback from any or all three tracks. The individual tracks may be erased selectively. The equipment is already in use at Warner Brothers' and Columbia Studios in Hollyood who, with Paramount Pictures, have been among the first of the Hollywood Studios to undertake a complete changeover in sound recording from optical to magnetic film systems.

RCA magnetic recording equipment, of course, is also in use in other film production centers besides Hollywood. Chicago Film Laboratory, Chicago, has been using the equipment for sometime as has DeFrenes and Co., Philadelphia. Among others are: National Broadcasting Co., Hollywood; Mode-Art Pictures, Inc., Pittsburgh, Pa.; Reeves Sound Studios, Inc., New York City; Video Varieties Corp., New York City, and Nat'l Film Board of Canada.

The full range of equipment is on display at RCA's Victor Division offices in Camden, New Jersey, N. Y. City, and its west coast offices in Hollywood, Calif.

SHOWBOAT

(*Continued from Page 305*)

Whenever I showed enthusiasm for some particularly colorful or artistic effect in an illustration, Rosher would make a mental note on how to adapt it to some particular scene in "Showboat." I think this is best exemplified in the sequence of shots of William Warfield singing "Ol' Man River," which was actually filmed at dawn, in real fog. The low key result is a masterpiece in color cinematography.

There are a number of scenes in the picture, incidentally, where fog played a dominant part, pictorially. We took advantage of the fact we were producing this picture in December in Culver City, not far from the Pacific ocean, and used the naturally foggy atmosphere for these scenes. Frequently the natural fog in scenes was amplified through skillful use of filters or by addition of artificial fog.

Sometimes, having started to shoot a sequence of scenes under foggy weather conditions, we ran into serious trouble. The fog would lift suddenly and the sun would come out. This called for one of three alternatives: to employ artificial fog and filters, go indoors on the sound stage, or move to another exterior location that called for shooting in full sunlight.

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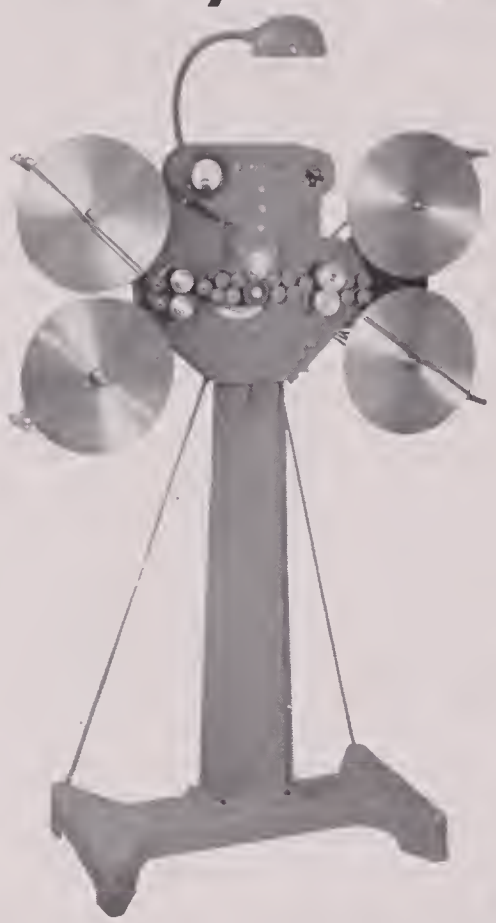

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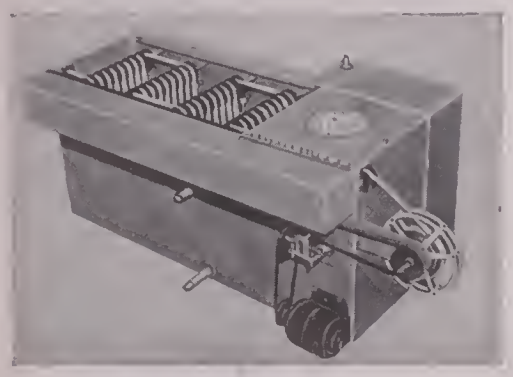

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one of our major bugaboos when shooting exteriors on the studio's lot three. It moved in clouds of varying density, creating troublesome exposure problems. We frequently had to depend on constant visual checks of the light, so rapidly did light quality fluctuate. Strict attention to this detail enabled the cameraman to retain remarkable density balance from one shot to the next.

Still another problem was maintaining balance in the lighting when shooting a sequence of fog scenes over a period of days. No two days were alike in light quality. It thus was necessary to keep in mind the light conditions that prevailed each preceding day in order to match it and insure the desired continuity of light quality and direction. As every cameraman knows, it is relatively simple to shoot in normal sunlight; but battling the elements calls for more than ordinary camera skill. The successful director of photography must be resourceful enough to meet changing light conditions without delay, no matter how severe or how frequently they occur.

Such mid-winter weather conditions demonstrated how important is the cameraman's ability to maintain a sort of mental encyclopedia of detail from scene to scene, where such scenes are not filmed consecutively. He must have an infallible memory for the quality, color temperature and direction of the source of light. For instance, we were shooting the picture in December; days were short. There were days that dawned foggy or extremely cloudy, forcing us to go indoors and shoot on the sound stage. Then the sun would come out suddenly, and because sunshine was such a precious commodity for the vast number of exteriors we had to shoot, we would halt indoor shooting and move out of doors again, shooting until color temperature of the light went below the point where it could be balanced satisfactorily. Then we'd go back indoors, only to find, perhaps, that one of the cast was unavailable; so we would then switch to another set. Two weeks later, we would return to the first set and resume shooting there. It was Rosher's uncanny ability to remember all the camera and lighting details of the original setup that enabled the company to resume shooting as though there had been no interruption. The subsequent takes matched exactly in lighting continuity and quality those made the day shooting first started on the set.

There are two things in which Rosher excels, which make his photography a dominant factor in every picture he shoots: his scrupulous attention to continuity of lighting direction from one shot or sequence to another, and his constant vigilance over the color temperature of set illumination. We both agree

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THE SPECTACULAR circus "tear down" sequence in Cecil B. DeMille's Paramount picture, "The Greatest Show on Earth," was filmed under the light of two of the greatest incandescent lamps in the world.

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DeMille estimated the incandescent system to be four times more effective than any equipment which he had previously employed to illuminate large indoor areas.

JUMBO "INKY"—Gloria Graham, blonde star in Cecil DeMille's "The Greatest Show On Earth," holds one of giant incandescent lamps used in lighting production.

that the whole future of color photography is bound up with color temperature, that it is a most important factor in color cinematography, affecting as it does the purity and consistency of color rendition. It is necessary for cameramen to know this when shooting color if skies are to match from scene to scene, and faces and complexions of players are to remain constant from one scene to the next. I think "Showboat" is outstanding for these very consistencies.

Consistency in facial renditions were achieved without resorting to overlighting by reflectors or booster lights. A notable example is the scene, early in the picture, where Howard Keel and Kathryn Grayson, singing together on the upper deck of the showboat, move about—sometimes in partial shadow and then in full sunlight. Also, later in the picture, when Ava Gardner is singing "Can't Help Lovin' That Man" on the afterdeck. She moves from one side of the boat to the other — in and out of sunlight — and there is no appreciable change in her facial rendition, photographically, due to skillful maneuvering of the lighting. These scenes particularly demonstrate what is becoming more and more self-evident: that candid-type photography has at last come into its own in cinematography—candid in that there is more realism in the result, less of the "forced" photographic effect.

Many of the memorable camera treatments in the picture were conceived right on the set or location. From a compositional viewpoint, one of the most impressive is the shot of Howard Keel walking along the river's edge. The camera, slightly elevated, looks down on Keel and shows reflections of the gaily decorated showboat in the water behind him—an impressive and colorful backdrop. It was one of those opportunities for pictorial emphasis which was developed to the fullest.

Another example occurs early in the picture. One of the crew, after being severely beaten by Robert Sterling for forcing his attentions on Ava Gardner, leaves the showboat in a rage and goes up the river bank in search of the sheriff. This could have been an ordinary shot made from a simple camera setup on the crest of the river bank, picking up the man as he trudged up the hill. But we saw opportunity to gradually heighten the effect of the man's anger through pictorial emphasis that would make him loom larger as he approached the camera. Dolly tracks were laid from the crest of the hill, extending out toward the boat on a scaffolding, and paralleling the uphill path. The Technicolor camera, mounted on a movable crane, was set to start the shot from the far end of the track—nearest the boat. As the man left the boat below, the camera was

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started and the crane pulled back; meanwhile, the boom was gradually lowered until the camera now was below the level of the dolly tracks, almost at ground level. Here it looked up at the raging boatman looming ever larger, and at the same time showed the boat in the distance for a unique compositional effect.

One of the classic shots in the entire picture is one we filmed on location on the Mississippi river. Prior to starting the picture at the studio, Rosher and I went to Vicksburg, Mississippi, to shoot scenes of the river packet on which Howard Keel and Ava Gardner meet again, in the latter part of the story. On an earlier location-scouting trip I had located the "Sprague," an ancient river boat tied up at a wharf, where it now served as a museum. More than 300 feet in length, it was just the prop we needed; so arrangements were made with the owners to use it for the picture.

The most important shot for which it was required was a scene—a long shot—showing it moving up the river at dusk, its cabin lights ablaze and passengers promenading its decks. Now this shot easily could have been done in miniature, but needless to say not with the same authenticity. Inasmuch as the cost would have been about the same, we decided to make the shot the way we did—using the real boat on the Mississippi.

A 300-amp generator was installed temporarily on the craft to supply power for the lamps that were to furnish illumination behind the windows. The boat's steam plant long ago having been sold for junk, it was necessary to provide temporary motive power. Two tugboats were made fast to the packet on the side opposite that which was to face the camera, to move it upstream while we made the shot.

Hundreds of photoflood lamps were used to supply light back of the windows. Because it was necessary to secure every available foot-candle of light the lamps would give, in order to make the boat's interior appear brilliantly lighted, the lamps were mounted directly behind tracing cloth panels tacked over the boat's open windows. The lamps were placed so that the filament of each was directed as near as possible at the lens on the camera, (which was set up on another boat some distance away) and with the filament at the same height as the camera lens. Only by doing this was it possible to secure the maximum volume of illumination from each lamp.

To obtain the desired pictorial result, Rosher calculated that the scene would have to be shot at precisely a certain time after sundown. It couldn't be ten minutes too soon or too late. On the previous evening he had made an exposure test at twilight to determine the correct balance between the artificial light, coming from the boat, and the waning daylight.

On the following evening, when the scene was to be filmed, there was no time for rehearsals. The reason for this was that the artificial light coming from the windows of the boat had to be the dominant light in the scene, yet exposure had to be ample to give a clear outline of the boat in the dusk, and consequently a rich print. The whole operation, once ready to shoot, required about ten minutes time—ten tense, anxious moments

"Hello! A.S.C.? Send me two more cameramen—LEAN ONES!"

for all of us. No process shot could have equalled the result. It is truly a masterpiece of color photography.

In the beginning, we had considered shooting the showboat exteriors on location on the Mississippi. However, after long and careful search, which took us from New Orleans to Cincinnati, two things became apparent: there was not a boat on the entire river which met all our requirements and, most important, the Mississippi river currents were such that operating camera and lights from other craft on the river would have been almost impossible. So we decided to have the showboat built on the studio's back lot. The finished craft, named the "Cotton Blossom," is the largest movable prop ever built on a Hollywood motion picture lot. It floats lazily on the lake in MGM's lot number three, awaiting future assignments.

Whereas shooting scenes on a boat on the Mississippi would have entailed lighting problems—and the inability in many cases to maintain directional lighting continuity — with the studio built boat we were able to keep this factor under absolute control, simply by moving the boat and following the sun around as necessary.

When construction of the boat was completed and the painters had finished decorating it, the result was a sparkling new boat just off the boatmaker's ways, instead of a weatherbeaten Mississippi river boat. Studio painters then applied "weathering" to its entire exterior and the photographic result is everything that could be desired. This is but one example of the myriad of details which Rosher constantly surveyed from the photographic viewpoint, directing such changes or improvements as were necessary to achieve the photographic excellence for the production that was our constant aim.

While the photography of the vast number of exteriors involved the most interesting experiences, the interiors demanded no less attention from the camera viewpoint in planning and lighting. Perhaps it was because we had held many pre-production huddles with the art director on wardrobes and set decorations that camera problems on the interior sets were greatly minimized. Care had to be taken against having costumes too somber in tone, yet not garish, either — so they did not merge and become lost in the background. There must be good color separation always between subjects and background to get the most pleasing effect in color cinematography. In this respect, we utilized a lighting trick worth noting. After the key light had been established, an additional light source was directed on other objects or on the background itself in order to gain the desired compositional effect. This is something that rarely can be determined by meters—one has to have it in him, intuitively.

Photography, I believe, has now become so popular, audiences have come to expect better camera work on the screen. That is why we made it a point to be so meticulous with the photography of "Showboat." Having educated the public to expect the best in photography, we now have to keep ahead of them. I think we can say in all honesty that, because of all this, we are constantly improving the tastes of the people of the world, influencing their dress, makeup, their manners and also the graphic arts.

Being ardently interested in photography has brought me in closer understanding with the director of photography's problems, and from this has stemmed an invariable practice of con-

(*Continued on next page*)

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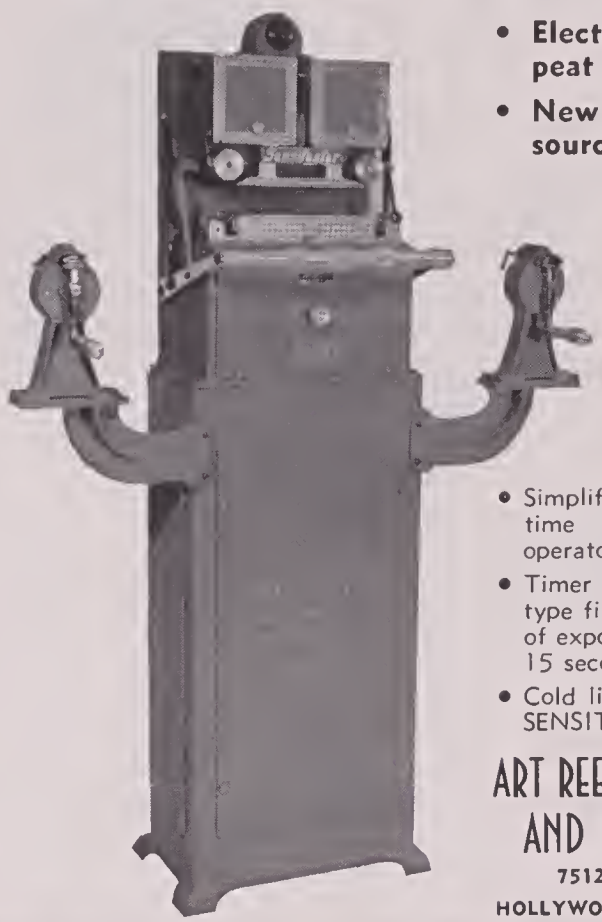

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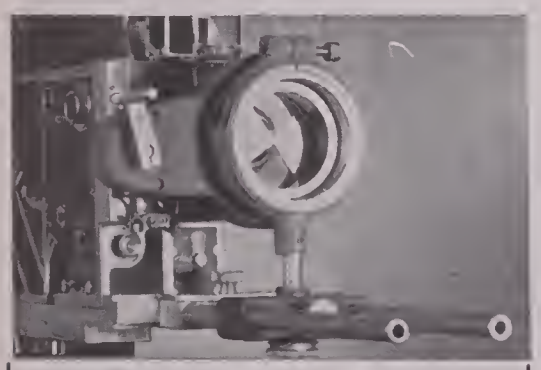

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sulting at great length with him during the course of preparing a picture for production.

I like to think of "Showboat" as an example of the point I have often made that when a director and his cameraman both speak and understand the same language—the language of photography—superior motion pictures invariably result.

We often hear applied the appellation "cameraman's director"—meaning a director who works harmoniously with a cinematographer. Conversely, I think Charles Rosher is the epitome of the director's cameraman. His tremendous experience and wealth of photographic knowledge, his personal "bag-of-tricks," and his ceaseless enthusiasm and dogged perfectionism are qualities which contributed to the standout photographic job of "Showboat." His complete integrity as a gentleman and scholar has earned for his the respect, love and admiration of all who have the good fortune to know him.

CAN'T ARGUE WITH CAMERA!

(*Continued from Page 308*)

was eliminated and a Veeder-Root digit counter substituted in its place. This eliminated the tiresome use of the crank in counting the frames exposed for each element of the job. (Editor's note: this change is now standard on all Bell & Howell time and motion study projectors.)

The lenses on such a camera are an important factor in getting proper recording on film of the operation to be studied. The new, modern Bell & Howell lenses with T-stop calibrations are ideal for this. Thus, on the camera I use for this work is the following combination of lenses which enables me to get best pictorial results at any angle without changing position of the tripod. This helps immeasurably in reducing the disturbance by the camera operator.

*(a) 0.7" f/2.5 B&H wide angle Super Comat lens in focusing mount (for full scope of area).
*(b) 1" f/1.9 B&H Super Comat (Standard) lens in focusing mount (for medium angle shots.)
*(c) 2" f/1.4 long focal length TTH Ivotal lens (for special angle shots).
**(d) 4" f/4.5 B&H long focal length Telate lens (pin-points single part of operation).

*—On turret permanently.
**—Replace the 2" lens with the 4" for (d).

The usual practice is to set the camera, mounted on tripod, at approximately twelve to fifteen feet away from the center of the "motion path" of the operation. With the use of the above lenses it is possible to position the camera at an angle whereby all sequences of an operation may be filmed without having to make frequent adjustments or to reposition the camera, which would cause a disturbance to the operator on the job being studied.

Lights, too, must be carefully placed for the same reason. I find the Colortran lighting equipment ideal for this purpose. We invariably use a Colortran "5000" kit for lighting a normal operation procedure. It would be impractical if not impossible for us to use two 5000-watt floodlights on a power line fused for 30 amps. The Colortran "5000" kit affords the same light volume on the same current and fusing with perfect safety. The two Colortran light heads give 5000 watts of light each. Each head holds five R38 flood lamp bulbs which are good for about 20 hours of lighting use.

The following technique is the standard filming practice established in our industrial engineering department for time and motion study:

(1) Each subject or operation is carefully studied before establishing the camera setup.

(2) Analysis of operator's motion path is made (area in which work is done) so best shots of motion path can be taken from one location without encountering obstructions.

(3) Camera and lighting equipment is set up. Illumination requirements are checked with light meter, and a check made of subject-to-camera distances and the camera lenses set accordingly.

(4) Lights are turned on and subject-operator proceeds with operation for a "dry run" of the procedure (without the camera turning). In this manner, if operator freezes, lights are left on and we talk to him, thereby easing him until the motion path is correct. The camera is then started to complete the film study.

Briefly, the equipment we use in making and evaluating such time motion studies on film are as follows:

(1) The previously described Bell & Howell model 70-H magazine camera with turret head, electric motor drive and with speed dial re-calibrated.

(2) G-E or Weston light meter.

(3) The T-stop calibrated lenses previously mentioned.

(4) Eastman blue-base film Super-XX film in 200 and 400-foot rolls.

(5) The Colortran lighting equipment.

(6) Bell & Howell time study projector with frame counter.

(7) A 40 x 60-inch beaded screen, also a shadow box fitted with 12 x 16-inch beaded screen.

Color film is employed only when the film is to be used for training purposes.

We have found that the blue base film makes checking and studying the screened films easy on the eyes. Also, it is possible to have this film processed locally in two hours.

In photographing a new job for analysis, the complete operation is first photographed, using wide angle lens for the entire record. This shot is used to time the operation. The operation is then re-photographed and the longer focal length lenses used to break the operation down into its various parts for closer study. In general, when the operation is wholly performed by a man without machine, the camera is run at 4,000 frames per minute. This gives us a record which permits a very detailed study to be made. Where the operation consists of 50% manual work and 50% machine work, the camera is operated at 2,000 f.p.m. When the operator's part is 25% and the machine does 75% of the job, the camera is operated at 1,000 f.p.m., since this gives enough detail to adequately study the job.

We have thus developed our method and time studies by use of the motion picture camera and projector to the point where we can prove visually to the employee or the Union that the method is practical and the rate of pay accurate for the operation or job—a picture of the exact process in the exact time that it requires in performance.

SHOOTING NEWS FILMS

(*Continued from Page 313*)

station wanted coverage for its 10 p.m. newscast.

There was no one else available at the studio that I could take along as an assistant to make notes and shoot stills, so I picked up my wife, who's no mean photographer herself, and off we went bucking five o'clock traffic for fifty miles. Of course word had spread of the disaster and the roads were choked with sightseers. When we got as close as we could with the car, we parked it and set out on foot for the rest of the way. There were the usual interruptions for identification, as we encountered local and state constabulary. Some of the officers were hesitant and, remembering that we had not driven the fifty tortuous miles just for the scenery, we had to be firm and ready to resort to skullduggery, if necessary, in order to reach the scene of the disaster.

Remembering that closeups tell the story, I began to reconstruct the crash. After a couple of location establishing shots, I moved in with the camera to pictorialize the path of the crashing plane. Vivid shots of trees stripped of branches by the ill-fated plane, spilled

(*Continued on Page 331*)

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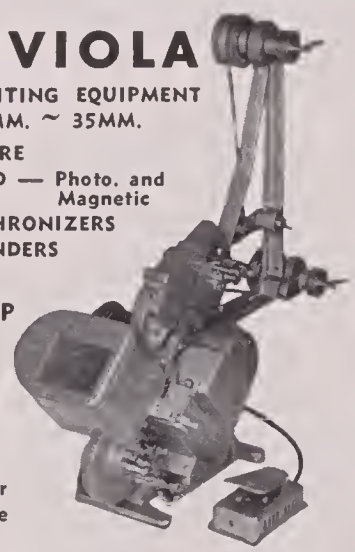

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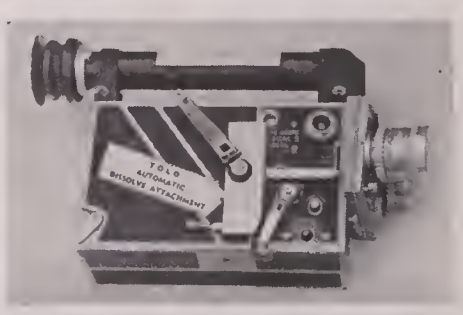

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Current Assignments of A.S.C. Members

Major film productions on which members of the American Society of Cinematographers were engaged as directors of photography during the past month.

★ ★ ★ ★ ★ ★ ★ ★

Columbia

• CHARLES LAWTON, "Boots Malone," with William Holden, Johnny Stewart, Stanley Clements, Basil Ruysdael and Bill Pearson. William Dieterle, director.

• ELLIS CARTER, "The Thief of Damascus," (Technicolor) with Paul Henried, John Sutton, Jeff Donnel, Elena Verdugo and Helen Gilbert. Will Jason, director.

• FAYTE BROWN, "Smoky Canyon," with Charles Starrett, Smiley Burnette and Jack Mahoney. Fred Sears, director.

• FAYTE BROWN, "The Hawk of Wild River," with Charles Starrett, Smiley Burnette and Jack Mahoney. Ray Nazarro, director.

Independent

• JACK CARDIFF, "African Queen," (Horizon Prod., shooting in Belgian Congo, in Technicolor) with Humphrey Bogart, Katherine Hepburn and Robert Morley. John Huston, director.

• ERNEST LASZLO, "Mutiny," (King Bros. Prod.) (Technicolor) with Angela Lansbury, Mark Stevens, Gene Evans and Patric Knowles. Edward Dmytryk, director.

• GEORGE ROBINSON, "Jack and The Beanstalk," (Exclusive Prod., in Technicolor) with Bud Abbott, Lou Costello, Buddy Baer, Shayne Cogan, Jim Alexander, Dorothy Ford, Barbara Brown and Wm. Farnum. Jean Yarbrough, director.

• PAUL IVANO, "Thy Neighbor's Wife," (Hugo Haas Prod.) with Hugo Haas, Cleo Moore and Ken Garcia. Hugo Haas, director.

M-G-M

• HAROLD ROSSON, "Lone Star," with Clark Gable, Ava Gardner, Broderick Crawford, Lionel Barrymore, Beulah Bondi, Moroni Olson, William Farnum and James Burke. Vincent Sherman, director.

• ROBERT SURTEES, "The North Country," (Technicolor) with Stewart Granger, Wendell Corey and Cyd Charisse. Andrew Marton, director.

• RAY JUNE, "Just This Once," with Janet Leigh, Peter Lawford, Lewis Stone and Richard Andreson. Don Weis, director.

• HAROLD ROSSON, "Singin' In The Rain," (Technicolor) with Gene Kelly, Debbie Reynolds, Donald O'Connor, Jean Hagen, Millard Mitchell and Douglas Fowley. Gene Kelly and Stanley Donen, director.

• ROBERT PLANCK, "Belle of New York," (Technicolor) with Fred Astair, Vera-Ellen, Keenan Wynn and Alice Pearce. Charles Walters, director.

• PAUL VOGEL, "County Line," with Walter Pidgeon, John Hodiak, Audrey Totter, Paula Raymond, Cameron Mitchell, Thomas Gomez. Gerald Mayer, director.

• WILLIAM DANIELS, "When In Rome," (Shooting in Italy) with Van Johnson, Paul Douglas and Joseph Calleia. Clarence Brown, director.

• JOHN ALTON, "The Enemy," with George Murphy, Nancy Davis, Lewis Stone and Billy Gray. David Bradley, director.

AMERICAN SOCIETY OF CINEMATOGRAPHERS

FOUNDED January 8, 1919, The American Society of Cinematographers is composed of the leading directors of photography in the Hollywood motion picture studios. Its membership also includes nonresident cinematographers and cinematographers in foreign lands. Membership is by invitation only.

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Monogram

• WILLIAM SICKNER, "Blue Fin," (Lindsley Parsons Prod.) with Wayne Morris, and Damian O'Flynn. Frank McDonald, didector.

• ERNEST MILLER, "Vengeance Trail," with Wild Bill Elliott and Peggy Stewart. Lewis Collins, director.

• WILLIAM SICKNER, "Joe Palooka in Hitchhike Killer," with Joe Kirkwood, Cathy Downs and James Gleason. Reginald LeBorg, director.

• HARRY NEUMANN, "Fort Osage," (Color) with Rod Cameron, Jane Nigh and Douglass Kennedy. Leslie Selander, director.

• ERNEST MILLER, "Ride 'Em Cowboy," with Whip Wilson, Pamela Duncan, Jim Bannon and Fuzzy Knight. Lewis Collins, director.

Paramount

• JOHN SEITZ, "Warbonnet," (Technicolor) with Charlton Heston, Peter Hanson, Joan Taylor, Susan Morrow, Richard Rober, Don Porter, Ian MacDonald, Ted de Corsia, George Marshall, director.

• DANIEL FAPP, "Anything Can Happen," (Perlberg-Seaton Prod.) with Jose Ferrer, Kim Hunter, Kurt Kasznar, Eugenie Leontovich. George Seaton, director.

• RAY RENNAHAN, "The Denver & Rio Grande," (Nat Holt Prod., Technicolor) with Edmond O'Brien, Sterling Hayden, Dean Jagger, Lyle Bettger, J. Carrol Naish, and Zasu Pitts. Byron Haskin, director.

• LOYAL GRIGGS, "Shane," (Technicolor) with Alan Ladd, Jean Arthur, Van Heflin, and Brandon de Wilde. George Stevens, director.

• LIONEL LINDON, "Green Gold of Nevada," (Pine-Thomas Prod., in Technicolor) with John Payne, Susan Morrow, William Demarest, gnes Moorhead and Roscoe Ates. Edward Ludwig, director.

R.K.O.

• NICK MUSARACA, "A Girl In Every Port," with Groucho Marx, Marie Wilson, Bill Bendix, Don DeFore, and Teddy Hart. Chester Erskine, director.

• HARRY STRADLING, "I Want You," (Goldwyn Prodn.) with Dana Andrews, Dorothy McGuire, Farley Granger, Peggy Dow, Robert Keith, Mildred Dunnock, and Ray Collins. Mark Robson, director.

• PAUL IVANO, "3000 A.D." (Amer. Pictures Prod.) with Robert Clarke, Margaret Field, Ron Randall, Gloria Saunders, Chill Williams, William Schallert. Stuart Gilmore, director.

• GEORGE DISKANT, "Day Without End," (Filmakers Prod.) with Ida Lupino, Robert Ryan, and Barbara Whiting. Harry Horner, director.

• RUSSELL HARLAN, "The Big Sky," (Winchester Prod.) with Kirk Douglas, Dewey Martin, Eliz. Ttreat, and Buddy Baer. Howard Hawks, director.

Republic

• WINTON HOCH, "The Quiet Man," (Technicolor) with John Wayne, Maureen O'Hara, Barry Fitzgerald, Victor McLaglen and Ward Bond. John Ford, director.

20th Century Fox

• CHARLES G. CLARKE, "The Golden Girl," (Technicolor) with Dennis Day, Mitzi Gaynor, Dale Robertson and Una Merkle. Lloyd Bacon, director.

• JOE MACDONALD, "Viva Zapata," with Marlon Brando, Jean Peters, Margo, Anthony Quinn, Arnold Moss. Elia Kazan, director.

• MILTON KRASNER, "The Marriage Broker," with Jeanne Crain, Scott Brady, Thelma Ritter, Michael O'Shea, Zero Mostel and Frank Fontaine. George Cukor, director.

• LIONEL LINDON, "East Is East," (Jos. Bernhard Prod.) with Don Taylor, Cameron Mitchell, Yoshiko Yamaguchi and Marie Windsor. King Vidro, director.

• HARRY JACKSON, "Lydia Bailey," (Technicolor) with Dale Robertson, Ann Francis, Charles Korvin, and William Marshall. Jean Negulesco, director.

• LEON SHAMROY, "With A Song In My Heart," (Technicolor) with Susan Hayward, Rory Calhoun, Thelma Ritter, David Wayne and Max Showalter. Walter Lang, director.

• CHARLES G. CLARKE, "Red Skies Of Montana," (Technicolor) with Richard Widmark, Constance Smith, Richard Boone and Jeff Hunter. Joseph Newman, director.

• JOSEPH LASHELLE, "Elopment," with Clifton Webb, Anne Francis, Charles Bickford, Reginald Gardiner and Evelyn Varden. Henry Koster, director.

• KARL STRUSS, "Rose of Cimarron," (Alperson Prod.) (Technicolor) with Jack Buetel, Mala Powers, Bill Williams, and Lillian Bronson. Harry Keller, director.

• LUCIEN BALLARD, "Fixed Bayonet," with Richard Basehart, Michael O'Shea, and Gene Evans. Samuel Fuller, director.

• LEO TOVER, "Pride of St. Louis," with Dan Dailey and Joanne Dru. Harmon Jones, director.

Universal-International

• CLIFF STINE, "Week-end With Father," with Van Heflin, Patricia Neal, Richard Denning, Gigi Perreau, Virginia Field, Jimmy Hunt, Janine Perreau, and Tommy Rettig. Douglas Sirk, director.

• RUSSELL METTY, "The Treasure of Franchard," (Technicolor) with William Powell, Julia Adams, Charles Drake, Rosemary deCamp, Tommy Ivo and Chubby Johnson. Ted Tetzlaff, pirector.

• CHARLES BOYLE, "Battle of Apache Pass," (Technicolor) with John Lund, Jeff Chandler, Beverly Tyler, Susan Cabot, John Hudson, Bruce Cowling. George Sherman, director.

• MAURY GERTSMAN, "Meet Danny Wilson," with Frank Sinatra, Shelly Winters and Alex Nicol. Joseph Pevney, director.

• IRVING GLASSBERG, "Here Comes The Nelsons," with Ozzie Nelson, Harriet Nelson, David Nelson and Ricky Nelson. Frederick de Cordova, director.

• IRVING GLASSBERG, "Bend Of The Snake," (Technicolor) with James Stewart, Arthur Kennedy, Julia Adams, Rock Hudson, and Lori Nelson. Anthony Mann, director.

Warner Brothers

• WILFRED KLINE, "Bugles In The Afternoon," (Cagney Prod.) with Ray Milland, Helena Carter, Hugh Marlowe, Barton MacLane and James Millican. Roy Rowland, director.

• EDWARD B. DUPAR, "The Tanks Are Coming," with Steve Cochran, Eve Miller, Philip Carey, Paul Picerni and Eugene Baxter. Lewis Seiler, director.

• TED MCCORD, "Starlift," with Virginia Mayo, Doris Day, James Cagney, Ruth Roman, Gordon MacRae, Gene Nelson, Patricia Wymore, Janice Rule, and Dick Wesson. Roy del Ruth, director.

• ROBERT BURKS, "Come Fill The Cup," with James Cagney, Phyllis Thaxter, Raymond Massey, James Gleason, Gig Young, Charlita, and Larry Keating. Gordon Douglas, director.

• JOHN BOYLE, "Carson City," (In color) with Randolph Scott, Raymond Massey and Richard Webb. Andre de Toth, director.

• TED MCCORD, "I'll See You In My Dreams," with Doris Day, Danny Thomas, Frank Lovejoy and Mary Wickes. Michael Curtiz, director.

SHOOTING NEWS FILMS

(Continued grom Page 329)

radio gear at the base of a tree, a microphone dangling from a nearby branch, a broken doll and a charred storybook—these shots and others told graphically something of the horror of those last moments following the crash.

I came upon the engine that was ripped loose from its moorings—it had a cylinder missing. Where was the missing cylinder? Closer inspection showed inside of the engine badly damaged. Could this have been the cause of the crash? These details were photographed carefully and notes made for guidance of the script editor. This proved of immense value later, for ultimately official investigators concluded that the engine did fail in the air and that the cylinder was blown off before the crash. Here, on film, was evidence of the cause of the ill-fated crash.

It was after seven o'clock when, our shooting ended by darkness, we returned to the car and started back to the station—honking the horn and jamming on the brakes incessantly as we weaved in and out of traffic, which seemed unusually slow at the time. By nine p.m. we rolled up to the station door—just an hour before air time. We had put in a call on the road, alerting the station we were on the way in with film. The processing tanks were ready to go and the darkroom was a beehive of activity for the next half hour.

Twenty-five minutes 'til air time. The news editor has secured some additional information from the wire services. He already has our notes, which proved more accurate and embracing in data. With this material he goes to work on the narration. Ten minutes before air time, the film comes off the drier and is ready for projection. The editor screens the stuff as we watch excitedly and give additional facts about the disaster. The editor checks his copy as the film unfolds. Five minutes 'til air time. The film is projected again. No time for cutting, except to switch the last shot to the opening. Meanwhile the station's supervising director is getting worried. With just two minutes to go, the film and narration is handed him and made ready for airing. Meanwhile, we have made a check of the competitive stations and find that up to the moment they have not come on the air with pictures of the crash. Later, we learned that they did finally get on the air with pictures at midnight. We had gotten under the wire again!

It might be well to describe the equipment used on these assignments. We use a Cine Special with a fast one-inch f1.9 lens; also on the turret is a telephoto

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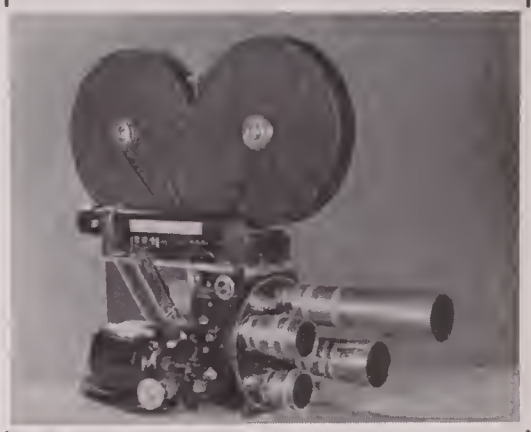

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lens, and in my carrying case is a wide angle lens. The camera operates at speeds from 8 to 24 fps. Thus when the light is poor, I can still get acceptable shots with the lens wide open and the camera set at the slower film speed of 8 or 12 fps. Night scenes of fires can be filmed very successfully at either speed. The film used is blue base stock and can be processed to a negative only and give good results when projected on the pick-up tube. This film is available from Eastman Kodak Company in two popular emulsion speeds. Extra rolls are always carried for an emergency.

Interesting is the fact we have discovered that the Super X blue base film can be "cooked" (overdeveloped) to the point where a usable image can be secured even if the film is greatly underexposed. The knowledge came to us when processing footage shot indoors in a church where illumination was practically nil, insofar as photography was concerned.

Transportation for the cameraman and assistant to and from scenes of spot news events is something that requires attention early in the organization of a newsreel unit. Both must be ever ready to use whatever transportation is available—company or private car, plane, truck or even a motorcycle. Another important thing is to establish early identification with your local police department. Official press cards, where such are issued, usually suffice. For getting in and out of police lines, a police pass sticker or press card for the windshield of your car will make covering assignments easier in town and out.

Amateur movie makers are always interested in knowing whether film of timely subjects photographed by them can be used on television. If it was shot at 24 fps, exposed properly, and embraces an important event not already covered by the station's staff cameraman, it might find ready acceptance. Where such footage is secured, the procedure is to telephone the news editor of the local TV station and describe what you have. If you made notes, either at time of shooting or after, of such pertinent data as time of event, cause—the usual "who, what, where and when" information—your film becomes all the more valuable to the television station; and if footage description and notes sound interesting, a sale of same is likely to result.

Such film production as we have described here is still in its infancy. As time goes on, there will be improvements in both methods and equipment. And of course, the big factor for the future is color which, while not altering the procedure appreciably, will undoubtedly expand further the use of newsreels on television. .

THE NEW ARRIFLEX 16MM CAMERA

(*Continued from Page 309*)

designed that light cannot reach the film through either of the two lenses not in taking position. Use of lens caps for this purpose is therefore eliminated. Lens equipment is a matter of choice of the buyer at time of purchasing the camera.

Initial models of the Arriflex 16 take standard hundred-foot and fifty-foot daylight loading spools of film; however, in view of the need in this country for greater film capacity in 16mm cameras for commercial film production, plans of the manufacturer, Arnold & Richter, Munich, call for providing 200 and 400 foot external film magazines as accessory equipment for the cameras to be distributed in the United States.

In the camera's film transport system, two separate octagonal sprockets control the movement of film, which is held against both the feed and takeup sprockets by means of lock guides. These can be held open to facilitate threading.

The film gate is extra long and incorporates a stainless steel pressure plate and spring-cushioned side pressure rails. Gate can be opened all the way for easy threading and cleaning. The pulldown claw is so constructed that it engages film perforations from the front, i.e., from the lens side. This feature greatly facilitates loading operations. The unique claw position, incidentally, was largely responsible for permitting the increased shutter opening of 180°. A registration claw, operating in conjunction with the pulldown claw, insures rock-steady film placement in the gate during exposure and critical registration for double exposure work. The tips of both claws are made of hardened steel.

The electric motor which drives the Arriflex 16 is interchangeable. It slips easily into position in the rear of the camera housing and forms a unit with the rheostat. This position was chosen by the designer to permit use of the camera on a tripod or other flat support. (A special grip handle can be supplied with the camera for handheld use.) Standard motor equipment is an 8-volt DC unit with forward and reverse switch, its capacity at 24 fps is approximately 20 watts. Speeds from 8 to 48 fps can be obtained by adjusting the rheostat. This is determined by the built-in tachometer, which is located at rear of camera in plain view of the operator. For

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(Continued on Next Page)

Classified Ads

(*Continued from Preceding Page*)

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Source of QUICK ANSWERS to such questions as: "What is the angle of view of my 25mm. lens?" "What's the depth of focus of my 50mm. lens at 12 feet?" "How much film will a 30 second take consume at 24 f.p.s.?" "What's the Weston daylight rating of Ansco Ultra-Pan negative?" "What stop shall I use to shoot at 8 f.p.s. if exposure at 16 f.p.s. is f/4.5?" And thousands more! A hand book that's a must for every motion picture cameraman, professional or amateur.

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synchronized picture and sound recording, a synchronous motor may be substituted. The 8-volt DC motor, which is supplied as standard equipment, is powered by a glass-wool lead battery, which weighs about 4½ pounds. The camera may also be operated on any standard 6-volt storage battery, permitting exposure speeds up to 24 fps.

An important feature of the camera is the forward or reverse run movement, which permits any length of film to be wound back in the camera by the motor, thus excluding the need for a hand crank for this purpose. This operation is controlled by a knurled disc switch, located behind the motor rheostat. A framing knob, extending from the motor, facilitates turning the camera mechanism by hand for threading and opening the shutter for viewing through the finder when camera is not in actual operation.

Separate frame and footage counters, with dials located handily at rear of camera housing, indicate the amount of footage or frames *used*. Both counters may readily be set at zero through finger-tip controls.

Two important accessories are the lens shade and the carrying case. To facilitate specialized filming, such as trick double exposures, etc., a special combination lens-shade-matt-box and filter holder has been designed for this camera. Design is such that there is no interference with lens turret or lenses. The sturdy carrying case is an important item, providing as it does the ideal place for storage and transportation of the Arriflex 16, plus extra lenses, supply of film, filters and other small accessories. Tropic-proof and of otherwise sturdy construction, exterior finish is hammered aluminum.

The distributor hopes to have initial shipment of Arriflex 16 cameras on hand for demonstration and sale before the end of August.

TELEVISION FILM PRODUCTION

(*Continued from Page 313*)

present TV broadcasting and save the color print for day when color television bows.

•

When Color TV comes into its own, it will find no dearth of color film processes for producing suitable color films for transmission. *Tele-Tech*, industry trade paper, in a recent issue, points out that there are at present six color film processes, most of which are already in use. These are Technicolor, Supercinecolor, Trucolor, Ansco Color, and Eastman Kodak's Tru Art Color. The latter is the newest in that it employs for the first time, to any degree, a color negative which is used in making release prints.

WHAT'S NEW

(*Continued from Page 302*)

completely self-contained automatic film developing machine. Straight 16mm models at speeds of 15 to 30 feet per minute are now in production, and combination 16/35mm models at lower speeds also are available. Overall size is 6 ft. long, 2 ft. high and 2 ft. wide. Net weight is 250 pounds. Unit is said to be ideal for processing spot TV newsreels. Further details may be had by writing the manufacturer at 602 West 52nd St., New York 19, N. Y.

•

OPTICAL BENCH — Grover Photo Products, 2753 El Roble Dr., Los Angeles 41, Calif., offer an optical bench for camera repairmen and others whose

work involves optics. A limited quantity has been made up for immediate delivery. Prices range from $250.00 to $550.00 each, depending upon selection of accessories. Further data may be had by writing manufacturer.

BULLETIN BOARD

(*Continued from Page 298*)

John Boyle, A.S.C., along with G. Carleton Hunt, Fred L. Metzler, Maurice Ransford, Dore Schary, Lou Smith, Jerry Wald, and Charles Brackett comprise a committee appointed recently by the Academy as the planning group for the Academy's forthcoming 24th Annual Awards presentation.

•

A. J. Hill, at the June meeting of the American Society of Cinematographers, exhibited the new resolution charts which have been developed by the Motion Picture Research Council, Hollywood, to assist in the testing of motion picture camera lenses. A descriptive article on the function of these charts is scheduled for an early issue of American Cinematographer.

NEWEST PLOT in the world...

Boy meets girl is one of the oldest plots in the world. Yet in the hands of today's writers, directors, and technicians it is the newest—sparkling, ever fresh.

Great credit is due these men—their imagination and their skill in the use of modern equipment and materials.

The Eastman Kodak Company is proud of the part it has been able to play. Through the Eastman Technical Service for Motion Picture Film, it helps studios in the selection, exposure, and processing of black-and-white and color film; helps laboratories in setting up control systems and to establish new standards of quality and economy; helps exchanges and exhibitors—always making sure that each foot of film produces optimum results, gets its best showing.

In carrying out this work, the Eastman Kodak Company maintains branches at strategic centers, invites inquiries from all concerned. Address:

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Hollywood 38, California

Talking about Movies

•

. . . your basic tool is your camera. Choose it carefully!

•

A movie camera, however simple it is to operate, is *not* a simple instrument. A camera must move film —stop it—expose it—move it on and repeat the whole process anywhere between 8 and 64 times *every second.* To build a camera that will perform these complex operations perfectly requires painstaking design, the most conscientious workmanship.

In other words, *quality* is the first thing to look for in choosing your camera. And the best place to find camera quality is in these 16mm magazine-loading Bell & Howells.

Here are some specific features that will help you make better, more ambitious films.

Guaranteed for life. During life of the product, any defect in workmanship or material will be remedied free.

B&H Auto Load . . .

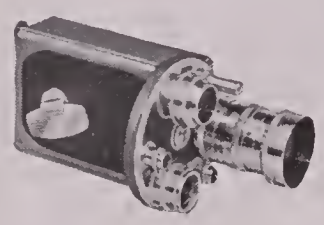
16mm magazine loading camera with 1 inch f/2.5 Filmocoted lens, $189.95

Simple magazine loading enables you to slip film in quickly . . . interchange in mid-reel without fogging a single frame.

Five operating speeds . . . you can shoot from a car, slow down sport scenes, prepare for adding sound. Speeds are *precisely* calibrated at 16 (normal), 24 (sound), 32, 48 and 64 (slow motion) frames per second.

Built-in exposure guide provides a help for making correct exposures. Comes in mighty handy when you've forgotten your light meter or are simply in a hurry to start shooting!

Positive Viewfinder always shows you exactly what you'll get on the screen. It eliminates "amputating"—cutting off a vital part of the scene.



B&H Auto Master

16mm magazine loading turret camera with 1 inch f/2.5 lens only, $249.95

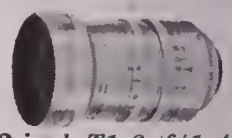
3-lens Auto Master Turret gives you instantaneous choice of lenses. With the viewfinder objective rotating into position with each lens, you're ready to shoot with any lens instantly. You'll use the turret to add variety to *all* of your films!

(The *Auto Master* has all of the features of the *Auto Load.*)

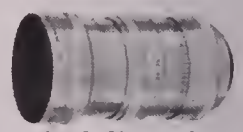
Starting a lens family of your own . . .

.7 inch T2.7 (f/2.5)
Extremely Wide Angle View — accentuates distance. $89.95

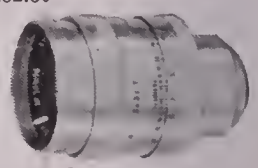
1 inch f/1.4
Gives perspective of human eye—extremely fast. $179.95



2 inch T1.6 (f/1.4)
Medium telephoto—perfect for indoor telephoto work. $179.95



2.8 inch T2.5 (f/2.3)
Telephoto—T stopped for exact light measurement. $182.50



4 inch T2.5 (f/2.3)
Powerful Telephoto—for use under adverse lighting. $209.95

You choose a lens for what it does . . . wide angle, telephoto, or perhaps a lens that is simply fast. BUT—don't assume just *any* lens will perform its primary function, which is to transmit to the film a clear, well defined image, with the color values just right. And the quality of every member of this lens family is second to none in the 16mm field.

Prices subject to change without notice

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at this new low price. Now your Auto Load can have all the versatility offered by the Auto Master 3 lens turret, and for only $59.95! This special price includes installation but not extra lenses. Price returns to $75 September 1, 1951. See your authorized Bell and Howell dealer today.

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Cinematographer

THE MAGAZINE OF MOTION PICTURE PHOTOGRAPHY

THEATRICAL • TELEVISION • 16mm COMMERCIAL • AMATEUR

Making a dolly shot for "Red Skies of Montana," photographed by Charles G. Clarke, A.S.C.

THIS MONTH

- **Color Correction—What It Means**
- **Integrating Film and Live Action for TV**
- **Shooting Home Movie Interiors**

SEPTEMBER 1951

On location with Du Pont Film...

Superlative performance of "Cyrano" ... recorded on Du Pont "Superior" 2

"Cyrano de Bergerac"—the magnificent Stanley Kramer production released in November, starring José Ferrer, Mala Powers, William Prince and Ralph Clanton—is another of the year's outstanding pictures made on Du Pont Motion Picture Film.

In the off-stage still above, Director Michael Gordon (lower right) surveys the battlefield set-up for one of the choice scenes. At the camera finder is Frank Planer, A. S. C.—the man responsible for the excellent photography that made the picture an instant success and earned for him the Hollywood Foreign Correspondents Association "Golden Globe" Award for best black and white photography in 1950.

Du Pont "Superior" 2 is widely used by leading cinematographers because as an all-purpose negative rawstock it records faithfully the artistry of high- or low-key lighting technique. E. I. du Pont de Nemours & Co. (Inc.), Photo Products Dept., Wilmington 98, Delaware.

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B 319655

Gene and Charlie Jones, NBC-TV's famous twin team, examine one of their Bell & Howell "70" cameras in a Korean forward area.

NBC's newsreel men prove B&H cameras under fire

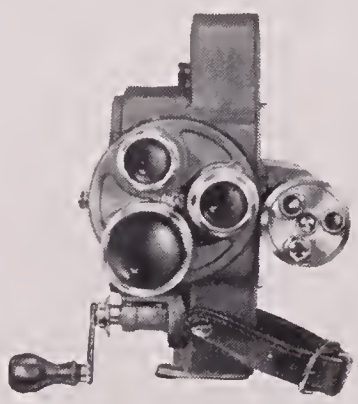
In the thick of the Korean action from the very beginning, the Jones Brothers have sent NBC-TV some of the finest War pictures ever filmed, including many exclusives. These movies were filmed under exceedingly tough and dangerous conditions. In fact, when Gene Jones was wounded in the chest at the Inchon invasion, he had to inch his way back to the beachhead through hundreds of yards of severe fire . . . protecting the precious film in his B&H "70" for NBC-TV *News Caravan* viewers.

Here's what the Jones Twins say about their Bell & Howell Cameras in a letter to Robert McCormick of NBC: ". . . We try to ship or shoot 500 feet per day. The Bell & Howell is a rugged little camera. Both of ours have been damaged in combat . . . but we've managed to have them repaired by Signal Corps people."

Features of the New B&H 70-DL

3-Lens Turret Head for instant lens change; *Critical Focuser* permits precise focusing through the lens; *Viewfinder Turret* rotates positive viewfinder objectives to match lenses on lens turret; *Powerful Spring Motor* operates 22 feet of film on one winding . . . maintains speed accurately throughout film run; *Hand Crank* for short double exposures, other trick effects and unlimited film run; *7 Film Speeds* include 8, 12, 16 (normal), 24 (sound), 32, 48 and 64 (true slow motion) frames per second; *Film Plane Mark* for accurate focusing measurement; *Parallax Adjustment* corrects from infinity to 3 feet; *Eyepiece* focuses for individual sight variations . . . increases illumination to the eye up to 600%. Complete with 1" f/1.9 lens only, $369.95.

Price subject to change without notice



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VOL. 32 SEPTEMBER • 1951 NO. 9

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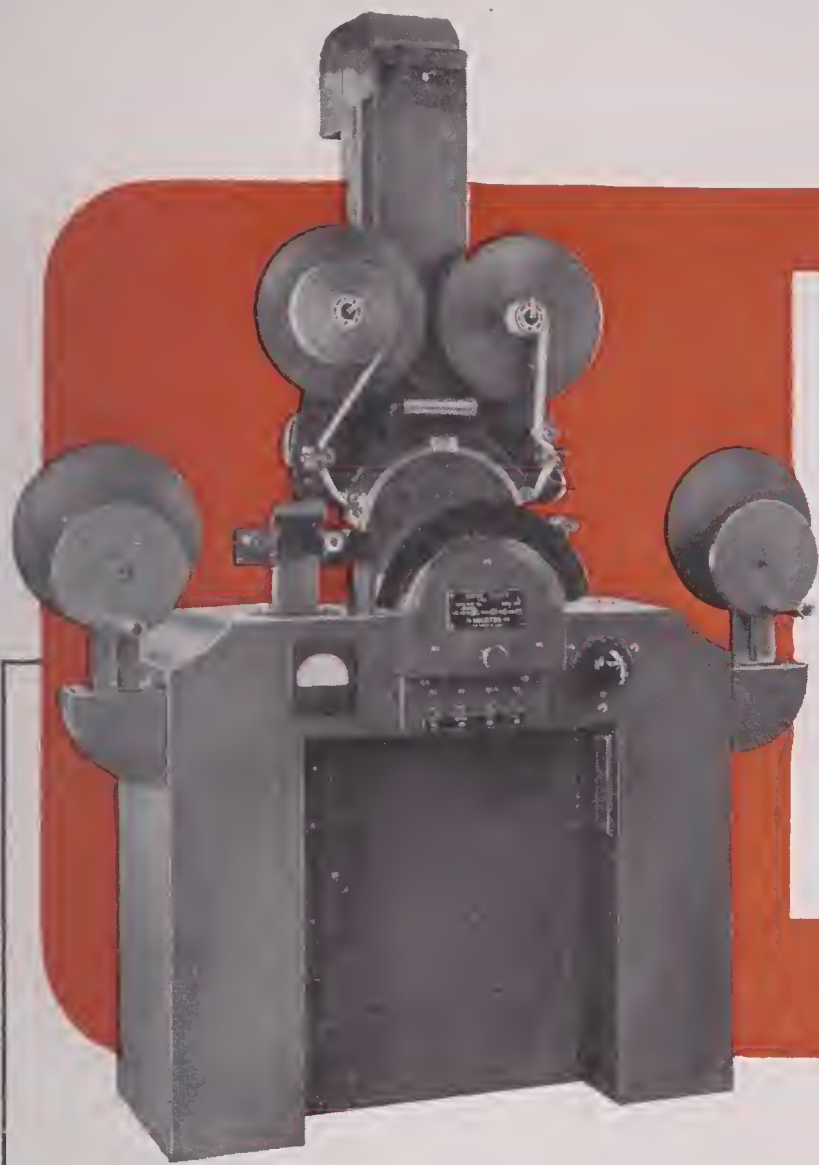
ON THE COVER

TWENTIETH CENTURY FOX camera crew, under direction of Charles G. Clarke, A.S.C., makes a dolly shot in the wilds of Montana during recent location filming of scenes for "Red Skies Of Montana"—saga of parachuting forest-fire fighters.—*Photo by Anthony Ugrin.*

AMERICAN CINEMATOGRAPHER, established 1920, is published monthly by the A. S. C. Agency, Inc., 1782 N. Orange Dr., Hollywood 28, Calif. Entered as second class matter Nov. 18, 1937, at the postoffice at Los Angeles, Calif., under act of March 3, 1879. SUBSCRIPTIONS: United States and Pan-American Union, $3.00 per year; Canada, $3.00 per year; Foreign, $4.00. Single copies, 25 cents; back numbers, 30 cents; foreign single copies, 35 cents; back numbers, 40 cents. Advertising rates on application. Copyright 1951 by A. S. C. Agency, Inc.



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Handles 16mm. EK Cine Special with or without motor; 35mm. DeVry; B&H Eyemo with motor and 400' magazines and all 16mm. hand-held cameras. Head is interchangeable with the Gear Drive head. Both types fit "Professional Junior" standard tripod base, "Hi-Hat" and "Baby" all-metal tripod base.

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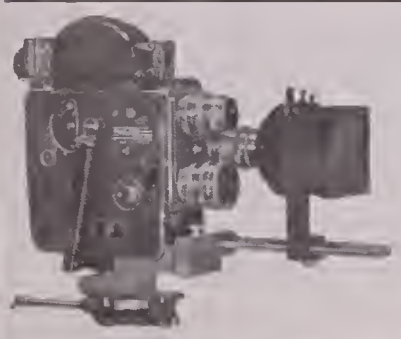

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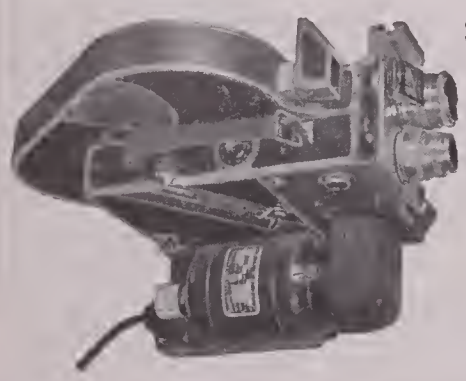

SYNCHRONOUS MOTOR DRIVE

110 Volt A. C., Single Phase, 60 Cycle

This motor will run in synchronization with either 16mm. or 35mm. sound recorders. It is provided with mounting platform which permits removal of magazine while camera remains mounted on motor.

Drive coupling attaches to single-frame shaft of camera and is mated to spring-steel drive arm of motor gear box. This assures that camera mechanism cannot be damaged if a film jam occurs as the spring steel arm drive will shear. This is easily replaced.

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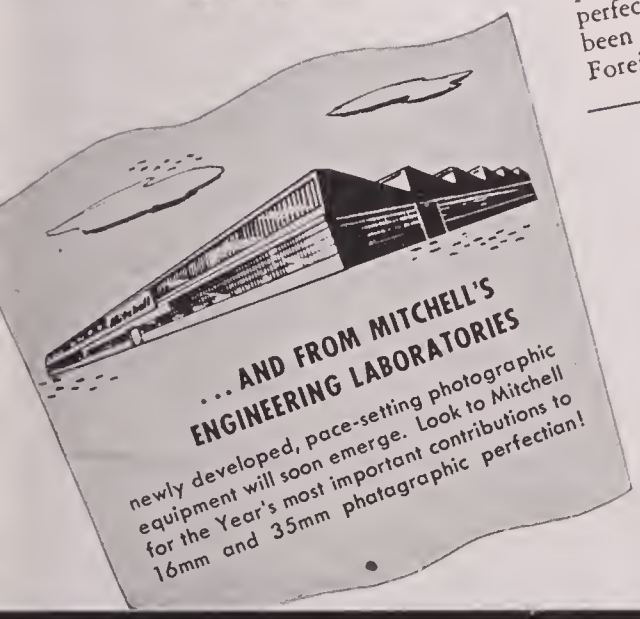

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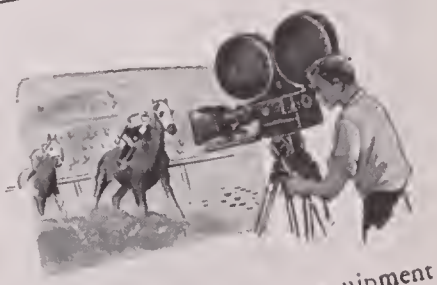

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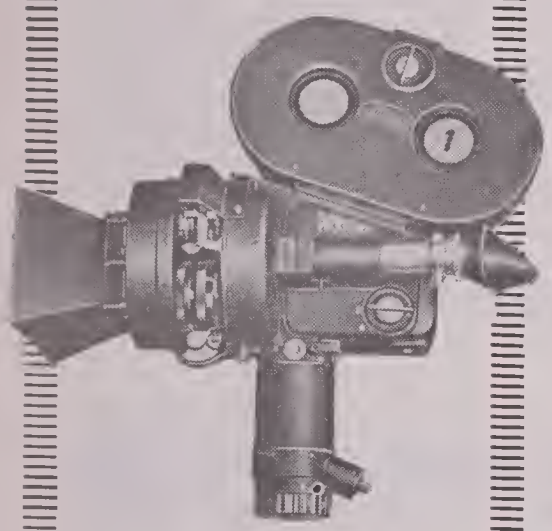

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Hollywood
Bulletin Board

September 15 is date American Society of Cinematographers will host its members and their wives at annual "Ladies Night Dinner and Dance." Function this year will be a super Hawaiian luau to be held in gardens of A.S.C. clubhouse in Hollywood. Cooperating this year with Fred W. Jackman and his program committee is Eddie Blackburn of J. E. Brulatour, Inc., a regular among frequent visitors to Hawaii, who will lend his knowledge of the islands' food and festivities in the planning of the A.S.C.'s big annual event.

•

Joseph Walker, A.S.C., is slated to direct the photography of Judy Holliday's second starring picture for Columbia Pictures, set to start early in September. Meantime, Walker has been active with the production of his Electra-Zoom lenses for TV cameras, which are now in regular use in major TV studios across the nation.

•

I. Rozemberg, Brazilian cinematographer and film producer, was a Hollywood visitor last month. Rozemberg, who produces short subjects and newsreels for Brazil theatres and photographs documentary films for the Brazilian government, has been studying Hollywood production methods with the object of re-organizing and expanding his producing company. While in Hollywood he observed cinematographic methods at Universal, Metro Goldwyn Mayer, Columbia, Warner Brothers, Walt Disney and Paramount studios.

I. ROZEMBERG, Brazilian cinematographer (right), chats with director of photography Maury Gertsman, A.S.C., on set of U-I's "Son Of Ali Baba."

Upon his return to Rio de Janerio, Rosemberg plans to launch his first color film production, using Ansco Color.

•

Tony Gaudio

Gaetano (Tony) Gaudio, pioneer Hollywood cinematographer of more than 1000 films and winner of the 1936 Academy Award for photography, died August 9th at his home in Burlingame, California.

A former member of the American Society of Cinematographers, he served as its president from 1924 to 1925. Gaudio came to the U. S. from his native Italy in 1906 to head the old Vitagraph company's film lab in New York City. He went to Hollywood in 1911 to reorganize the camera department for Universal Pictures. He subsequently moved over to Warner Brothers studios where he photographed the studio's top stars, including Bette Davis and Greta Garbo.

Gaudio is survived by his wife, Marie, and two sons—Frank, also a cameraman, and Antonio, a San Francisco lawyer.

•

John Arnold, A.S.C., head of MGM'S camera department, and who has been carrying on extensive research with a new type of studio lamp for reflected light, has several of the units in use on MGM sound stages at the present time. Bid advantage of lamp's use, says Arnold, is elimination of sharp shadow defini-

tion. Lamp received its initial test on MGM's "Rain, Rain Go Away," soon to be released.

•

The photography of "A Place In The Sun," Paramount production directed by George Stevens, former cameraman, and photographed by William Mellor, A.S.C., is garnering accolades wherever it is shown. Looks like a good bet for one or more Academy Award nominations.

•

Karl Freund, A.S.C., this month, announces a greatly expanded program for his Photo Research Corporation in Burbank, Calif. Until now exclusively a manufacturer of technical photographic equipment, including the well-known Spectra color temperature meter, Freund's company will now act as west coast sales distributor for several important eastern manufacturers, including Camera Equipment Company, Precision Laboratories, and others.

•

Harry Stradling, A.S.C., lost an opportunity to win a Venice Film Festival award for the photography of "Streetcar Named Desire," last month when that picture was withdrawn from competition as result of what was reportedly "pressure by American moralist groups." Picture, as yet unreleased in America, is a superior job of cinematography.

•

"**Process shots**, trick photography, stunt work and other such production secrets should not be shared with the general public," declared the Perlberg-Seaton Company last month, when it tacked "No Visitors" signs on its sound stages at Paramount. Besides lessening interference with production, the company feels that the ban is a safety measure, stating that Hollywood too long has been giving away its secrets—spoiling its illusions.

•

R.K.O. Studio has joined the march in converting from photo to magnetic sound. Company has completed installation in its dubbing rooms of latest RCA magnetic recording equipment, and has acquired portable recording equipment for use on locations.

•

John Boyle, A.S.C., drew the first assignment at Warner Brothers for shooting a feature picture using that company's recently developed color process. Title of picture is "Carson City." Warners is third Hollywood studio presently developing its own color film process. Others are Metro Goldwyn Mayer and 20th Century-Fox. The respective systems employ one or the other of presently available color negative films —Ansco or Eastman.

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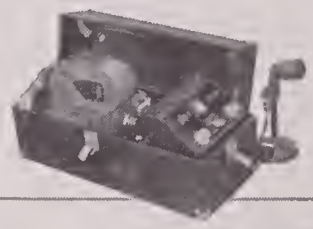

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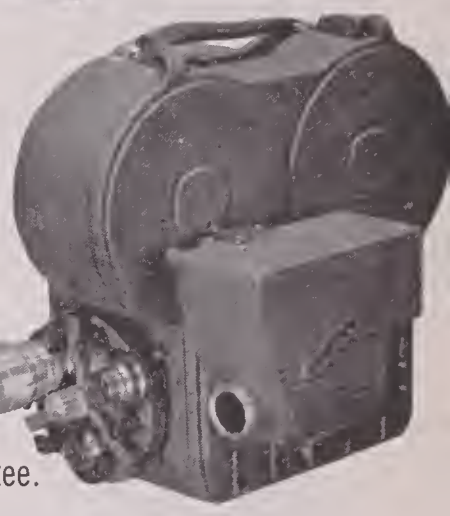

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"From Research to Reality"

Out Of This World..!

Unusual photography makes real the jungle and the antediluvan monsters of "Lost Continent," Lippert Pictures' action-fantasy thriller staged and photographed almost entirely indoors.

By HERB A. LIGHTMAN

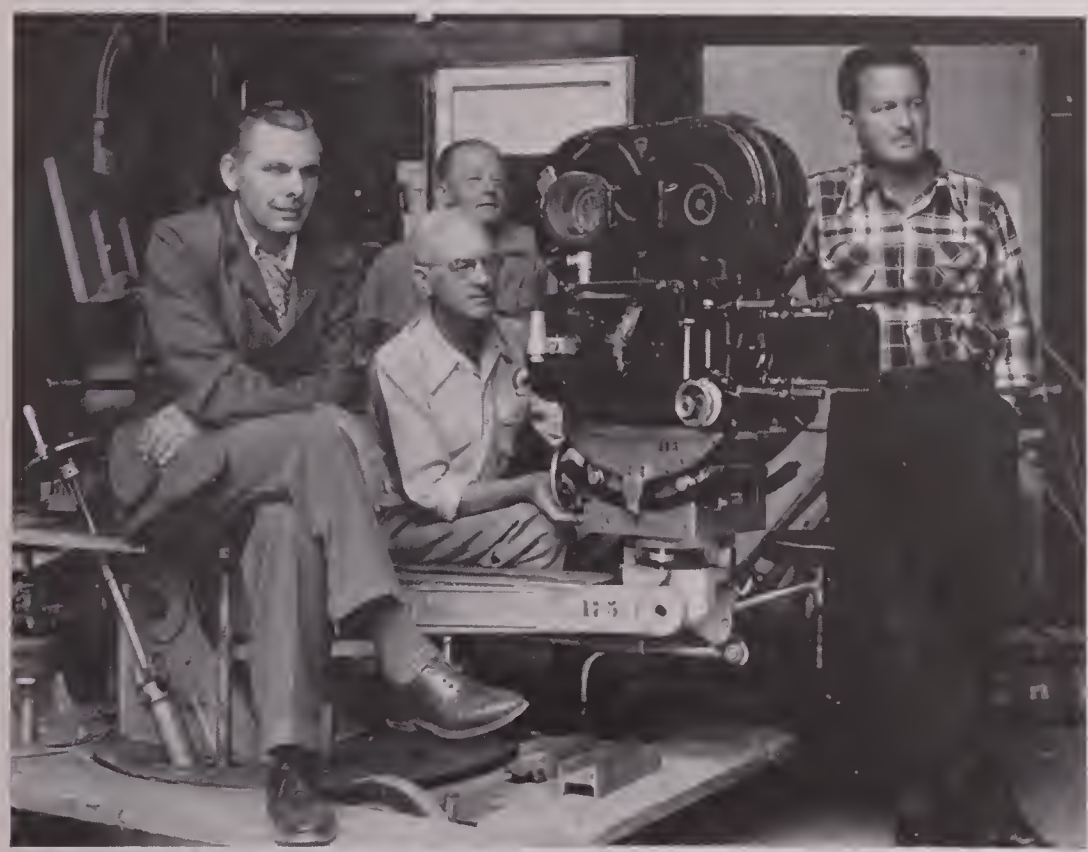
SCIENCE-FANTASY films, perhaps more than any other type of picture, depend upon top grade art direction, special effects and photography in order to successfully create an illusion. Judged on this basis, "Lost Continent" measures up as one of the best of the current "out of this world" cycle.

Produced by Lippert Pictures, Inc., "Lost Continent" follows strongly the action-fantasy pattern set by the same studio's phenomenally successful "Rocketship XM." Like its predecessor, "Lost Continent" is rich in apparent production value, the result of careful preplanning and the shrewdest use of elements calculated to give the vehicle scope and authenticity.

Competently acted and directed, the film owes much of its visual impact to the production design of F. Paul Sylos, the special effects of Augie Lohman, and the cinematography of Jack Greenhalgh, A.S.C. In fact, it is the photographic treatment more than any other element that lifts "Lost Continent" far above most films of its type. The versatile, mood-filled score by Paul Dunlap—which includes a haunting beguine, a sophisticated piano concerto, and eery impressionistic music for a lost world—comes in for the very highest praise as a contributing factor to the overall excellence of the film.

The plot concerns a group of Atomic Energy Commission scientists who launch a 100-foot atom-powered rocket into the stratosphere. When the rocket fails to return, they set out to find it in an Air Force C-47 transport. The plane, mysteriously "demagnetized," crashes on a jungle island, where its occupants learn from the natives that the rocket has crashed beyond a forbidden mountain in territory from which "none ever came back'.'

AIM of cameraman Greenhalgh was to create feeling of jungle vastness within limited confines of sound stage. Sets covered two connecting stages.



JACK GREENHALGH, A.S.C. (left) directed the photography of Lippert Pictures' "Lost Continent." Production was staged and shot on sets erected at Goldwyn Studios, Hollywood. Assisting him was Ernie Smith, operator; Bennie Coleman, assistant; and Georgie Breslau, gaffer. Camera was mounted on a crane or dolly for every shot.

The scientists and Air Force men have a series of hair-raising adventures while climbing the mountain, and when they reach the top they find themselves in a weirdly unreal world, said to be a 'lost continent" or throwback to a prehistoric age. After bouts with a brontosaurus, a giant pterodactyl, a triceratops and other outsize fauna of the antediluvian age, they find the rocket and manage to detach its recording unit—then flee down the mountainside and into outrigger canoes just as a violent earthquake cuts loose and the entire island blows up.

The success of such science-fantasy depends upon the creation of appropriately eery mood—and Jack Greenhalgh's

photography scores heavily in this department. In discussing the problems involved in photographing the film, Greenhalgh explains: "Our aim was to create a feeling of vastness within the limited confines of the sound stage. Also, we had to give the 'lost continent' sequence a mood of ominous fantasy, while still preserving a strong enough link with reality to convince the audience that these were situations that could and did actually happen to characters in the script."

To enhance this illusion, there was built on the huge stages of the Goldwyn Studios a conventional jungle (presumably at the foot of the mountain), a 50-foot rockbound peak scored with caves and chasms, and a ghostly "lost continent" jungle characterized by weird plants and rock formations. These sets covered two connecting stages, and in one sequence the camera pulls back from one stage, through the connecting arch and rises in a boom shot as the party starts up the mountain.

CAMERA was mounted on a huge boom here to permit it to rise with actors as they climbed up face of sheer cliff. Dry ice vapor simulated mountain fog.

ARC LIGHTING was used primarily throughout the production to produce simulated moonlight and brilliant sunlight. Here, survivors of crashed rescue plane unexpectedly encounter huge prehistoric monster in depths of Lost Continent's jungle.

The camera was mounted on a boom throughout much of the filming in order to rise with the actors as they climbed from one level to another up the face of the cliff. Hydraulic light stands that could be mechanically raised and lowered allowed the lights to rise with the camera. In one sequence, these stands made it possible for the lights to be lowered very slowly in order to simulate the effect of the sun going down. In addition, a 25-foot electrically controlled parallel was used to raise the camera and crew to various levels for filming of scenes high up on the mountain peak.

The mountain itself was a masterpiece of construction. Fashioned of materials strong enough to simulate actual rock and support the weight of seven actors clambering upward, it was mounted on rollers so that it could be wheeled around to provide a variety of set-ups and camera angles. It is a tribute to Greenhalgh's lighting skill that the 50-foot segment of man-made rock could be used as a background for a climb supposedly covering several thousand feet of mountainside. In most cases a shifting of the lights plus a fresh camera angle made a previously photographed segment of terrain appear completely different. Clouds photographed on transparencies were projected on a huge screen behind the rock, creating a realistically luminous sky effect.

In one sequence, the characters climb above the clouds, emerging from the swirling whiteness to find themselves on a high plateau. These clouds were created by filling a huge cage with dry ice and blowing the vapor onto the stage. The scene where one of the scientists falls off the rock and goes plunging through this cloud to his death is executed with jolting realism.

For the climatic sequence of the film, when the scientists are menaced by an earthquake, two huge segments of terrain, complete with native huts were mounted on rolling platforms and wrenched apart to show the earth splitting open. The camera was shaken at the same time to complete the effect. A segment of jungle was built around the special effects tank at the Goldwyn Studios to show the scientists taking to canoes just before the island blows up. Palm trees were wired so that they could be made to come crashing down at the water's edge. A compound ordinarily used in swimming pools to control algae was dumped into the tank to give the effect of sea water. The bottom of the pool had previously been painted a deep aqua shade. Machine-made waves completed the illusion.

Arc light was used primarily throughout the film to produce simulated moonlight and sunlight. The ruggedness of this lighting, realistically in key plot requirements, contrasts sharply with the glossy "glamour" lighting of earlier sequences set in the ultra-moderne apartment of a streamlined charmer. Special mention should also be made of the excellent combination of camera and cutting that goes to produce the strikingly realistic plane crash.

"Lost Continent" marks the 212th film photographed by Jack Greenhalgh since he became a Director of Photography in 1935. Having built a reputation for working very rapidly while turning out top quality photography, Greenhalgh explains that the result is mostly a product of proper pre-planning.

"After years of trial and error experience in filming all types of subjects,

(Continued on Page 377)

To Promote The Sale of Chinaware...

. . . we produced a unique documentary film that shows the process of making English bone china in one of England's oldest porcelain works.

By JOHN R. STEWART, A.R.P.S., M.B.K.S.

JUST COMPLETED in England and soon to be shown on 16mm in the United States is a documentary of more than usual interest. Called "The Doctor Ordered Clay," it tells mainly the story of how English Bone China is made at the 200 year old Worcester Royal Porcelain Works. But it tells a good deal more than that.

Although some of the manufacturing processes, especially perhaps the potter's wheel, are ideal cinema material, china itself is not cinematic. To hold attention throughout a twenty-five minute film was a problem.

Human interest, excitement, humor—these are the ingredients for a successful film. Fortunately they were all at hand. Founder of the Worcester Royal Porcelain Company in 1751 was a colorful personality—Dr. John Wall—the "Doctor" of the title. A brilliant physician, in the spare time which somehow he found for himself, he painted pictures good enough to be exhibited at the Royal Academy.

Most important moment in the life of Dr. Wall was his meeting with William Davis, Worcester Apothecary. These two men decided to start in Worcester the making of china. This event was re-enacted for our film.

For the exterior of the Apothecary's shop, a genuine old house in Worcester was stripped of modern attachments such as mail boxes, bell pushes and front door numbers and the name William Davis painted over the window. The interior was reconstructed in the studio, using many genuine antiques as "props," including a Bristol porcelain sauceboat, valued at 200 guineas, from which Dr. Wall may have got his first ideas on making china.

As a wealthy man, the Doctor inevitably suffered from the attention of highwaymen. Twice he was attacked and robbed when returning home at night after visiting patients. Here was excellent film material, and one of these incidents was re-enacted near to the actual

AUTHOR Stewart, using a Newman-Sinclair camera, prepares to shoot a scene for "The Doctor Ordered Clay," 25-minute documentary on manufacture of English bone china. Most props used here are genuine antiques.

FILM includes scenes showing detail of the fine han painting that characterized the decoration of porcela 150 years ago, and still followed today.

PREPARING to do a tracking shot in the packing department of the Worcester Royal Porcelain Works. Main illumination is from daylight coming through skylight overhead, and augmented by photo lamps.

A GENUINE old house in Worcester, England, was modified to represent the shop of an Eighteenth Century apothecary. Note the incongruous mixture of the "No Parking" sign with the old costumes.

PREPARING the outdoor set for the "Bull in a China Shop" scene. Rooftop stage afforded use of sunlight for illumination. Photo lamps furnished fill light.

THE SCENE as it appeared from behind the camera. It was easier to move camera to the farm, erecting China Shop set there, than bringing bull into city studio. The china used in scene were "rejects."

spot where it took place 200 years ago.

But the present day has its exciting moments too. Men have long talked of "a bull in a china shop" to describe somebody creating havoc and chaos. For "The Doctor Ordered Clay" it was determined to find out what would really happen if a bull were turned loose in a shop stacked with china. Apart from the fun of finding out, there was a logical reason for the inclusion of such a scene in the film. English china is nearly half ox bone. It is natural therefore that a bull should not feel too friendly towards china shops.

To build a china shop set actually on the farm was easier, and safer, than transporting a one-ton bull to the studio. Stacked with a thousand pieces of reject china, the "shop" at last waited for its one and only customer. Reporters and photographers, sensing the news value of such an incident, were there in strength. Local sightseers were warned by the village policeman that tthey stayed at their own risk. Last minute checks were made to lights and trip wires, then our two cameramen, using wide angle and long focus lenses, signalled they were ready.

As the bull, "Madresfield Champion," was slowly led to the set by farm hands, the atmosphere was electric. Would the set, doubly reinforced by stout beams, stand up against the charge of a possibly frightened bull? Would the barricades, now seeming very frail, keep the onlookers and technicians in safety? What would the bull really do as china smashed to fragments all round him?

Rarely has there been such an anticlimax. Once on the set with the farm hands on the opposite side of the barriers, Madresfield Champion stood still and slowly surveyed the china. Then, stepping carefully over trip wires with the grace of a ballet dancer, he carefully selected and chewed half a dozen advertising leaflets from the counter. "Ferdinand!" yelled someone from the crowd.

Cameras were stopped while the farm hands came on the set and walloped the bull with sticks. Down came a few plates. It took nearly twenty minutes of alternate goading and throwing china to break even half the pieces in the shop. Only one thing remained to be done. "Ferdinand's" girl friend, Rosebud, a prize cow was led to the set. For a mo-

(Continued on Page 376)

Color Correction—What It Means

Are you one of those who believe "color-corrected" lenses are something exclusively for color photography? Here this much misunderstood term is explained in detail by a prominent optical engineer.

By ALLEN E. MURRAY

Scientific Bureau, Bausch & Lomb Optical Company

BECAUSE the term "color-corrected lens" is often misunderstood by professional as well as amateur photographers, we believe the following article—perhaps the most lucid ever written on the subject—will clarify the meaning for many of our readers. It was originally published in INTERNATIONAL PROJECTIONIST *for June, 1951. We are indebted to IP's editor for permission to reprint it here.*—EDITOR.

COLOR-CORRECTION in lenses is not a new wrinkle introduced as a consequence of the growing popularity of color film. Lens designers and opticians have been laboring over color-corrections since the first lenses were assembled into optical systems. The term "color-corrected" is not so profound that, like, "abracadabra" or "open sesame," it should become a conjurer's word to call up the perfect lens. "Color-corrected" to the optical designer and optician has a very definite meaning, much as it may have been corrupted to include application to almost any type of lens.

A color-corrected lens, in the language of the designer, is one satisfying two rather stringent specifications, and no lens failing to fulfill these two requirements can fairly be called "color-corrected."

Historically, unwanted color in images was recognized very early, and constituted one of the first challenges to the lens designer's skill. The researches aimed at discovering the whys and wherefores of this annoying color led to a better understanding of lenses in general, and to new glasses, and even today are not completed.

The state of the color-corrections in a lens system is fundamental in the performance of the system and constitutes one of the first considerations in design. The subject is rather complicated, as there are in reality two distinct color abberations the designer must eliminate before he is entitled to say that his system is color-corrected.

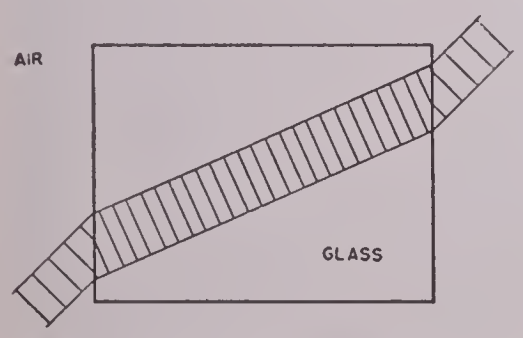
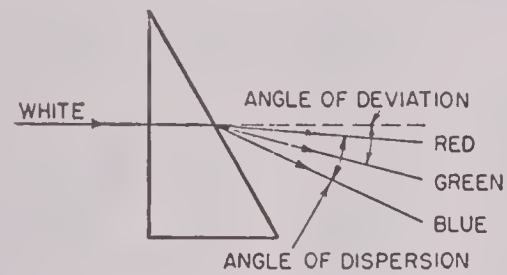
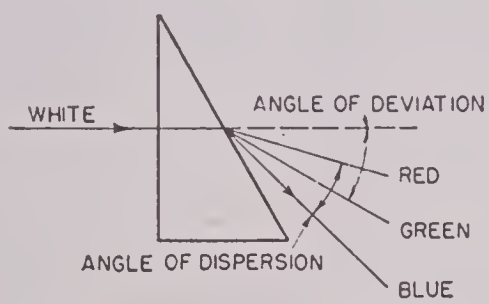


FIG. 1—Showing how beam of light is bent or refracted as it enters and leaves a denser medium.



Showing action of white light entering material of low refractive index.



White light entering material of high refractive index, at the same angle as above.

FIG. 2—Comparison of dispersion of red and blue light.

But before we undertake to amplify this statement, we must refresh our memories with a few facts of how light behaves.

Light travels in a vacuum at the astounding rate of 186,000 miles per second: that is, all light is conjectured to do so—blue, yellow, red, infra-red, etc.—it all skips merrily along at this dizzy rate in empty space.

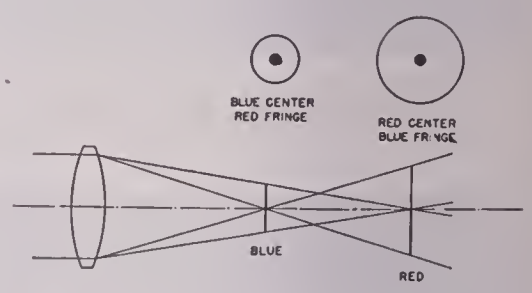


FIG. 3—Since refractivity of glass is greater for blue than for red, blue light will focus at a point nearer lens than will the red.

But something happens to this light when it reaches a region filled with a more tangible substance. What happens is exactly the same thing that occurs when a train hits a snow bank, or a football player enters a broken field: a reduction of speed. At the boundary of the optically denser medium, the light beam is bent, or refracted, if the angle at which the beam hits the denser medium is other than 90°.

Specifically, as Fig. 1 shows, on entering a medium in which the speed is less, the beam of light is bent toward the normal, an imaginary line perpendicular to the surface. The reverse is true on leaving.

The crux of the color effects is that in spite of the fact that all colors are transmitted through empty space with the same velocity, they insist upon being treated differently when traveling through ponderable matter. In glass, for instance, red light will travel about 3,000 miles per second *faster* than blue light. This speed differential has as its consequence the greater bending of the blue light over red light, causing the dispersion shown in Fig. 2.

In the design and manufacture of photographic objectives, several different types of glass are used whose basic action is illustrated in Fig. 2. One type is of low index of refraction, *i.e.*, it retards light little in passage. This glass, in

(*Continued on Page 366*)

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Duke University Makes Own Teaching Films

Over 20,000 feet of 16mm medical movies filmed to date.

By EARL PORTER

DIRECTING Duke University's medical movies production unit is Dr. J. E. Markee who has pioneered in medical visual aids for twenty years. "Secret of our films," says Dr. Markee, "is in the editing. We leave out the dramatic details and sound effects."

THERE AREN'T any searchlights and no free flowers for the ladies, but Duke University doctors hold a gala movie premier at least once a year. Movie making is under full steam at Duke's School of Medicine, and the price of admission is included in the medical student's tuition. The impresario is Dr. Joseph E. Markee, a director without a beret or sunglasses, and a man not given to sudden bursts of artistic temperament. He's simply a hard-working professor of anatomy who has been pioneering in medical visual aids for 20 years.

Duke's movie makers have produced more than 20,000 feet of 16mm teaching film and more than 600 colored slides to show with it, enough for about 60 full-hour shows. Here's the way it works:

Students in anatomy get a movie preview of each quarter's work before classes begin. They see on the screen all the details of the human body, how various muscles and tendons work, structures they'll be studying for the rest of their medical lives.

Then they begin regular classes and laboratory work. Meanwhile, the full-length film is divided into little 20-minute short subjects, one of the upper arm, another the lower arm and so on.

During the rest of the course they take advantage of continuous movie showings from 1 p.m. to 5 p.m. daily and drop in several times a week for refresher sessions on what they've been studying. Each time they'll pay special attention to a short subject on today's work or get another preview at what's coming up tomorrow.

Before Duke's movies are finished, Dr. Markee and his staff describe all that's going to be shown and record it on a sound track that will be broadcast with the movie. This means that while 20 or so students are looking at movies, Dr. Markee and his staff can be busy with another 20 in the laboratory. Two years later, when the students take their national examinations, they come back for a review and see the complete show again.

Other doctors are enthusiastic movie fans too. Orthopedists, surgeons and nose and throat specialists come in for special shows that illustrate detailed relationships between various parts of the body. The nurses need the movies too, especially those who work in the operating room. Physical and occupational therapists are also frequent visitors.

Here's what the movies do at Duke:

(Continued on Page 377)

DUKE'S MOVIES make medical education move faster. Future doctors get a preview of tomorrow's work in the laboratory, at same time hear recorded lecture that accompanies film.

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RANGERTONE magnetic tape recording equipment in use during production of Eagle-Lion's "The Hoodlum." Here sound is being recorded on a street scene on the studio lot. Track later was edited with picture film, using the Cue-Editor pictured below.

Rangertone Sprocketless Magnetic Tape Recorder

Magnetic pulses, recorded as separate control signal on tape, keep recording in sync with picture film.

By R. H. RANGER

Rangertone, Inc., Newark, N. J.

When Rangertone pioneered in the magnetic recording of sound for motion pictures, the field was wide open to select the most favorable magnetic medium. Trials were made with sprocket-hole magnetic film, but the inherent quality and economy of standard quarter-inch magnetic tape indicated such a decided spring-board, that all energy was soon concentrated in this field.

Naturally, quarter-inch tape only a mil and a half thick cannot support actual perforated sprocket holes, but with Rangertone recording system they are there as invisible magnetic pulses registered as a control track down the center of the tape during shooting with the camera. These pulses come from the same sixty cycle power that drives the synchronous motor on the camera. Thus an accurate record of the camera speed is recorded on the tape, along with the sound—as a separate track—ready to be used on playback to hold the tape movement in strict accord with the film motion in the re-recorder or projector. The magnetic pulses are on the tape at right angles to the normal sound recordings so that they do not interfere with the latter in any way. Furthermore, they do not need to be put on during the registry of the sound, but may be put on later. This makes the system a natural for post synchronous recording, when the sound track is pre-scored and the track is played back while the cameras are doing the shooting of the actors who are miming the sound. In other words, the control pulses are always put on the sound track when the camera is recording the scene photographically.

Right from the start, the system has proven its worth, as was amply demonstrated for top musical quality on "The Tanglewood Story," which Larry Madi-

(*Continued on Page 371*)

COMPLETE synchronous record and playback Rangertone magnetic tape console. Using ordinary sprocketless ¼-inch tape, control signal that keeps tape in sync is recorded simultaneously with sound.

CUE EDITOR is a double-tape playback unit which handles two tapes synchronously, moving either forward of backward. With this unit editor consolidates good takes in one single track.

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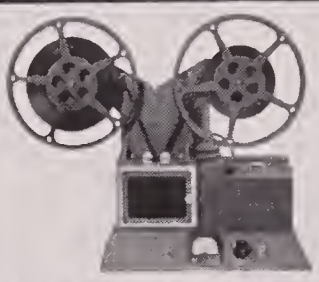

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SHOOTING a scene for "The Big Story" which later was integrated with live action scenes staged in the television studio. Directed by Charles E. Skinner, film scenes were photographed by cameraman George Webber.

"Integration" Pioneer

By CHARLES E. SKINNER

Reprinted from "The Screen Director," publication of the Screen Director's Guild, New York City, N. Y.

PROPER coordination between cameraman, lab and TV lighting personnel insures successful integration of filmed scenes with live action says Charles E. Skinner, shown here at far left directing a scene for "The Big Story."

Film and live action are integrated with outstanding success in the production of "The Big Story" for television.

ALREADY FAMILIAR enough to hold a place in the world of the facile cliche, today's arguments in the great debate on "Film versus Live Action in Television" can be looked upon as an inevitable development in a period of raucous transition. Among the arguments one hears is that film can't be integrated with live-action without the TV audience's being painfully aware of where the film leaves off and the live action begins. After more than two years of integrating film with live action on Bernard Prockter's "The Big Story," I submit that this just "ain't necessarily so."

Indeed, so many people, even experienced film men in Hollywood, have paid so much attention to the question of which parts of our show were on film and which parts were live action that I sometimes have wondered whether anyone cared whether the program was any good dramatically. (The continuing popularity of "The Big Story" on Friday nights would seem to prove that this was a needless worry.) Our success in cutting from live to film and back again in the middle of dramatic action and dialogue leads many people to believe that the entire show is on film.

Since there are factors in our successful film-live matching that we do not care to disclose, I shall not dwell on our methods in detail, but I would like to describe some of the paths we took in meeting the problems of integration.

I would like to say right off that there is no great mystery about our success with integration: the balance in cutting from live to film and back again is dependent on a technique which does not ignore, as do so many television shows, the all-important art of motion picture editing.

Anyone who plans to integrate film with live action is faced immediately with the bugaboo of poor film reproduction on television. But this problem can be solved if the proper coordination is developed between film cameraman, laboratory and TV lighting personnel. In addition to the usual film reproduction bugaboo, we had another problem: Our type of story had to integrate and match cuts, even to closeups, from film to live and from live to film. This was absolutely necessary if we were to be successful in meeting the challenge put to us by Sullivan, Stauffer, Colwell & Bayles, agency handling the account of Pall Mall Cigarettes. After three successful years with "The Big Story" on radio, Pall Mall, they said, was interested in putting the "Story" on TV—pro-

vided we could prove, with a pilot film, that the show could be visually as dramatic and believable as the radio story had been. All important in the test was whether we could produce visually the feeling of being "on the spot" with the reporters in the various cities represented —a quality which had contributed so much to the success of this well documented radio series.

This challenge was made to us shortly after Bernard J. Prockter, who at that time was exclusively a radio producer, had employed me to direct a film for another TV show he had in mind. Mr. Prockter placed "The Big Story" in my hands dramatically as well as production-wise, and we faced immediately a major problem: the problem of "conversion." Before going further into the discussion of integration I would like to examine briefly this question of conversion.

Now much has been said pro and con about the conversion of entertainment stories from one medium to another. There was much criticism over the conversion of radio stories into film stories, and today there are some who say that the adaptation of radio stories to television will cause TV standards to drop to the low standards of some radio programming. This is a point that is being carefully studied by sponsors and agencies with successful radio properties under consideration for TV adaptation.

It is true that conversion of many radio programs to TV would be a mistake. But if care is taken in the type of material selected for conversion, and if experienced visual writers, adapters and directors are given the duties of making the conversion, there is no reason why many extremely valuable radio properties could not become successful television shows.

This is not to say that people can't be "converted" along with the material. Clients, agencies and personnel who handle the many facets of televising can make the transition as well. There is, I submit, a common ground on which the experienced visual man can translate his production terms and procedure so that those needed to "convert" with a program can quickly grasp the radical demands of a visualized program in sharp contrast to radio. There are those who scoff at this procedure—who say that each field will be better off if its own trained people stick to what they know and don't express their opinions in the other field. But we would do well to recall a similar attitude once existed between movies and the theatre, each thinking the other incapable of working in its field, with a resultant loss for each. I can say for myself that if I can consider as a yardstick my two years at televising with a "converted" program, with its

(*Continued on Page 379*)

New All-purpose Film Leader Benefits TV Film Producers

By LEIGH ALLEN

A NEW TYPE film leader for motion picture prints is being made available to all producers and film laboratories by the Society of Motion Picture and Television Engineers. Use of the leader will eliminate "blind" switching of telecast films and will permit synchronous threading of all 16mm projectors. It will not upset established theater practice because the new design, which makes several special provisions for television use, is based upon the familiar Academy leader.

Excellent results have been reported following a six-month period of testing under supervision of SMPTE in which well over 10,000 prints have been made and used. The new leader has been endorsed by several television broadcasters and by the New York Projectionists' Local. Widespread use on prints for theater as well as for television projection is now urged by the Engineers.

C. L. Townsend, writing in the Journal of the SMPTE for May, 1951, stated "The New York Offices of several television companies have been using the new leader on their television recording releases and on certain other television films."

The familiar American Standard Z22.55-1947 is the foundation for the new leader design. Only additions have been made, and only such additions as cause no deletion of past features.

The main body of the leader ahead of the three-foot mark is changed from a solid black to an appropriate simple pattern (see illustration). The design is intended to be used in television to permit checking system operation before switching into the first picture frame.

The footage numerals have been changed to project right side up. It has been found that precise television program switching has caused these numerals to become of great value to program directors. Right side up projection makes them easier to read. The "Six" and "Nine" markers are spelled out to insure against confusing the two.

The picture threading frame for each 35mm foot is identical with the old leader, consisting of a full white background with black numerals overlaid. The 35mm sound threading marks have been changed to read in plain English "35mm Sound," replacing the previously used diamond mark. Added are 16mm sound threading marks which define the sound scanning position for that service. The leader also offers protection against mis-threading 16mm projectors.

Additional changes include a change of the familiar black frames following the three-foot marker. These have been given a dark grey tone. This is advantageous for television in that it will permit TV operations to switch into the dark frames without as much flare and black spots as now occur. Also, a small switching cue (see illustration, third frame above lower left-hand corner)

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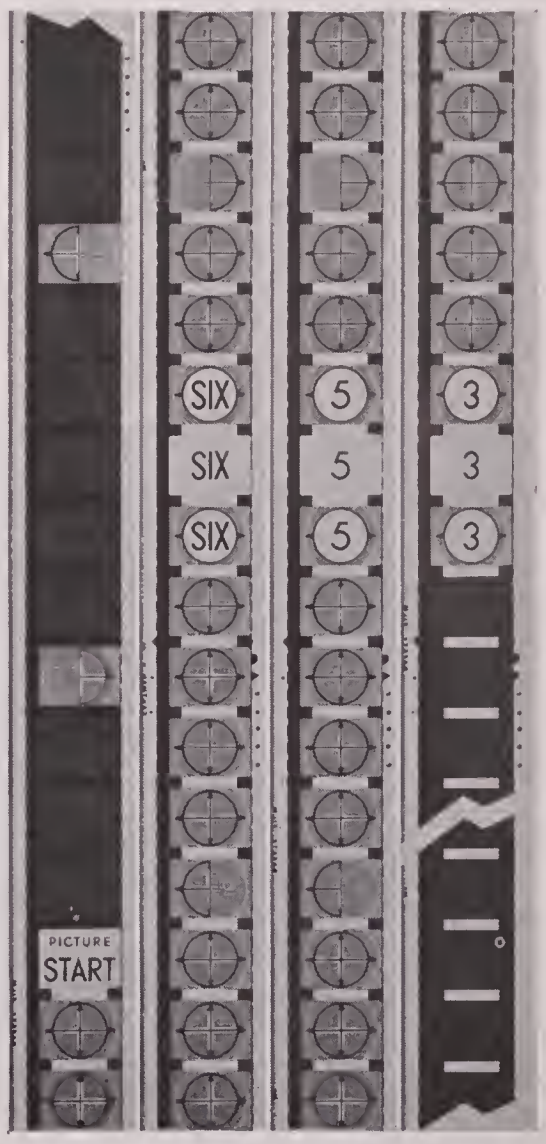

SAMPLE FOOTAGE from new SMPTE film leader for 16mm and 35mm motion picture prints. Broken edges indicate duplicate frames have been deleted.

Is Organization The Answer?

In this sequel to his July article, Alvin Roe discusses reader reaction to his "collective" film making idea and cites a new and interesting plan adopted by movie makers in England.

By ALVIN D. ROE

WE PURPOSELY omitted last month the "sequel" to our article in the July issue which dealt with "The Amateur Today," in order that we might have opportunity to receive and evaluate reader reaction. Some of it has been very interesting, and we presently shall quote from letters received from several amateur movie makers whose work generally is well known among the nation's cine cameraists.

In the July article, we stated that evidence showed a steady slowing down of interest on the part of American amateur movie makers, and suggested that what was needed was for amateurs to work collectively instead of singly, which would lead to better picture making, more consistent working in the hobby, and therefore more sustained interest—with the individual cine amateur deriving greater enjoyment from making movies.

Said George Kirstein, of Parkchester, New York: "Your article in the July issue has touched a soft spot in my makeup, and I feel impelled to add a few words.

"To begin with, the story and article are so true! I personally have been through both phases—the outstanding club which collectively made films, and the present void of non-activity. The club in question has since passed into oblivion. Today, with television and other interests taking a large share of the cine amateur's time, many old clubs of organized amateur movie makers have —as your article stated—slipped by the wayside. The advanced amateur who still desires to make serious pictures and work with others is faced with having to organize a new club and endure that phase of endless bickering over the constitution, officers, the showing of mediocre films (family snapshots badly exposed and focused, etc.) which has been the common pattern of forming of many cine clubs in the United States.

"If American Cinematographer can stir up some interest that will bring about the development of more progressive clubs on the order of the Long Beach (Calif.) Cinema Club, and others like it here in the U. S., it will be of immense benefit to the hobby."

Ralph E. Gray, a stalwart among the rugged individualists who has been a lone worker—and a darn good one, too! —since he first began shooting movies years ago, says: "If the grouping of talent, as suggested, will get more people interested, well and good." He further reports that for some time groups of advanced cine amateurs have been working together in producing serious films in several cities that he has visited on his lecture tours. He mentions a Cancer film produced by a group in New Jersey; the film "Paths To Safety," produced by the Movie Makers Club of Oklahoma City, as well as collective filming projects being undertaken by amateur groups in Miami, Florida, and St. Louis, Missouri.

Gordon Malthouse, editor of the highly regarded Amateur Cine World, published in London, wrote: "I was very interested in Alvin D. Roe's article in your July issue. I endorse much of what he says, but there are other important aspects so far as the European amateur film movement and its relations with the American are concerned . . . There seems to be a greater appreciation in Britain than in America of the value of securing general circulation for amateur films so that they reach the public as well as the closed circle of amateurs. We also have the encouragement of our Government-sponsored British Film Institute, and in other European countries official patronage is evident." Mr. Malthouse has kindly offered to write an article on this subject for a future issue of AC.

In the meantime, we note in the July and August issues of Mr. Malthouse's

(*Continued on Page 373*)

MANY British amateur groups are organized as "production units," much the same as professional film companies. Thus, besides the cameraman, there are always enthusiastic assistants to serve as script clerk, director, prop boy, grip, etc. This makes for expeditious and more finished productions, with all sharing the screen credits.

TWO SPOTS and a fill light illuminate scene above from "Let's Go Places," produced by Metropolitan Motion Picture Club, New York. Actually, only center light (right) illuminates set, lighting girl's back and hair and reflecting light from mirror to her face.

Lighting Home Movie Interiors

Success of indoor photography depends upon the filmer's knowledge of basic lighting principles.

By LEO J. HEFFERNAN

Photographs By The Author

INTERIOR LIGHTING is "all in the mind" of the movie maker; it has to be that way or no good will come of indoor filming.

Lighting know-how is mainly an accumulation of do's and dont's culled from one's own experience or from the experiences of other cameramen. In a way, each lighting setup is an experiment. Invariably the lights must be moved around until a desired effect is obtained. These adjustments bring about a refinement in lighting technique by creating pleasing balance between highlights and shadows; nevertheless a filmer's training should enable him to approach an interior scene with a clear idea of the general position which each of the main lights is to occupy.

The reason why location of the main lights must be determined in advance is that a definite mood is desirable in the screen picture—that is where artistry comes in. The picture has already been planned, and so the lights are set up only after the cameraman has formed an idea of what he wants to produce in the way of lighting effects. It is not simply a matter of directing enough light on the scene to illuminate the players and the set; he can do better than that. In common with Rembrandt and other acknowledged masters of light and shade, he will be guided by instinct and the utilization of good taste. There will be much arranging, re-arranging, scrutinizing, and changing, before each light is placed where it will do the most good.

Have you noticed that, in professional photoplays, extravagant lighting frequently occurs in sequences where the story action takes place in a home? Shots of cozy living rooms, boudoirs and dens are given special treatment by the lighting technicians because of the presence there of home lamps, candelabra, fireplaces, and other sources of natural lighting. When these are included in a scene as apparent sources of room lighting, they may be used as a basis for strongly directional lighting and eye-catching effects which would appear bizarre, otherwise. It is a happy circumstance, therefore, that most of the interior shots likely to be filmed by an amateur moviemaker are scenes inside a home. What could be simpler? All he has to do is include a table lamp or a floor lamp in the scene, replace the household bulb with a No. 1 photoflood bulb and, Presto! he has furnished himself with a springboard for many lighting ideas. The motivating question will then be, "How must I light the scene so as to make it look as if the main light were coming from this lamp?"

The best approach to interior lighting lies in the study of lighting effects found

(*Continued on Page 369*)

COLOR-CORRECTION—WHAT IT MEANS

(*Continued from Page 354*)

general, will retard blue only slightly more than the red.

At the other extreme are the glasses of high index, in which the velocity of light is lower, and this in turn means a greater angle of deviation whereby the blue is affected much more than the red, so that the angular dispersion is greater.

Sir Isaac Newton, who founded much of optics as we now know it, from his

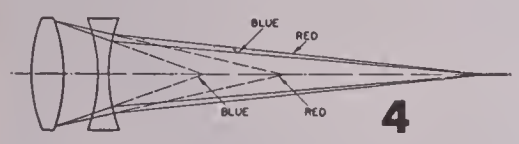

FIG. 4—How two lenses are combined to bring light of any two colors to a common focus.

extensive experience with the glass prisms of his day, concluded erroneously, that dispersion is always proportional to the deviation and that, as a consequence, achromatic combinations are impossible. Sir Isaac committed one of his rare mistakes in concluding that achromats are impossible and that the reflecting telescope is the best answer to the color problem.

Not long after Newton's death, the first achromats were made in England by combining a positive crown and negative flint lens to produce the basic type of achromatic doublet.

We have seen in Fig. 2 that a ray of light, upon passage through a prism, is bent, or deviated, in the direction of the base. This is essentially the fundamental reason for the action of lenses of all kinds. The curved surfaces act like an assembly of an infinite number of small prisms, deviating each ray striking the surfaces sufficiently to bring it to a re-

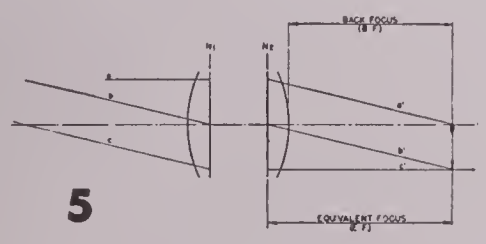

FIG. 5—Cardinal points can be looked on as points on the lens axis at which the refractive powers of the lenses or lens system are concentrated.

union, real or virtual, with the other rays forming the image.

A positive lens will *converge* parallel rays to a real focus; while a negative lens will *diverge* parallel rays, making them act as if they came from a point, the virtual focus.

From what was said previously concerning dispersion, it is apparent that *any simple lens cannot have one definite, fixed focal point for all light.* Since the light-bending power, or refractivity, of glass is greater for blue than for the red, the blue light will focus at a point nearer the lens than the red, this situation is illustrated in Fig. 3. This is the simplest and most readily grasped type of chromatic aberration, and usually the first corrected.

In practice, this longitudinal chromatic aberration will mean that there is no one focal point on the axis but several, depending on the color of the light used. A photograph made with a simple positive lens would show a large shift from visual focus to photographic, even with panchromatic negative material. The "chemical focus" of the old-time photographers was of this nature.

A perfect lens cannot be made, and even in the best lenses, there remains a very small residual of this aberration, so that when a color-blind emulsion responding only to the blue is used, a shift towards the lens is usually necessary—the so-called "chemical focus." This effect is familiar also to those who have used infra-red sensitive emulsions in their

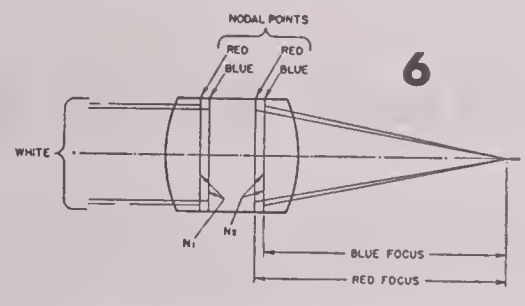

FIG. 6—Where red and blue colors unite in one focal point on the axis, and nodal points in the two colors are different, automatically the lens must have different focal lengths in the two colors.

cameras: for best results, it is usually necessary to rack the lens *out* a trifle.

A further result of this irresolution of focal points is the situation shown in Fig. 3, where at the blue focus the red rays create a red disc, and at the red focus the blue rays create a blue halo. A point object could hardly be photographed as a point under these conditions.

This axial chromatism is not difficult to correct and, as noted before, is given high priority. The secret lies in the relation of dispersion to deviation. Consider for a moment a simple positive lens as shown in Fig. 3. The marginal rays have been deviated toward a focus, and at the same time because of the dispersion of the glass, the red and blue rays are aimed at different points on the axis.

Now, everything would be perfect if there existed an optical material with a given amount of dispersion and no refractive power, for then correction could be effected with a plane parallel sheet of this wonderful material. Actually, the only practical material for this task is a glass which has a fortuitous relationship of refractivity to dispersion such that the dispersion will effectively cancel that of the positive lens while the refractivity is insufficient to cancel completely the convergence of the positive lens.

The lens component effecting this achromatism is negative, as shown in Fig. 4, and must have higher refractivity and dispersion than its positive mate.

This combination, then, will bring light of any two colors to a common focus

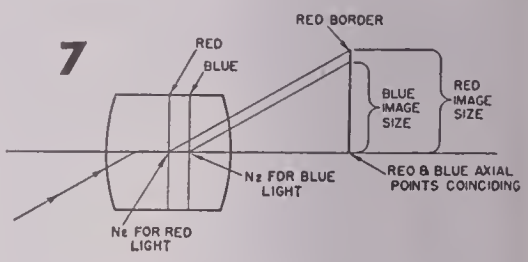

FIG. 7—Example of chromatic differences of magnification, or lateral color.

on the axis. The other colors will focus at points practically identical with the chosen colors. Thus this lens would give a color-free star image on the axis.

The other type of chromatic aberration is a bit more difficult to understand. It is somewhat more complicated both to explain and to show in a drawing. Some of us may recall mention in our reading concerning optics of certain things called "cardinal points," "ideal planes," *etc.* These points and planes are convenient ways of describing the properties of lens systems and are indispensable to the lens designer.

Briefly, these cardinal points can be looked on as points on the lens axis at which the refractive powers of the lenses or lens system are concentrated. The cardinal points and planes are exceedingly useful because they simplify computations by replacing a complex, almost unmanageable system by points at which all the refraction can be considered to occur, or more graphically, by thin lenses whose laws are simple and easy to handle.

Irrespective of the distance from the rear surface of the lens to the focal point in parallel light (B.F.) the equivalent focal length (E.F.) of a lens is defined as the distance from the second nodal point (cardinal point) to the second principal focal point (Fig. 5).

We are familiar with the fact that even with infinitely distant objects the image size is proportional to the focal length of the lens used. The 50-mm lens on miniature cameras will yield an image one-third the size of that formed by a 6-inch lens.

Now, it is a most unfortunate fact that the cardinal points have positions de-

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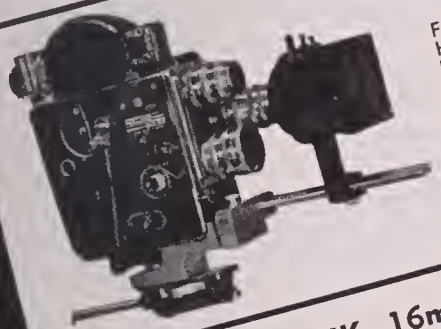

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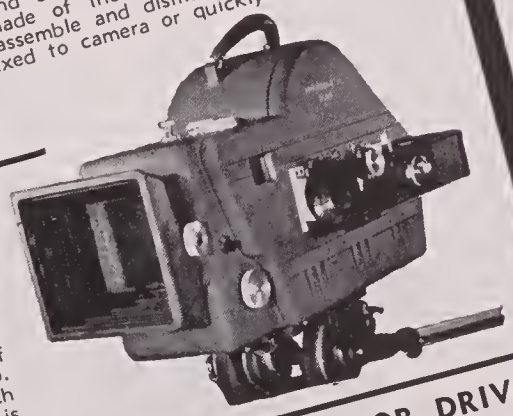

This Blimp constructed of Dow Metal magnesium, is thoroughly insulated to afford absolute silent operation. Exclusive features: Follow focus mechanism permits change of lens focus while camera is operating in blimp. Blimp takes synchronous motor drive which couples to camera. A dovetail bracket is provided to mount an erect image viewfinder.

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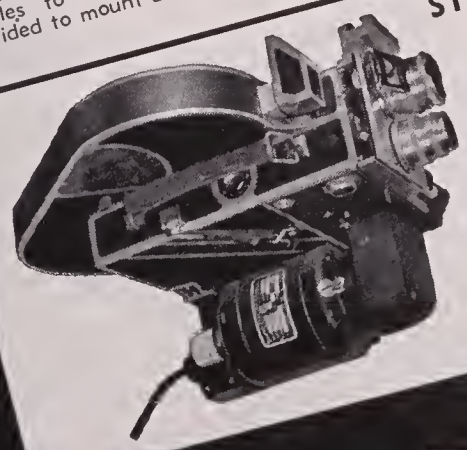

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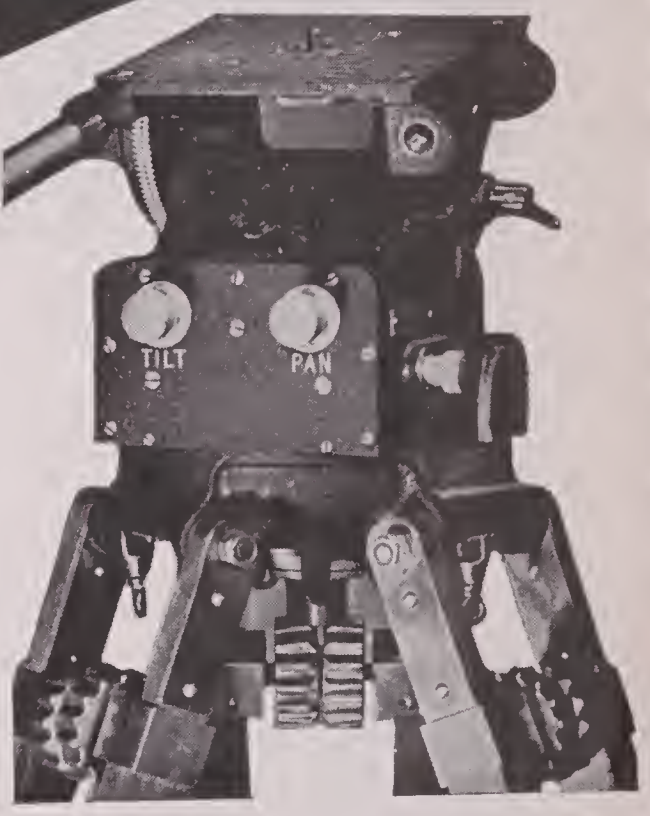
This motor will run in synchronization with either 16mm. or 35mm. sound recorders. It is provided with mounting platform which permits removal of magazine while camera remains mounted on motor. Drive coupling attaches to single-frame shaft of camera and is mated to spring-steel drive arm of motor gear box. This assures that camera mechanism cannot be damaged if a film jam occurs as the spring steel arm drive will shear. This is easily replaced. A knurled knob on motor armature permits rotating for threading. "On-Off" switch built into base. Platform base threaded for ¼" and ⅜" camera tie-down screws. Rubber covered cable with plugs included.



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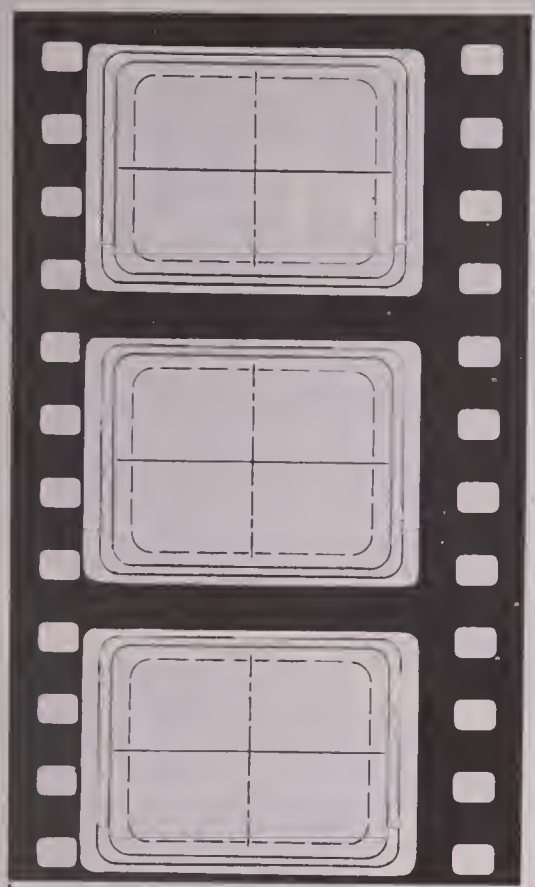

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pendent on the refractive index of the glass comprising the lens. Expressed in other words, each color has its own cardinal points which can be distinct from those of any other color. Now, if the lens is color-corrected axially, i.e., if the red and blue colors unite in one focal point on the axis, and if the nodal points in the two colors are different, automatically the lens must have different focal lengths in the two colors. This is shown in Fig. 6.

However, these different focal lengths, as we saw previously, mean differently sized images: that is to say, the magnification will be different, depending on the color (Fig. 7). It is for this reason that this second type of chromatism is spoken of as chromatic differences of magnification, or lateral color.

In a lens afflicted with this aberration the points in the margin of field are drawn into spectra, or rainbows. This particular aberration is most annoying even with black-and-white film, for it quickly sets the limit of usable field by producing a graded soft focus near the margins.

In the correction of this aberration, advantage is taken of the fact that some lens systems will give a spectrum with the red end closer to the axis; while others will give a rainbow oriented the other way around. In the correction of lateral color, then, systems of these apposing characteristics are balanced against each other until a satisfactory compromise is found.

We have now seen the two types of pure chromatic aberration—longitudinal chromatic aberration and chromatic difference of magnification. The former, the simpler type, is manifested by the absence of one single focal point for all colors, with the existence of a distant point for each separate color. This is a very troublesome aberration and is corrected in all but the most inexpensive lenses. These lenses can be spoken of as being "color-corrected" only to the extent that there is little or no shift of focal point with color.

This aberration is in theory independent of the aperture of the lens, though in practice its effects will be mitigated by stopping-down, for then the effective depth of focus is increased and the image is less sensitive to improper focus. Longitudinal chromatic aberration is corrected by combining a positive lens with a negative lens of higher refractive index and dispersion and of such power that the dispersion of the positive lens is annulled, but its convergence not canceled, so that a union of the red and blue colors occurs on the axis.

The second chromatic aberration is more complex and manifests itself in differently sized images in different colors. This chromatic difference of magnification is troublesome even in black-and-white photography, and the best lenses are corrected for this aberration.

Only the photographic objectives designed with this aberration pared to tolerable limits can be spoken of as "full color-corrected." This aberration is proportional to the image height, thus becoming worse toward the corners of the picture,. Stopping down the lens is without effect on this aberration. It can be corrected by employing combinations of elements of opposing tendencies, so that one set cancels the effects of the preceding.

"Eddie never believed in using a telephoto for closeups before."

The corrected lenses of the reputable makers have all been designed with this aberration in mind and can justly be spoken of as being fully color-corrected. However, it is well to remember that nothing perfect is manufactured, and that with the most refined tests it might be possible to demonstrate some lateral color with the most nearly perfect lens made. This would be without significance, however, since the test necessarily would be artificial and would not correspond to the conditions of use of the lens. If the longitudinal chromatic aberration has been corrected, and if the lateral aberration cannot be detected on the film, for all practical purposes the lens is "fully corrected."

Full color-correction is as essential in the best photography and projection with black-and-white emulsions as it is with color film. The effect of lateral color in the case of the former is to create a soft focus effect toward the margins, while with color film registration difficulties are the consequence of this aberration.

Color photography and projection has introduced no new element into the design of good objectives. With color film the color aberrations, particularly lateral color, become visible as color defects. The best lenses have always been fully color-corrected.

LIGHTING HOME MOVIE INTERIORS

(*Continued from Page 365*)

right in the home when ordinary room lights are turned on. It is the aim of the cameraman to reproduce these effects to some extent in his photography, using photo lamps that are twenty times brighter than home lights. This sounds like a problem in mathematics but, in practice, due to the strongly concentrated light needed for color film and the narrow brightness range which the film will handle, it will be found that a filmer must compromise in many ways.

Shaded areas should receive at least 25% as much light as do the highlighted parts of the scene. (The contrasts in ordinary room lighting are sharper.) The situation is further complicated by the fact that the main light sources are *not* the room lights, but powerful movie lights which must be located outside picture area. Each movie light casts a shadow and these shadows may belie the intended impression if, for example, the shadow of a home lamp, (shown in the scene as the main source of light), is projected upon a background wall.

To be good, the lighting must be convincing, and so tell-tale errors such as unwanted or multiple shadows should be eliminated. This can sometimes be done by raising the lights, but it is a

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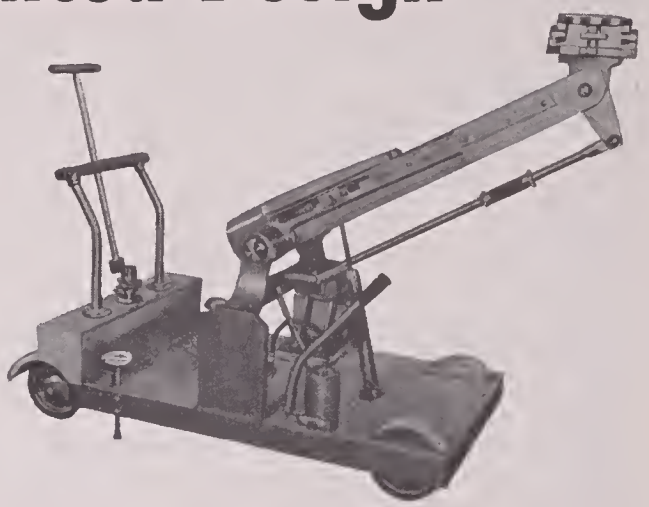

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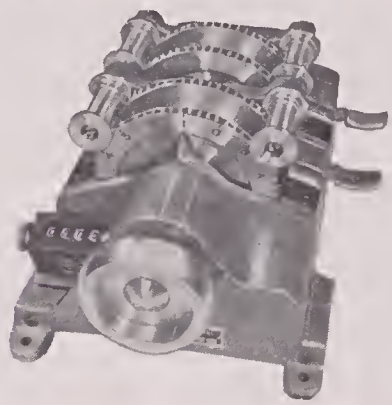

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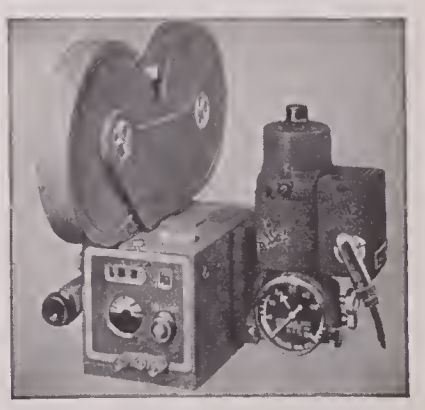

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bad practice to try to correct the evil by pouring more light on the background walls. Instead, the best procedure lies in moving the furnishings of the set, the players, and the room lamps, away from the wall. Thus, the unwanted shadows will fall upon the floor where they will not be noticed.

The idea persists that flat lighting is best for color filming because the colors themselves furnish sufficient contrasts to provide pleasing pictures. Assuming this to be so, how can sequences be photographed in flat light in a home and look right to us on the screen, when we know that usual room lighting is extremely contrasty? Moreover, color plays a secondary part in vision because most of us are capable of admiring nuances of light and shade falling upon objects—without noting their color. It is unreasonable to expect an audience to adjust itself to a deluge of color *minus* highlights and shadows in scenes so familiar as those made in a home. Flat or shadowless lighting, (coming from the general direction of the camera), may be suited to occasional scenes, but it is patent that strong patterns of light and shade should predominate throughout story sequences filmed indoors.

And yet, hard and fast rules cannot be set down since many and varied moods can be created in the screen picture by means of lighting alone. High-key lighting is suited to gay, frivolous or otherwise undramatic sequences. General front lighting and a bright background together with full exposure to the film, and the presence in the scene of light-colored clothing, drapes, furniture and rugs—all will assist in establishing a happy mood. Flatness is avoided by the use of side-lighting and back-lighting in such setups.

Dramatic scenes depicting dignity, sorrow or conflict are usually photographed in medium or low-key lighting. This is produced by directing the light upon the actors and key objects in the scene, and leaving the backgrounds and non-essential parts of the picture area rather dark. Thus, the illuminated parts of the scene are set off by velvety shadows and the audience must concentrate its attention in a dramatic sequence for example, upon the faces of the actors since there is nothing else on the screen at which to look. The mood is one of brooding and suspense.

These are some of the thoughts which will be in the mind of a moviemaker as he approaches the task of setting up lights for filming indoors. His work will be limited in scope by inflexible conditions which will surround him and hem him in on every side. For instance, he may not be able to move the camera as far back as he likes for a long shot—room dimensions. And even if he can move back, he probably cannot pour as much light on the scene as he wants to—"juicing" problems. If given to wishful thinking, he might conceivably sit down in the middle of a clutter of movie lights, extension cords, disarranged furniture, to think of all the beautiful shots he would *like* to make, but cannot. That will get him nowhere, expeditionsly.

Such a thing could not happen to John Q. Moviemaker who would have been thinking about the shooting sessions for weeks, turning his mind to solving all of the problems beforehand. Many nooks and corners about the house can be used as sets, and he can think of ways in which to light them up so as to follow the requirements of the script. The action of the players, entrances and exits, the breakups in camera positioning for long shots, medium shots, and closeups, interchange of lenses, the use of lap-dissolves—everything—right down to the last detail, is clear in his mind. When does he plan all this? Oh, riding back and forth to work; during moments which he steals from his daily tasks, or, perhaps, in bed just before he falls asleep at night. The point is that he is right in there pitching and the job will get done principally because he wills it so. His is the approach *par excellence* to any kind of moviemaking.

An acceptable set of lights for home filming consists of three or four reflectors using No. 2 photoflood bulbs, four spotlights having 500-watt projection bulbs or better and, in addition, some smaller spotlights which will come in handy for illuminating small areas. All lights should be on stands and many lengths of heavy electric extension cords will be needed.

It would not be possible to use all of these lights at one time without blowing fuses—but, it might be desirable to set up, say, three floodlights for a scene, then, in the next scene, a long shot, use four spotlights so as to project light into the area.

Inexpensive substitutes for reflectors and spotlights are the reflector flood and reflector spot photoflood lamps used in clamp-on units. These are handy because, by means of the clamp, they can often be positioned in otherwise inaccessible places. But for general use, a filmer should not depend upon a chair back or other casual mounting surface. Instead there should be substantial lamp stands affording ample elevation upon which to clamp the lights. Without the flexibility provided by the stands, the clamp-on units are bothersome in the extreme.

The average indoor scene will have a depth of about ten feet. This means that the distance from the actors or foreground objects, which get the benefit of the main front lights to the brackground walls will be ten feet more or less. Light strength falls off sharply, so much so that, if the distance from the main lights to the actors is ten feet, and the wall and background objects are another ten feet farther back, the background objects and wall will receive only 25% as much light as the foreground. (Light strength decreases to one-quarter when the distance it must travel is doubled.)

For this reason, it is necessary to illuminate the background independently of the foreground. This is done by placing a spotlight or a floodlight as near to the background as possible and directing its rays on the underlit area. It may be necessary to use more than one lighting unit in this way if they cannot be positioned close and still be out of the picture area.

The location of the main light will depend upon the effect which the cameraman desires to create in a particular scene. This effect will establish the mood or "key" and thus the main light has come to be known as the key light.

Ansco Color Film For MGM Cameras

TO ENABLE Metro Goldwyn Mayer get off to a flying start with the filming of "The North Country," Ansco shipped first lot of Ansco Color film for the production by air aboard Flying Tiger air freight lines. Production is first employing newly developed color filming method utilizing Ansco Color negative and positive. Robert Surtees, A.S.C., directed the photography.

If the establishing shot (long shot) has shown that there is a table lamp at the right, then the key light should fall quite noticeably from that direction. There is no reason why it must be the exact direction. Artistic licenses will permit the movie light to be raised or lowered or otherwise adjusted without destroying the illustion that the light is coming from the home table lamp.

Inasmuch as the key light will project shadows, a "fill light" is employed near the camera, (usually on the side away from the key light), and this illuminates the shadows on foreground objects. In color filming, the shadow portions should receive at least 25% as much light as the highlighted areas, or the shadows will have a black opaque look.

Backlighting will point up contours and will provide a pleasing, well-modeled effect which will separate the foreground from background objects. Spotlights should be placed above and slightly to the rear of the foreground actors. While the lights are trained on the actors, they should not shine into the camera lens. Movie amateurs have trouble keeping light stands out of camera range when they are trying to create back-light effects, so they usually compromise by placing the lights high up and to the extreme side of the actors, rather than in back of them.

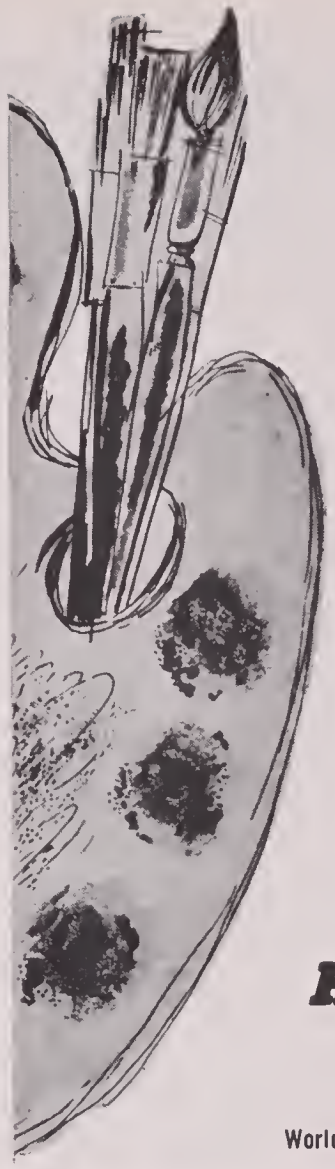
As the lights are being adjusted, the scene should be scrutinized carefully in order that all lighting errors be corrected or eliminated. These are numerous and some are hard to detect. They will be described, and suggestions regarding their cure will be given in a subsequent article.

RANGERTONE RECORDER

(*Continued from Page 358*)

son of MPO produced for the State Department, employing the Boston Symphony Orchestra and Sergei Koussavitzky. Young & Rubicam advertising agency was responsible for another milestone. Portability and compactness were at a premium in making "The Pharmacist's Mate," shot aboard the submarine Sawfish for a Pulitzer Prize series TV show. The Rangertone magnetic recorder was chosen for the job. The March of Time has recently been making a documentary deep in coal mines using the Rangertone. Here storage batteries provide the power for both camera and sound equipment.

Quarter-inch magnetic tape is more than just another way of getting sound for motion pictures; it leads to other advantages. The normal playback characteristic of the tape gives emphasis to



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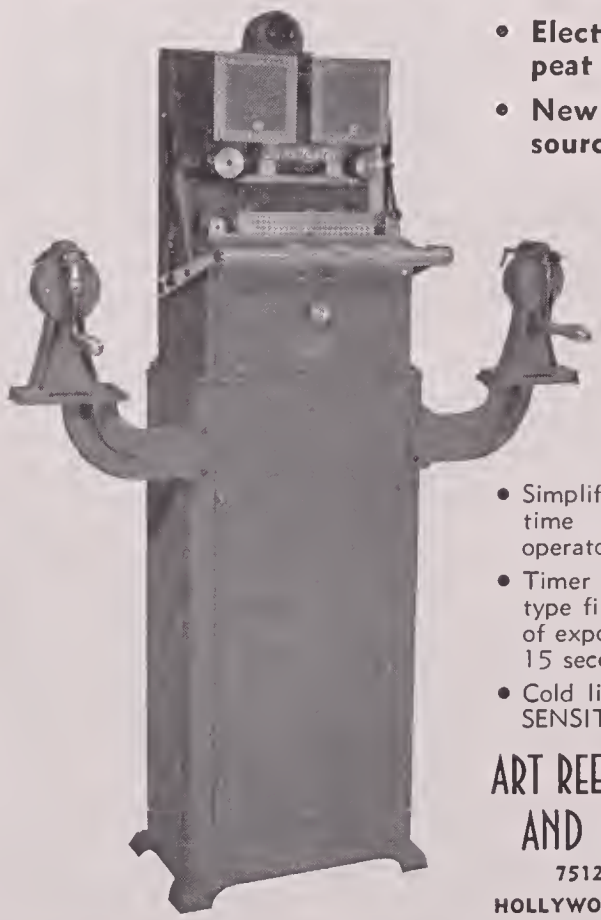

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highs which is just where film sound is deficient. So, by judicions coordination of these complementary characteristics, a very smooth final sound print is obtained with a minimum of phase distortion. One of the best equipped government film laboratories found the cross modulation resulting from the magnetic tape method to be down as much as 37 dbn. Such quality requires, of course, close coordination in the processing of the film as well; but most of the major laboratories have undertaken to give their customers the benefit of this quality.

Now Cue Editing has been added to Rangertone techniques. As the name suggests, this is a method of using tape cue tracks to edit the original tape recordings and wind up with a continuous tape recording matched to the final edited picture. This original may then be used for the final transfer and mix to get the negative for making the composite prints. This means that transfers have been reduced to a single recording from original tape to final film negative. The steps are as follows:

1. The original tape recording is sequence-cut to the good takes.
2. These good tape takes are then transferred to a direct positive film work print.
3. This work print is fine edited to the picture.
4. This edited sound work print is then transferred back to a cue tape, quarter-inch magnetic.
5. This cue tape is then used as the guide in the Rangertone Cue Editor for matching the original tape to the cue.
6. The final edited original tape track is then used in synchronous playback for the final mix to negative film.

In step six, a single transfer from the original tape is made to the final negative sound track.

The Cue Editor illustrated here, is a double-tape playback unit which handles two tapes synchronously, whether they are moving forward or back. As the cue tape and originals should wind up of the same length, it becomes an easy matter to make this final cutting which corresponds in many ways to the cutting of the negative sound track to an edited work print.

The ability to play back this original edited tape with the picture gives producer and client an excellent opportunity to determine the complete effectiveness of the presentation before the final mix is made.

As the work print will never be used for its sound quality in this method, no special care need be taken to avoid scratches; and no de-blopping is necessary. Furthermore, if a mistake is made in the editing or a new plan is made, it is not generally necessary to call for another piece of work print. All that need be done is to substitute blank film for the missing frames to ensure that the timing will be correct on the final cue tape. Then the cue editor will have no difficulty in making the final bloopless original tape takes into a well rounded smooth continuous track of the entire reel. Furthermore, minor adjustments, forward and back may be made on the cut tape if synchronous runs with the picture show that this is necessary.

The Glen Glenn Sound Company of Hollywood, which has now concentrated all its original sound recording in the quarter-inch tape system, has just completed a remarkably planned sound track which enables a crew to go out anywhere and be in action in a matter of minutes on location, with both camera and magnetic sound.

"We never did live sound before we got our Rangertone Lip-Sync equipment," was the way one busy film producer summarized the facility that this new quarter-inch tape method has made possible. Instead of just post-narration, others have come to realize the dynamic qualities of natural sound with picture.

For the past year, Horace Heidt has originated the sound for his travelling Youth Opportunity Radio and TV Program on a tandem of Rangertones. It has been on this series that many of the fine points in winding up with top quality sound on film have been evolved.

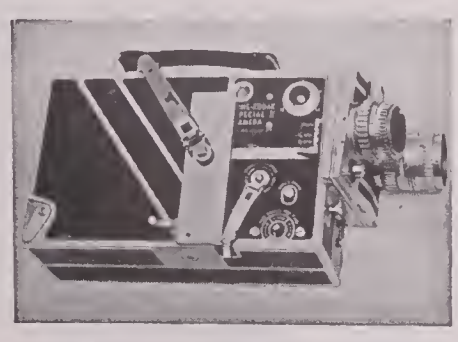
The Gene Autrey, Flying A pictures are another highlight in this new Rangertone technique. Some other users are: Boy Scouts of America, Julian Bryan, International Motion Picture Service, Knickerbocker, Vernon Lewis, Education Division—Puerto Rico, Saul Heller Films, Telenews and Unity Films. In the New York area, Synchrotone is renting Rangertone equipment. A complete equipment is being readied to go to the Israel Motion Picture Studios in Telaviv.

Studios and laboratories where producers may send their tapes for transfer to sound film includes the following:

George W. Colburn Laboratory, Inc., 164 N. Wacker Drive, Chicago 6, Ill.; Crawley Films, Ltd., 19 Fairmont Avenue, Ottawa, Canada; General Pictures Productions, 621 6th Ave., Des Moines, Iowa; Glen Glenn Sound Company, 6624 Romaine Street, Hollywood 38, Calif.; Holly Smith Pictures, 106 South Church St., Charlotte, North Carolina; Precision Film Labs, 21 West 46th Street, New York 19, N. Y.; Reeves Sound Studios, 304 East 44th St., New York 17, N. Y.; Universal Recorders, 6757 Hollywood Blvd., Hollywood.

These laboratories are also in a position to advise in the use of the Rangertone System, as is of course Rangertone, Inc., 73 Winthrop Street, Newark 4, N. J.

Makes Perfect Lap-dissolves



YOLO Automatic Dissolve attachment installed on Cine Special camera.

An Interesting gadget for the Cine Special camera is the Yolo Automatic Dissolve Attachment, which makes it possible for any cameraman to execute perfect lap-dissolves in the camera. Each fade is of equal length and exactly timed.

Lap-disolves are made by first executing a fadeout, winding back the film in the camera, then making a fadein over the same footage. The trick has always been to make both fades identical in length and properly superimposed in order to give the dissolve professional appearance. Except where the camera operator has had much practice, this has been difficult. Now the Automatic Dissolve takes out all the guess work.

All you have to do is press up on a lever and hold it until the camera stops. Then wind back film 48 frames, hold the lever down, and start the camera again. The shutter will gradually open in a fadein occupying the identical frames of film as were exposed in the fodeout. You can make a dissolve from a shot at one camera speed to a scene made at a different speed. And it is equally easy to dissolve from stop motion to slow motion.

Installation of the attachment does not preclude making fades and dissolves manually as before. The shutter lever may be operated independently.

Attachment is easy to install. There are no holes to drill in camera, and the only modifications necessary are removal of notches on camera's variable shutter adjustment lever, and a slight adjustment of backwind crank to permit it to clear the attachment housing. With attachment in place on camera, camera will fit the regular Cine Special carrying case, as before.

Designer and manufacturer is Joe Yolo, professional cinematographer, whose Hollywood address is 5968 Santa Monica Blvd.

IS ORGANIZATION THE ANSWER?

(*Continued from Page 364*)

publication, an excellent idea which might be adopted here in America. It has to do with A.C.W.'s recently inaugurated plan for aiding in the organizing of Cine Circles. Quoting from A.C.W. for July, the Editor wrote:

"So many lone workers write to us to ask if we can devise some way for them to get to know each other. For various reasons they do not want to submit to the discipline of a cine society. They prefer to make their own films instead of assisting in club productions, but at the same time they would welcome the opportunities for friendly discussions and exchange of views that a society provides.

"We hope that the A.C.W. Cine Circles will help to satisfy that need. This is how the circles will operate:" The writer then went on to explain that in the beginning a notebook will be circulated among members of a Circle. Each member will write something about himself and the film he is making or has made, or he may throw in a problem for discussion, and perhaps add a snapshot of himself. This book is then circulated among the Circle's entire membership; the members thus come to know each other by correspondence, with the possibility of eventually forming discussion groups. The object of the preliminary circulation of the notebook is to enable the members to know each other, learn which is a beginner and which is the advanced worker, thus leading to the *ultimate formation of Circles composed of members all on the same level of experience or activity.*

In its August issue A.C.W. reports that at the time of going to press, sufficient applications had been received from amateurs to form 17 Circles of twelve members each. Since then, we learn, more than 40 "leaders" have started the formation of Circles in the British Isles alone.

The foregoing, of course, deviates from the core of our suggestion set forth in the July issue—that what was needed was more amateurs working together collectively in making movies. However, A.C.W.'s new and revolutionary step may be the very thing, if carried forward in this country, that will reactivate amateur movie makers here and bring active groups together for the purpose of making worthwhile pictures.

And so we rest our case for the present, that we may have time to receive additional reaction from our readers.

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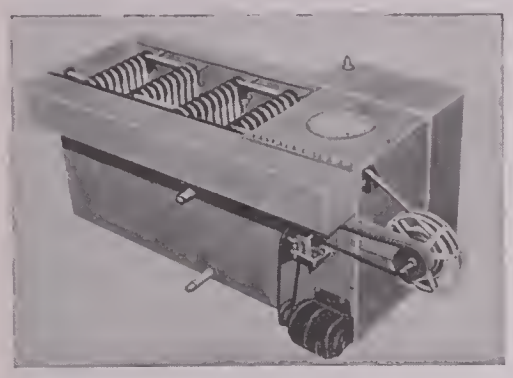

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Television Film Production

By LEIGH ALLEN

Producers of the "Amos 'n Andy" TV show have solved the problem of securing and recording spontaneous audience reaction — laughter, applause, etc. — which is heard with the sound and dialogue.

Instead of running a closed loop of pre-recorded laughs and applause along with the sound track, when the films are printed, the producers screen each picture in the series before a regular theatre audience. As picture unfolds on screen, genuine audience reaction is recorded on magnetic tape. This sound is then integrated in the final dubbing of sound track for the release prints.

Glen Glenn sound studio, using Rangertone Recording Equipment, handle the recording chore for Hal Roach Studios, producer of the show.

•

Making a TV newsreel pay its way is one of biggest problems of TV stations throughout country which feature newsreels as regular program material. Production costs are biggest headache. However, the problem appears to be solved in the recently announced working agreement between United Press and 20th Century Fox's Movietone Newsreel, whereby the two will produce newsreel items especially for television. Instead of producing complete newsreels, as does Movietone News at present for theatres, material will be shot and assembled in clips of individual items and distributed to stations subscribing for the service. Thus, subscriber stations will receive newsreel material regularly, and edit same to fit their TV newsreels. Plan enables stations also to intercut the syndicated material with footage shot of local events by own newsreel camera staffs.

•

Karl Freund, A.S.C., has been signed to photograph the new series of TV film shows starring Lucille Ball and Desi Arnaz, which will go into production this month.

•

James Van Trees, A.S.C., last month, was signed to a term contract as director of photography for Filmcraft Productions, Hollywood, producers of the "Groucho Marx Show" and "Who Do You Want To Be" show on film for television.

•

Jerry Fairbanks' video film making activities are spilling over and across the

NOVEL MINIATURE setup for TV commercial film produced by Video Films, Detroit, for Gordon Baking Company. Instead of usual gondolas, the wheel revolves with twelve tiny loaves of Silvercup bread. A travelling matt shot was used to make milk bottles appear descending into moving loaves to illustrate Silvercup's claim that "More than a pint of whole milk goes into every loaf!"

street on Sunset Boulevard, Hollywood, to the Rockett Studios, where Fairbanks has leased space to accommodate his rapidly expanding TV film production program.

•

August Video Film Production: The following cameramen were actively engaged in Hollywood in photographing films for television during the past month:

LUCIEN ANDRIOT, A.S.C., "Amos 'n Andy" show, Hal Roach Studio.

WILLIAM SICKNER, A.S.C., William Broidy Productions.

STEWART THOMPSON, A.S.C., Arizona Motion Picture Corp.

ALAN STENSVOLD, Cathedral Films.

LESTER WHITE, A.S.C., Jerry Fairbanks-Official Films.

JAMES VAN TREES, A.S.C., Filmcraft Productions.

JACK JOHNSTON, New World Productions.

PETER O'CROTY, Peter O'Croty Productions.

RAY FOSTER, Paul Parry Productions.

JACK MACKENZIE, A.S.C., Revue Productions.

WALTER STRENGE, A.S.C., Roland Reed Productions.

PHILIP TANNURA, A.S.C., Roland Reed Productions

PHILIP TANNURA, A.S.C., Showcase Productions.

JOSEPH BIROC, A.S.C., Snader Productions.

CLARK RAMSEY, Superman, Inc.

WILLIAM WHITLEY, Superman, Inc.

GORDON AVIL, Television Associates.

ELMER DYER, Adrian Weiss Productions.

BENJAMIN KLINE, A.S.C., Frank Wisbar Productions.

KENNETH PEACH, A.S.C., Ziv Productions.

•

Producers of films for TV have been jolted with rumor that nearing perfection is sight-and-sound on tape, meaning, of course, both the picture and sound recording magnetically on tape. Idea could wreck a lot of video film production organizations; but its not likely. Because of the need for editing, pictures would have to be shot photographically on film first, later transferred to tape for release on the air.

•

Matching the Hal Roach Studios in Culver City in importance as a TV film production center, is the recently refurbished Eagle-Lion studio in Hollywood, where more than 30 motion picture and video film production companies are presently set up for motion picture production.

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"5000" Watt unit—two light heads, stands, converter, case; 10,000 watts on less than 30 amps. $230.00.

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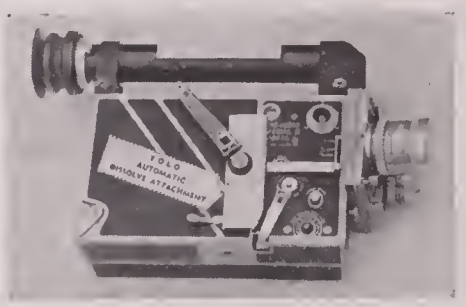

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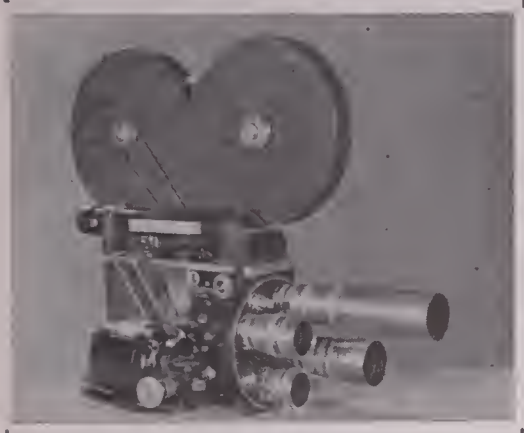

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Consider the convenience of having 400 feet of film available for instant use, as well as the savings of time and effort formerly devoted to changing 100-foot film chambers, and you can readily see why the PAR 400-foot magazine is a "must" for your Cine Special.

The PAR 400-foot magazine is operated by the camera spring motor with a PAR spring take-up, or by an electric motor drive. It is reversible for backwinding, features a footage counter, and permits normal use of the 100-foot film chamber. Both daylight loading spools and film on cores of any size up to 400 feet can be used. The entire magazine is quickly and easily removed, and can be used with the PAR Reflex Finder Magnifier.

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TO PROMOTE THE SALE OF CHINAWARE

(Continued from Page 353)

ment it seemed that love would triumph. The reluctant bull took a few steps towards her, bringing down a tableful of china amid loud cheers. About 500 feet of film had been shot of the incident. Out of this some 25 feet showed real action and this footage, combined with previously shot cut ins, made a convincing sequence in the final film.

In hunting out details for the historical side of china making, there were fortunately many old prints available, and it was easy enough to recapture the atmosphere of the china factory of past years.

Perhaps the most difficult of all sequences to film successfully was one showing a succession of famous pieces of Worcester China from 1751 to the present day. Mostly the pieces were shown being used or handled by people of the period. One dinner service, ordered by King George III in 1788, was filmed in a house in Curzon Street, London, which was furnished and decorated in the exact style of the period. Handling a service supplied in 1945 to the Indian Maharajah of Baroda, was a charming Anglo-Indian girl, 16 year-old Isabel Mohammed, while to end this sequence special shots were obtained of a set of china presented to Princess Elizabeth by the citizens of Worcester, when she married the Duke of Edinburgh in 1947.

For the shots where china plates and ornaments appeared alone, almost every camera trick was employed to bring movement and interest to these otherwise static objects. Rotating turntables, lighting changes, tracks, superimpositions—all were used, and what might easily have been little more than an illustrated catalogue has been turned into a swift moving attention-holding sequence.

"The Doctor Ordered Clay'' was filmed throughout with London-made Model "G" Newman Sinclair 35mm motion picture cameras, using Mole-Richardson lighting equipment and occasionally Photofloods for special shots. Polaroid filters proved invaluable in overcoming disturbing reflections when filming closeups of highly glazed china figures. All sound was post-synchronized, although many sequences were designed so that the picture holds attention and is self explanatory, requiring only suitable mood music.

As much camera movement as possible was introduced into the scenes at the factory, and a rubber-tired truck running on wooden rails, laid in what seemed to be all the most difficult places, helped to make these smoothly and easily.

But there were difficulties. Parts of the factory are very old, and in one grinding room where a high-angle shot was needed, the rafters up near the roof were covered with inches of white powdered clay, which penetrated lenses and magazines, quite apart from noses, eyes and most other parts of the body. Eventually after long waits for the powder to settle, the shots were successfully made. But it was many hours before equipment was cleaned and ready for the next set up.

Main feature of the factory scenes is a superb statuette of Princess Elizabeth on horseback, in her uniform of Colonel-in-Chief of the Grenadier Guards. Shown in detail is how the figure is first modelled, then cut into fourteen pieces for mould making, and finally assembled, fired and painted. Only one hundred of these statuettes will ever be made, thus assuring their value as a collector's piece in the years to come.

Near the end of the film the spirit of Dr. Wall returns to see with amazement the Worcester Porcelain Factory of today. The final scenes were shot in historic Bath Abbey, where Dr. John Wall is buried. Because gas is still used in the Abbey for illumination, special cables were run in from adjacent buildings and carefully concealed in the central heating ducts in the floor, to power our photo lamps. Tracks were laid for almost the full width of the Abbey in order to photograph a visitor as she

ADV.

"That's Heathcoat—they found out he owns a KINEVOX."*

*(*Leading portable, synchronous magnetic recorder.)*

walked down the aisle and finally stopped to look at Dr. Walls memorial.

Produced for a modest budget but making full use of natural settings and local talent, "The Doctor Ordered Clay" has been accepted for theatrical showing over the Associated British Cinema circuit, the largest British chain of theatres. In the U.S.A., 16mm copies will be distributed from the New York headquarters of the Worcester Royal Porcelain Company. By far the greater part of the output of English Bone China from Worcester comes to the United States.

"The Doctor Ordered Clay" should stimulate even more interest in Worcester Royal ware, showing as it does not only how its manufacture began, 200 years ago, but also the skill and craftsmanship which still goes into the making of every piece today.

FILM LEADER

(*Continued from Page 363*)

has been added in the eighth dark frame before the first frame of picture. This is used as an indication to TV directors that the picture will start within normal switching reaction time.

History and development of the leader began in January of 1950, when F. T. Bowdich, SMPTE's Engineering Vice-president, decided that the information which had been submitted to him on the leader then generally in use warranted an investigation.

At first there was some feeling that a special television leader might be produced which would exist as a special-service standard and leave unmodified the old Academy Leader, but it was decided that unlooked-for problems could be avoided by a proper common-use leader design. From the beginning excellent cooperation was obtained from producers, laboratories, projectionists and broadcasters, resulting in the issuance on April 19, 1950, of the first sample leader (in card form) for limited comment and criticism.

Some feeling has been expressed that the leader is "hard to print." As compared with the dupe of a dupe of a dupe sometimes used for the old leader, it is somewhat more difficult. But any good laboratory can do a thoroughly acceptable job without difficulty, and the result is good dressing for a fine printing job.

Master positives of the leader, either 16mm or 35mm, for preparing dupe negatives are available from the Society of Motion Picture and Television Engineers, 40 West 40th Street, New York 18, N. Y.

OUT OF THIS WORLD!

(*Continued from Page 351*)

you develop a kind of sixth sense that enables you to plan set-ups and lighting accurately in advance, so that actual time of execution on the set is cut to a minimum," he points out. "The cameraman owes a lot to the Art Director, also—because when sets are skimpy or unimaginatively designed, it's difficult to put quality into the photography. The best we can do is shoot around the set in such a way as to tone down the weak spots by shading the light off them, and build up the strong points by lighting them fully. It keeps you on your toes to make the most judicious use of what you have to work with. It was a pleasure to photograph 'Lost Continent,' however, because the sets were excellent."

Greenhalgh took time off from Hollywood during World War II in order to join the 5th Air Force in New Guinea. He was placed in charge of an echelon of the 5th Combat Team shooting battle-action films. However, his worst casualty was suffered not on the battlefield, but on a Hollywood set. While shooting a charging stampede of 50 Indians for a film appropriately titled "Slaughter Trail," he was trampled by a mounted redskin. In this skirmish he suffered 10 broken ribs, a broken collarbone, and had his lung punctured by a bone fragment. As a result of this accident he was hospitalized for four weeks.

Greenhalgh recently photographed "Sword of Monte Cristo" (reportedly the first feature film to be shot in the new Eastman monopack color negative). Other recent assignments include "Three Desperate Men," "New Mexico," "Miraculous Journey," "Buried Treasure" (filmed in Jamaica), and "Adventures of Casanova" (filmed in Mexico City). He has just completed photography of "F.B.I. Girl," a slick spy thriller, also for Lippert Pictures.

UNIVERSITY TEACHING FILM

(*Continued from Page 356*)

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(*Continued on Page 379*)

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Current Assignments of A.S.C. Members

Major film productions on which members of the American Society of Cinematographers were engaged as directors of photography during the past month.

★ ★ ★ ★ ★ ★ ★ ★

Columbia

• FAYTE BROWNE, "The Hawk of Wild River," with Charles Starrett, Smiley Burnette, and Jack Maloney. Fred Sears, director.

• W. HOWARD "DUKE" GREENE, "The Brigand," with Anthony Dexter, Jody Lawrence, Anthony Quinn and Gale Robbins. Milton Bren, director.

• ELLIS CARTER, "Sound Off" with Mickey Rooney, Delores Sidener, Sammy White, Gordon Jones, Pat Williams, and John Archer. Richard Quine, director.

• WILLIAM SKALL, "Brave Warrior," (Technicolor) with Jon Hall, Christine Larson, Jay Silverheels and Michael Anasara. Spencer Bennet, director.

• CHARLES LAWTON, "Captain Blood Returns," (Technicolor) with Louis Hayward, Patricia Medina, John Sutton, Genevieve Aumont, Rex Evans, Charles Irwin, Malu Gatica and George Givot. Ralph Murphy, director.

• HENRY FREULICH, "Cripple Creek," (Technicolor) with George Montgomery, Karin Booth, Bill Bishop, George Cleveland, Roy Roberts. Ray Nazarro, director.

• WILLIAM BRADFORD, "The Old West," with Gene Autry, Gail Davis, and Pat Buttram. George Archinbaud, director.

Independent

• JACK CARDIFF, "African Queen," (Horizon Prodn., shooting in Belgian Congo, in Technicolor) with Humphrey Bogart, Katherine Hepburn and Robert Morely. John Huston, director.

• ERNEST LASZLO, "Three For Bedroom C," (Brenco Pictures) (Supercinecolor) with Gloria Swanson, James Warren. Milton Bren, director.

Lippert

• GEORGE ROBINSON, "Adventures of Robin Hood," (Roach-Lippert Prodn.) with Robert Clarke, Mary Hatcher, Ben Weldon, Wade Crosby, Whit Bissell. James Tinling, director.

M-G-M

• ROBERT PLANCK, "Belle of New York," (Technicolor) with Fred Astair, Vera-Ellen, Keenan Wynn and Alice Pearce. Charles Walters, director.

• WILLIAM DANIELS, "When In Rome," (Shooting in Italy) with Van Johnson, Paul Douglas and Joseph Calleia. Clarence Brown, director.

• JOHN ALTON, "The Enemy," with George Murphy, Nancy Davis, Lewis Stone and Billy Gray. David Bradley, director.

• FREDERICK A. YOUNG, "Ivanhoe," (Shooting in London, in Technicolor) with Robert Taylor, Elizabeth Taylor, Joan Fontaine, George Saunders, Robert Douglas, Felix Aylmer and Finlay Currie. Richard Thorpe, director.

• CHARLES ROSHER, "Scaramouche," (Technicolor) with Stewart Grainger, Eleanor Parker, Mel Ferrer, Janet Leigh, Nina Foch, Henry Wilcoxon, and Richard Anderson. George Sidney, director.

• WILLIAM MELLOR, "Skirts Ahoy," (Technicolor) with Esther Williams, Joan Evans, Vivian Blaine, Barry Sullivan, Keefe Brasselle. Sidney Lanfield, director.

• JOSEPH RUTTENBERG, "Young Man In A Hurry," with Russell Nype, Ruth Roman, Denise Darcel, Nina Foch and Donna Corcoran. Mitchel Leisen, director.

• ROBERT SURTEES, "The Invitation," with Van Johnson, Dorothy McGuire, and Louis Calhern. Gottfried Reinhardt, director.

Monogram

• GIL WARRENTON, "Aladdin And His Lamp," with Patricia Medina, Johnny Sands, Dick Erdman and Billy House. Lew Landers, director.

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Paramount

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• LIONEL LINDON, "Green Gold of Nevada," (Pine-Thomas Prod., in Technicolor) with John Payne, Susan Morrow, William Demarest, gnes Moorhead and Roscoe Ates. Edward Ludwig, director.

• HARRY WILD, "Son Of Paleface," (Technicolor) with Bob Hope, Jane Russell, Roy Rogers and Trigger. Frank Tashlin, director.

• GEORGE BARNES, "Somebody Loves Me," (Pearlberg-Seaton Prod., in Technicolor) with Betty Hutton, Ralph Meeker, Robert Keith, Adele Jergens and Billie Bird.

R.K.O.

• HARRY STRADLING, "I Want You," (Goldwyn Prodn.) with Dana Andrews, Dorothy McGuire, Farley Granger, Peggy Dow, Robert Keith, Mildred Dunnock, and Ray Collins. Mark Robson, director.

• GEORGE DISKANT, "Day Without End," (Filmakers Prod.) with Ida Lupino, Robert Ryan, and Barbara Whiting. Harry Horner, director.

• RUSSELL HARLAN, "The Big Sky," (Winchester Prod.) with Kirk Douglas, Dewey Martin, Eliz. Ttreat, and Buddy Baer. Howard Hawks, director.

• NICHOLAS MUSURACA, "Road Agent," with Tim Holt, Richard Martin, Mary Jo Tarola, Kenneth MacDonald. Leslie Selander, director.

• WILLIAM E. SNYDER, "The Korean Story," (Edmund Grainger Prod.) with Robert Mitchum, Charles MaGraw, and Lala Rios.

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• CHARLES G. CLARKE, "Red Skies Of Montana," (Technicolor) with Richard Widmark, Constance Smith, Richard Boone and Jeff Hunter. Joseph Newman, director.

• JOSEPH LASHELLE, "Elopment," with Clifton Webb, Anne Francis, Charles Bickford, Reginald Gardiner and Evelyn Varden. Henry Koster, director.

• KARL STRUSS, "Rose of Cimarron," (Alperson Prod.) (Technicolor) with Jack Buetel, Mala Powers, Bill Williams, and Lillian Bronson. Harry Keller, director.

• LEO TOVER, "Pride of St. Louis," with Dan Dailey and Joanne Dru. Harmon Jones, director.

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• Ted McCord, "I'll See You In My Dreams," with Doris Day, Danny Thomas, Frank Lovejoy and Mary Wickes. Michael Curtiz, director.

• Robert Burks, "Room For One More," with Cary Grant and Betsy Drake. Norman Taurog, director.

• Edwin DuPar, "The Lion And The Horse," (Technicolor) with Steve Cochran and Ray Teal. Louis King, director.

UNIVERSITY TEACHING FILM

(Continued from Page 377)

work; translates a lot of things that have to be seen to be understood.

3. They cut down on the amount of teaching time. "Elbow teaching" has always been the rule at Duke, and it takes a lot of men to do it right.

The Duke movie program in anatomy is the most complete in the United States today. A Duke doctor is now at the Mayo Clinic setting up a similar program; another will launch one at the University of California's new medical school this Fall. A special Duke movie on the structure on the hand is now being distributed to all American medical schools. The program is supported by a grant from the National Foundation for Infantile Paralysis, which group is distributing copies of the films.

Medical motion pictures aren't as noisy as westerns or musicals, Dr. Markee says. "We leave out the dramatic details and sound effects," he explains. "We assume that the students are going to be interested. That's why they are in medical school." But Duke's movie makers have become experts at certain special effects. They've worked out shading techniques to show an individual muscle as it gradually becomes paralyzed.

Again, they wanted to show how the structures of the arm fit together. It's easier to show when you start at the surface and work down into the bone. But the wooden model they wanted to photograph was easier to put together than to take apart. So they filmed it being put back together with the camera turned upside down, and then simply reversed the film, end for end, when editing it.

But they have become most skilled at the make-or-break task of editing. "Just like all movies, ours are really made in the cutting room," Dr. Markee says. "The secret is in the editing—in knowing what we want to leave in or leave out and where we want to show it."

Dr. Markee has for several years been one of the leaders in all visual aids in medicine: colored slides, movies, models and drawings. He is a member of the motion picture committee of the Association of American Medical Colleges; adviser to the American Film Institute; and a member of the Motion Pictures of the American Academy of Anatomists.

Whether it's slides or movies, there is always only one goal: to save time. "The only reason for ever teaching anyone anything is to save time," he says.

"INTEGRATION" PIONEER

(Continued from Page 363)

producer and his associates, with NBC's splendid production personnel and with the product's agency representatives, then I strongly recommend that we continue to "convert" and let the audience dictate which programs they prefer.

Certainly, when we went to work to meet the challenge of converting "The Big Story" from radio to television, the personnel of the Prockter organization found no difficulty in working with and understanding the methods of the film people we brought in to do the pilot picture. Jerome Robinson of the Prockter associates busied himself with casting, and Everett Rosenthal supervised production, handling costs and general preparation. The writer gave me a treatment he had written and I prepared a visual adaptation suitable to Mr. Prockter.

We decided to use 35mm film instead of 16mm, and we selected a major studio

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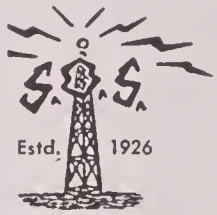

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where we could get first-rate production help and settings designed to our taste. For a crew we used the same staff that had been associated with me in my eastern production work as an independent: George Webber on the camera; Michael Slifka, assistant cameraman; Jack Aichele, production assistant. Arthur Rosenbloom, with whom I had worked on many wartime films at Astoria, left NBC-Fairbanks newsreel and joined us as editorial supervisor. (Today Art directs all film for Prockter's "Big Story" and "Treasury Men In Action.")

There were many problems but they were solved as fast as they arose. Experiences of the movie crew were absorbed by the men from the radio field, and vice-versa. When we finished with the pilot film we could assuredly say that each man had contributed much more than merely a share, and we awaited "the word" from agency and sponsor. That "the word" was favorable is evidenced by the fact that today we are still doing "The Big Story" together.

Indirectly, the apprehension felt by Mr. Prockter in the challenge of converting his "Big Story" to TV led to our adopting the "live-film" integration method. After the pilot film was completed, the agency wanted to do the show "live" since film production costs are higher than live. This posed a problem because essentially I was and still am a film-stage director. I was not familiar with TV production other than films for television. However, I was anxious to try my hand at "converting" —to see how tough it would be for a director not experienced in live TV to make a go of it. Mr. Prockter was sympathetic to my predicament—after all, we were all in the same boat. But it was obvious that a straight live studio show, with no actual location scenes, might lose the flavor of reality—of being "on the spot"—that had made the radio show a success. In short, the problem was one of bringing to the visual show the same scope possible on the radio through the use of words and sound effects alone. The limitations of TV were never more apparent.

After much discussion of the format and after much juggling of budgetary problems, we decided that we would not deviate from the manner of the pilot film production. Film can be edited; television cannot. It was decided to film the portions of the show that required us to establish for our audience that we were on the spot (in the city, at the newspaper office and at other locations called for by the story material).

Mr. Prockter bought a station wagon and I designed roof, front and tailgate camera platforms. We purchased a set of special portable lights and cables capable of giving brilliance with minimum handling, to enable us to film interior long shots in the newspaper offices or at other locations, using whatever juice was at hand. We had to become portable, mobile and highly productive in a short space of time.

TV film reproduction quality was a major "must." We studied much film on TV and most of it was of poor transmission quality. As I have already pointed out, we had the additional problem of integrating and matching cuts, even closeups, from film to live or live to film, often right in the middle of a dialogue sequence. Due to our tight schedule we could not wait for ideal location conditions but had to shoot on sunny, rainy, dark or light days many sequences and scenes, that had to intercut. We had to shoot night scenes in bright sunlight and always by daylight because our two-day schedule did not allow for any delays. Yet we were determined that the effects, production quality and transmission quality would be of the best when the show was presented on television.

Being the film man in the "conversion" setup, this problem was naturally left in my hands. I worked very closely with George Webber, the cameraman, and with the laboratory officials at De Luxe we discussed the problems pro and con and arrived at certain operating standards to be followed on location and in the laboratory.

We studied the quality of our pilot film on closed circuits and found its transmission, as a film in total length, excellent. This picture had been shot under existing exterior conditions at the scheduled time of production (with no waiting for ideal conditions), and it had been balanced by the expert camera technique of Webber and subsequently the laboratory. But now we were faced with our real problem: the matching of film and live action as to lighting and transmission quality. This was the unknown quantity, and a lot of believability depended on it.

It was our plan that film should never be used as a filler—it should always advance the plot; and we insisted that the audience must not be aware of when we were on film or on "live," because we did not want the story value damaged by an awareness of technical changes. These decisions, made over two years ago, with no standards in filming, laboratory, etc., to go by, might have been just so much wishful thinking. That they did not turn out to be so is a tribute to the willingness of all parties concerned to work together in closest harmony, from cameraman to laboratory technicial to TV electronics engineer.

The next step we had in mind was a

(Continued on Page 382)

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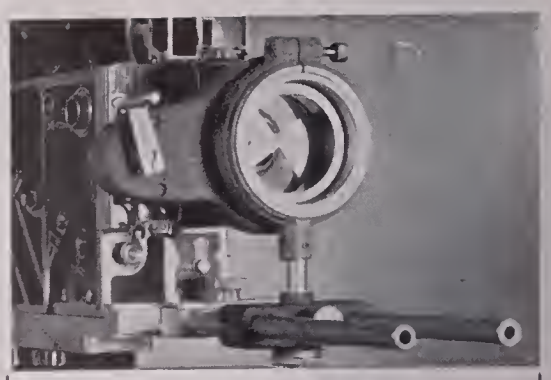
series of discussions with NBC's lighting personnel, but since the show was several months from its starting date and since each lighting man works in a different manner, much as in motion pictures, we realized jointly that this was an issue to be faced with each individual program until we either balanced film and live or fell on our faces trying.

We finally set out on the road, filming. The pace followed in the actual shooting of the film portions of "The Big Story" set some sort of a record, I'm sure, for movie production. Certainly it was a far cry from the traditional location practice of scheduling a few scenes for each day and changing the schedule to meet weather conditions. Two days of shooting, then a day of travel for the crew. The production assistant would leave while we were still shooting and go on to the next place to pick up the arrangements made by our advance man. I would fly or take a train, usually within an hour or so after the last shot, to the next town, go over locations, select exact spots, cast doubles and extras, meet the next "reporter-actor" for that particular show, discuss plot all during the intervening day while the camera crew and driver travelled in the station wagon towards this next location. Then two more days of shooting. (In those days larger portions of the "Story" were filmed and required more time.) This routine I followed regularly until our show went weekly last March.

The week of the performance this was the schedule: Monday through Thursday—stage "Big Story" live portions at our New York rehearsal Hall; Friday—block the scenes for camera angles, stage dry run, dress rehearsal, integrate film and finally go on the air (strange-sounding description for a film and for live action). Next morning (Saturday) we would leave again for a week of filming, return and stage another show; then a week of script-reading, set-design discussions, etc., stage another show, and on the road again. It was a rigorous schedule, but we felt we were pioneering, and the results made the efforts more than worthwhile.

To us, at least, our success with "The Big Story" has shown the way. Prockter's "Treasury Men In Action" proves that our methods can be duplicated. The important point is that quality transmission of film on television is entirely feasible, and the possibility of smoothly integrating film and live action is far beyond the stage of conjecture. It is a reality waiting to be taken advantage of by those who are willing to work hard, with an open mind, and a desire to cooperate with the creative and technical minds and hands existing today in radio, television and motion pictures.



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Integral with this progress is the Eastman Kodak Company. Through the Eastman Technical Service for Motion Picture Film, it aids studios and laboratories in the selection and exposure of film, black-and-white and color; helps set up control systems, establish standards of quality and economy, "trouble-shoot" when the need arises; co-operates with exchanges and exhibitors, making sure that each foot of film produces optimum results, gives best possible showing.

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137 North Wabosh Avenue
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West Coast Division
6706 Santa Monica Blvd.
Hollywood 38, California

Talking about Movies

•

. . . your basic tool is your camera. Choose it carefully!

•

A movie camera, however simple it is to operate, is *not* a simple instrument. A camera must move film —stop it—expose it—move it on and repeat the whole process anywhere between 8 and 64 times *every second.* To build a camera that will perform these complex operations perfectly requires painstaking design, the most conscientious workmanship.

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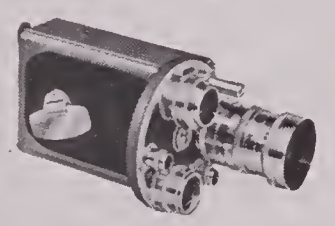

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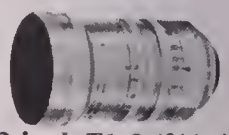

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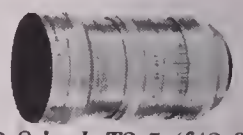

2.8 inch T2.5 (f/2.3)
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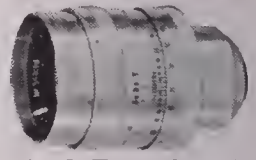

4 inch T2.5 (f/2.3)
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You choose a lens for what it does . . . wide angle, telephoto, or perhaps a lens that is simply fast. BUT—don't assume just *any* lens will perform its primary function, which is to transmit to the film a clear, well defined image, with the color values just right. And the quality of every member of this lens family is second to none in the 16mm field.

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at this new low price. Now your Auto Load can have all the versatility offered by the Auto Master 3 lens turret, and for only $59.95! This special price includes installation but not extra lenses. Price returns to $75 September 1, 1951. See your authorized Bell and Howell dealer today.

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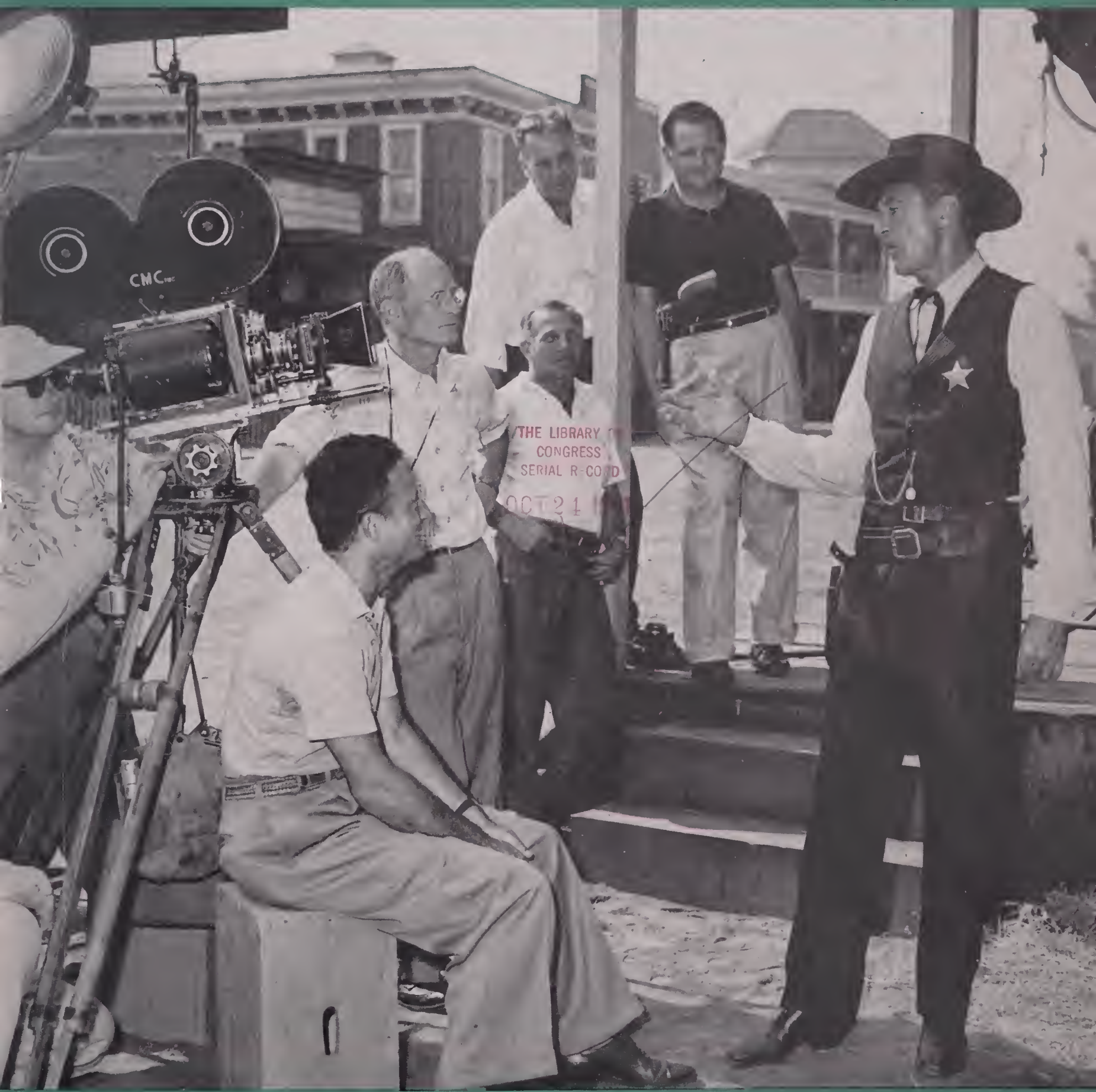

THE LIBRARY OF CONGRESS SERIAL RECORD
OCT 24

Gary Cooper rehearses scene for "High Noon," photographed by Floyd Crosby, A.S.C.

THIS MONTH

- **Filming Quo Vadis In Italy**
- **Production of "TV Commercials" On Film**
- **1952 Amateur Motion Picture Competition**

OCTOBER 1951

PHOTO BY FRANK TANNER

Ready to "ROLL 'EM"

. . . another "take" on Du Pont "Superior" 2

"A Millionaire for Christy"—a Thor Production by Bert Friedlob for 20th Century-Fox—is another fine picture produced this year on Du Pont Motion Picture Film. Co-starred in this sparkling new comedy are Fred MacMurray and lovely Eleanor Parker.

On the set—and ready for a "take"—are Miss Parker, director George Marshall and the camera crew. Seated at the camera is Academy Award-winning cinematographer Harry Stradling, A.S.C.—long an enthusiastic user of Du Pont "Superior" 2.

"Superior" 2 is heartily approved by Hollywood's leading cinematographers. It's a superb panchromatic film that combines fine grain with speed and wide latitude. Du Pont "Superior" 2 is ideal for general studio interior and exterior work. For uniform high quality and excellent results with high- or low-key lighting, rely on this all-purpose negative rawstock. E. I. du Pont de Nemours & Co. (Inc.), Photo Products Dept., Wilmington 98, Delaware.

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DU PONT MOTION PICTURE FILM

NEW YORK LOS ANGELES

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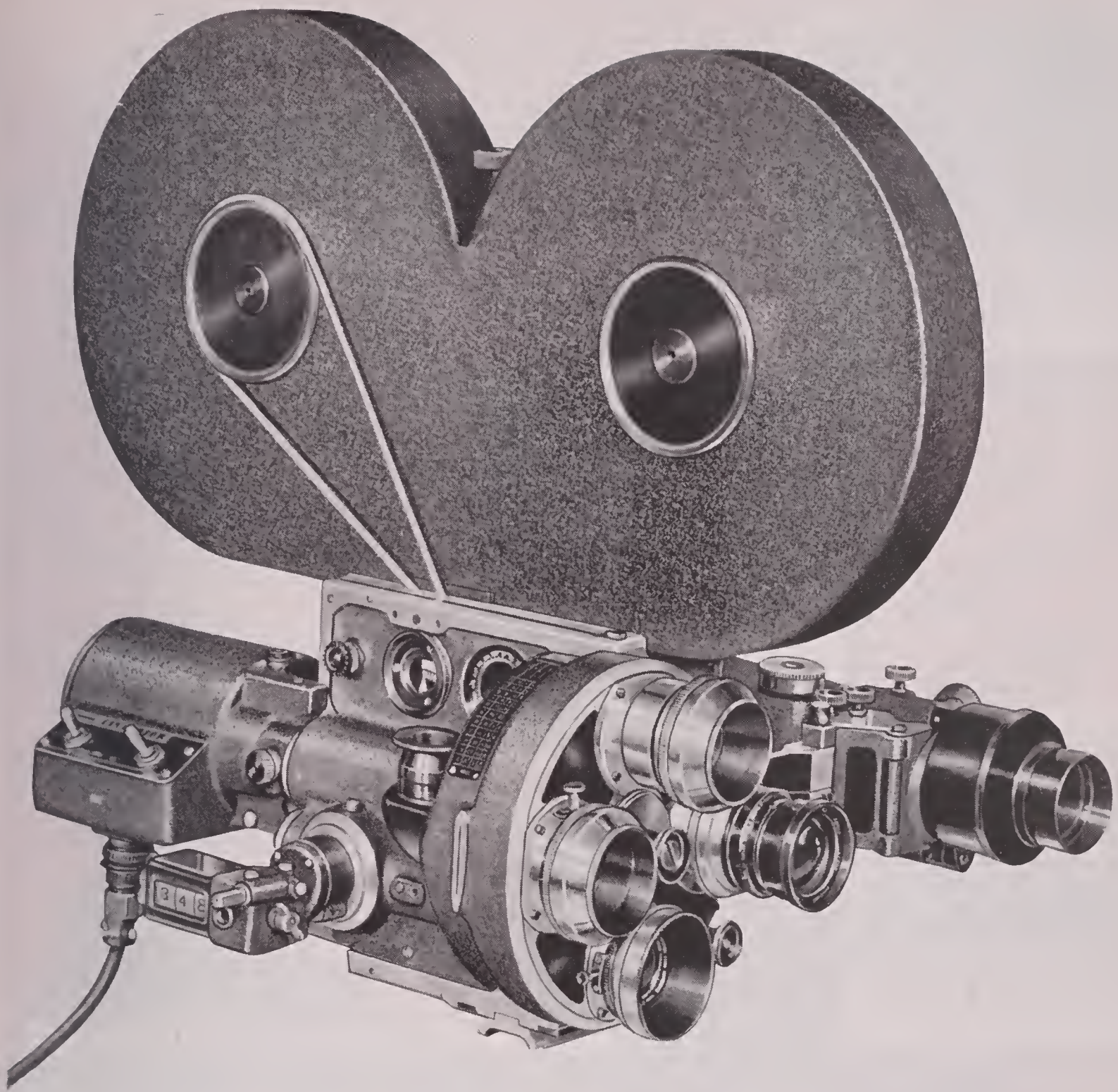

You know this camera as well as you know your own name.

You know that the negatives it photographs are the steadiest in the business.

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You know the company that makes it.

But do you know that this camera has the *only* intermittent film movement that runs at 200 frames per second?

Ralph Edwards shoots his "Truth or Consequences" show with four Mitchell 35mm cameras. The program is filmed "live" in New York for later release on TV networks.

Westinghouse Electric Corp.'s "Summer Storm" is filmed by Ronald Reed Prod., Inc. This is one of over 130 films for Westinghouse Electric Corp. by this producer — all filmed with 16mm and 35mm Mitchell Cameras.

Snader Telescriptions uses three BNC Mitchells to make a Toni Arden film, one of 400 3½ minute programs shot last year by this organization with Mitchell cameras.

Over 30 years ago Mitchell made history with the introduction of the motion picture camera that was to set new photographic standards for a growing industry. *Today,* Mitchell 16mm and 35mm equipment is being used in every field of motion picture photography.

In the field of Television, Mitchell cameras continue to pioneer new techniques and standards. TV films shot with Mitchell cameras reach your home viewing audience *clearer, sharper and steadier*—to bring superior quality reproduction to the television screens in millions of living rooms. You can be sure that your television film, whether shot "live" or as an elaborate studio production, whether with one camera or ten, will be a *better* investment because it is filmed with a Mitchell Camera.

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Procter & Gamble's "Fireside Theatre" series is filmed by Frank Wisbar Productions, Inc. with a Mitchell BNC.

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Editorial and Business Office: 1782 N. Orange Dr., Hollywood 28, Calif.
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ON THE COVER

REHEARSING Gary Cooper for a closeup for the Stanley Kramer Production, "High Noon," is director Fred Zinnemann (seated), while director of photography Floyd Crosby, A.S.C. (in plaid shirt), stands by with crew ready to make the shot. Others in photo, from L to R, are: Richard Johnson, 1st assistant cameraman; Zinnemann; Crosby; Morris Rosen, grip; Homer Planette, gaffer; and Emmett Emerson, assistant director.

—*Photo by Marty Crail*

AMERICAN CINEMATOGRAPHER, established 1920, is published monthly by the A. S. C. Agency, Inc., 1782 N. Orange Dr., Hollywood 28, Calif. Entered as second class matter Nov. 18, 1937, at the postoffice at Los Angeles, Calif., under act of March 3, 1879. SUBSCRIPTIONS: United States and Pan-American Union, $3.00 per year; Canada, $3.00 per year; Foreign, $4.00. Single copies, 25 cents; back numbers, 30 cents; foreign single copies, 35 cents; back numbers, 40 cents. Advertising rates on application. Copyright 1951 by A. S. C. Agency, Inc.

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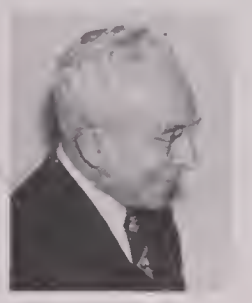
S.M.P.T.E. Convenes In Hollywood October 15-19

Tentative program for five-day session includes important technical papers on 3-color cinematography, 16mm films, theatre television, and high-speed cinematography.

THE SOCIETY of Motion Picture and Television Engineers will open its 70th semiannual convention at the Hollywood Roosevelt Hotel in Hollywood, on October 15. The meeting will run through the 19th of October. In addition to the many sessions scheduled on important technical matters, the Society will also present special awards for the most recent outstanding technical contributions to both motion pictures and television.



PETER MOLE
S.M.P.T.E. Prexy

Peter Mole, president of the Society, in whose bailiwick the convention is being held this year, announces that also to be awarded at this session is the first of the newly established David Sarnoff Gold Medal Awards.

Theatre television, which has made its first important strides as a commercial entertainment medium within the past year, is slated to occupy the opening sessions Monday afternoon and evening (October 15), according to the tentative schedule arranged by Mole and Convention vice-president, William Kunzmann.

Tuesday morning and afternoon sessions will be devoted to reports of advances in high-speed photography, increasingly used in scientific, industrial, and military studies. Color television will be the subject of a special session to be held Tuesday evening at a Hollywood TV studio, following a studio tour during which SMPTE members will witness a network show.

The only technical session scheduled for Wednesday is a morning symposium on 16mm motion picture developments. The afternoon is to be open, and the Society's semiannual banquet and annual award ceremonies will be held Wednesday evening.

Advances in magnetic recording will be presented at morning and afternoon sessions on Thursday, and three-color cinematography will be the topic of reports and demonstrations at a Thursday evening session at the Republic Studios.

With three major studios just about ready to reveal their individual achievements with their own particular color filming systems, it is likely that some very interesting last minute papers will be presented on this subject.

Following a general "roundup session" Friday morning, the convention will close with a special program of

(*Continued on Page 430*)

CONVENTION PROGRAM AT A GLANCE
(Tentative)

MONDAY, OCTOBER 15

12:30 P.M. *Get-Together Luncheon*
3:00 P.M. *Theatre Television*
8:00 P.M. *Television:* This session includes papers on a studio installation, continuous projection, lighting, cross-talk and kine-recording.

TUESDAY, OCTOBER 16

10:00 A.M. *High-Speed Photography*
2:00 P.M. *High-Speed Photography*
8:00 P.M. *Color Television:* This session also includes visiting a television studio and viewing a television production.

WEDNESDAY, OCTOBER 17

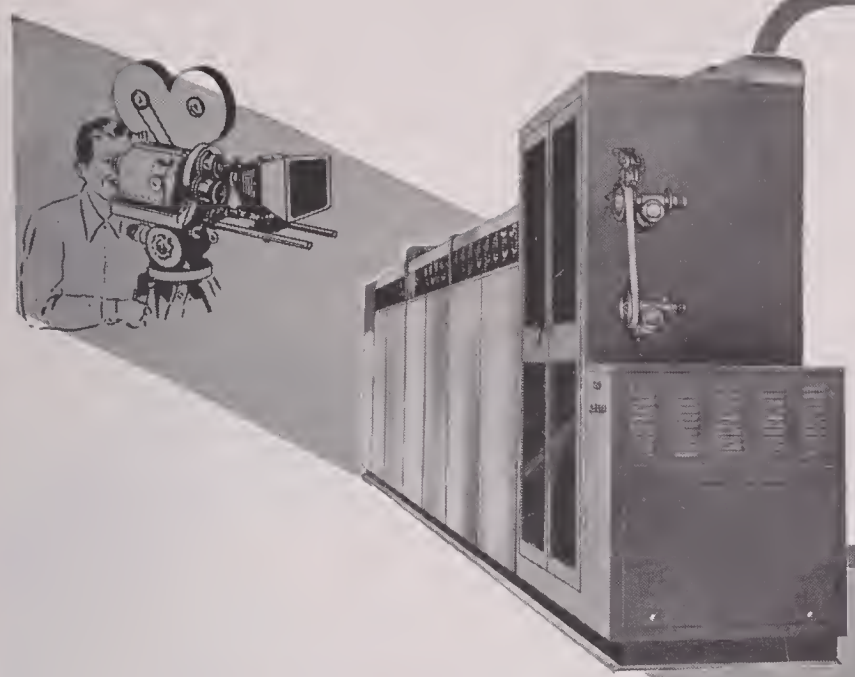
10:00 A.M. *16-Mm Film Symposium:* A panel will discuss the question "Should the present 16-mm standard emulsion position be changed?" The session will also include a panel discussion of problems relating to the quality of 16-mm sound and pictures.
2:00 P.M. No afternoon session scheduled.
7:15 P.M. *Cocktail Hour*
8:15 P.M. *Banquet and Dance* (Informal)

THURSDAY, OCTOBER 18

10:00 A.M. *Magnetic Recording:* The latest triple-track 35-mm magnetic recorders will be demonstrated and described, as will also other late developments in general magnetic recording techniques.
2:00 P.M. *Magnetic Recording*
8:00 P.M. *3-Color Cinematography:* This session includes papers by leading manufacturers of 3-color films, by color film laboratories and production studios.

FRIDAY, OCTOBER 19

10:00 A.M. *General Session*
2:00 p.m. *Stereocopic Projection*



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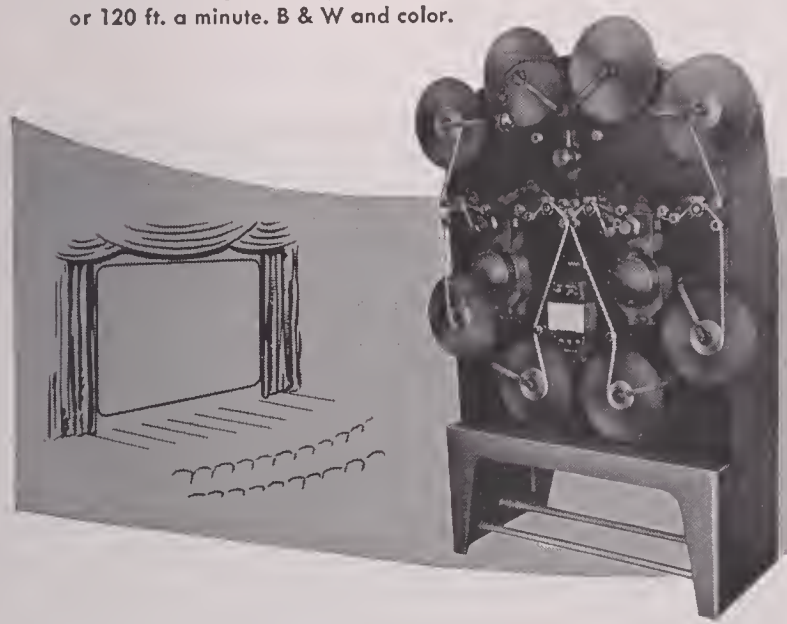

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Cinematography Citations

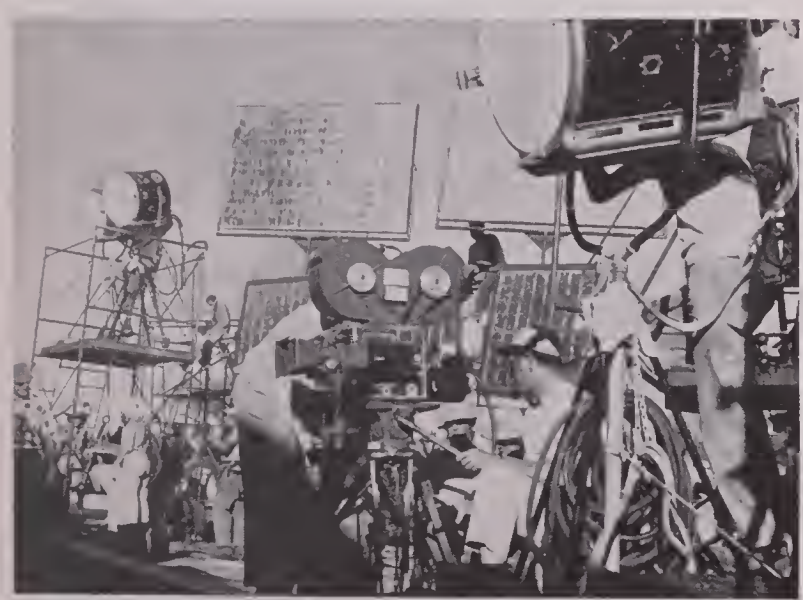
Outstanding achievements in photography in motion pictures previewed in Hollywood last month, recommended for study by students of cinematography.

"THE BLUE VEIL"

LIGHTING and camera skill of Frank Planer, A.S.C., accomplish two notable things in this initial Wald-Krasna production: enhance illusion of Jane Wyman's aging over a period of years, and impart three-dimensional aspect to many of the sets for pictorial enhancement. Planer, exponent of deep focus, contributes to realism of scenes by applying numerous lens and lighting tricks acquired through many years' study and application here and abroad.

"BRIGHT VICTORY"

FILMED mostly in actual locales, lighting was thus a major problem for cinematographer William Daniels, A.S.C., in filming this fine story about blinded war veterans for Universal-International. Daniels, seasoned veteran in such situations, again achieves remarkable pictorial results, using his favorite "quad" lamps consisting of units of four photofloods each. These were used also as booster lights on location. Result: genuine realism in all scenes.



"DAVID AND BATHSHEBA"

LEON SHAMROY, A.S.C., directed the Technicolor photography of this Biblical story for 20th-Fox. The tremendous exteriors made extraordinary demands on the lighting, and for this Shamroy utilized the greatest number of booster lights and sunlight reflectors ever used for outdoor scenes. Also outstanding are many interior shots. Particularly notable is execution of dimmers on scenes where camera dollies in and out, and his sharp photography in low key light.

"THE DAY THE WORLD STOOD STILL"

SETTING an ominous mood and maintaining it throughout the picture were principal demands made upon Leo Tover, A.S.C., in filming this 20th-Fox picture. Story's about earthly visit of space ship from another planet and pilot's demonstration of supernatural powers over life on earth. More than 75% of picture is night exteriors, the lighting and photography of which are just about the best in black-and-white that has ever come out of Hollywood.

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Hollywood
Bulletin Board

Floyd Crosby, A.S.C., for the second consecutive year, is serving on the faculty of motion picture division of the department of theatre arts at University of California at Los Angeles. UCLA's course on motion picture production is rated one of the best in the country, with enrollments from many foreign countries. Between class sessions, Crosby will direct the photography of feature films in Hollywood. He is currently shooting "High Noon" for Stanley Kramer.

•

October 1st marked the 25th anniversary of Edward O. Blackburn's association with J. E. Brulatour, Inc., distributors of Eastman professional motion picture films. Executive head of Brulatour's Hollywood office, Blackburn's friendships include almost every cameraman in Hollywood and most studio executives.

E. O. BLACKBURN
25th Year

Prior to accepting post with Brulatour 25 years ago, Blackburn was a talent agent for the Edward Small agency. Previously he was associated with the Rothacker-Aller laboratory in the film capital. He gained his start in the film business in Chicago where he served in various capacities, including salesmanager, film director and script writer for Rothacker-Aller's large industrial film production division.

•

Karl Struss, A.S.C., flew to New York September 27th to take part in judging of the first annual Sylvania Television Awards. Struss, selected as one of the panel of judges several months ago, was joined by other notables, including Deems Taylor, James A. Farley, Norman Bel Geddes, and others to select winners of Sylvania's 1951 awards for achievement in the various branches of television.

•

Just to keep the record straight, two outstanding pictures photographed by Charles Lang, A.S.C., for Paramount have been retitled as follows: "Ace In The Hole," currently showing throughout the country, carries the new title of "Big Carnival." "Cantrell's Raiders," not yet released, will go into general release after first of the year under the title "Red Mountain."

•

Charles G. Clarke, A.S.C., is currently in France filming production shots and background plates in Technicolor Monopack for forthcoming 20th-Fox major production, "Snows of Kilimanjaro." Later Clarke will take his camera crew to Kenya, Africa, where assignment will be completed, and background plates for another production—"White Witch Doctor"—will be photographed.

CHAS. G. CLARKE
Globetrotter

•

Harry Jackson, A.S.C., is directing the Technicolor photography of 20th-Fox's "Way of a Gaucho" in Argentina, where the entire production is slated to be filmed.

•

A.S.C. Members and their wives celebrated the Society's annual "Ladies Night," the evening of September 15th, with a Hawaiian Luau and dance at their clubhouse in Hollywood. King for the evening was A.S.C. president Ray Rennahan who, as "King Kamehameha," presided over the Imu ceremony preceding the luau feast. About 250 members and guests were present. Event, an annual affair, is highlight in the program of monthly get-togethers which feature the cameramen's society.

RAY RENNAHAN
King for a Night

•

Joseph Brun, A.S.C., is currently directing the photography of "Walk East On Beacon," a Louis DeRochemont feature production for Columbia release. The entire picture is being shot on location, as was DeRochemont's "House On 92nd Street."

•

Metro-Goldwyn-Mayer's "The North Country," studio's initial production using its new MGM-Ansco Color system, is said to exceed all expectations, technically. Fidelity and color balance of

(*Continued on Page 397*)

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HOLLYWOOD BULLETIN BOARD

(*Continued from Page 394*)

the new medium is said to equal anything filmed in any color process to date. Much of the success of the studio's new color filming system is due MGM's executive director of photography, John Arnold, A.S.C., whose extensive research in and experiments with new lights, filters and camera techniques led to its perfection.

•

A one-day symposium on photography in industry, ranging from spectrography to the planning of job-training movies, will open the convention of the Photographic Society of America at the Book Cadillac Hotel in Detroit October 10 through 13.

•

Ernest Haller, A.S.C., left Hollywood for London, September 20th, where he will consult with Technicolor's London laboratory relative to the two pictures he is scheduled to shoot in India for The Film Group of Hollywood. While there, he will also organize his camera crew, which will follow him to India and Burma. Slated to roll on October 8th is "Monsoon," with "Queen of Jhansi," the second feature, scheduled to get under way December 16th. Company will set up headquarters at the Minerva-Pathe Studio in Bombay.

•

Humberto Corell, Argentinian cameraman, reports that Trans-America Films of Buenos Aires has completed "The Gaucho," first feature film in color to be produced in Argentina. Film was processed at Laboratorios Alex in Buenos Aires.

•

Even though Hollywood studios cannot promise jobs to new cameramen coming into the field, there are four other lucrative fields open to up-and-coming cinematographers, according to Norman G. Dyhrenfurth, head of the motion picture division of the theatre arts department of University of California at Los Angeles.

Dyhrenfurth said that today's TV field is changing the specialist requirements, and those with a thorough knowledge of all the theatre arts will be the future producers and directors of TV shows and films for television.

Fields beckoning the new cameramen today are the documentary and educational film field; the new audio-visual and motion picture departments in Universities; television films; and television itself, which, Dyhrenfurth says, needs men and women thoroughly competent in cinematography and other phases of theatre arts. END

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SHOOTING an extensive tracking shot in which 10,000 extras were employed. This set, representing exterior of Nero's palace, was largest constructed for the production. Steel tower, visible at upper right, was erected for making high angle shots.

The Filming of Quo Vadis *in Italy*

Some of the technical problems that beset the camera crew in filming the biggest U. S. production ever made in a foreign country.

By ROBERT L. SURTEES, A.S.C.

ALL ROADS, it has been said, lead to Rome. Today, at a turn in the most famous of all roads—the ancient Appian Way in Italy—stands a small church, the church of Dominie Quo Vadis. Legend of an incident that transpired at this spot during the reign of the mad emperor Nero later inspired the Polish literary genius, Henryk Sienkiewicz, in 1895, to write the classic novel, "Quo Vadis."

It was the year 64 A. D.—a few days before Rome had been almost destroyed by fire. Many had attributed the conflagration to Nero because of his words, "The stenches of the pig stys would never more rise the slopes of the Palatine Hill and befoul my nostrils."

History has never definitely fixed the guilt upon Nero, but it is a matter of record that he began the terrible execution of all Christians, and tried desperately to make the Roman citizenry believe themselves responsible. Christians by the thousands were rounded up, tortured, cremated alive or thrown into the arena to be devoured by wild animals.

Peter, the first disciple, by now an old man (it was now many years since Christ had been crucified) was fleeing from Rome, accompanied by Nazarius. Travelling along the Appian Way, they stopped at the turn in the road and there Peter saw a great light, as of a golden circle, advancing toward him. He shaded his eyes, then turning to Nazarius said:

"Seest thou that brightness approaching us?"

"I see nothing," replied Nazarius, who saw only the trees quivering in the distance. He looked at the Apostle with wonder. Peter let the staff fall from his hand. His eyes were staring ahead, motionless; his mouth was open. His face was a mingled expression of astonishment, delight, and rapture. Suddenly he threw himself on his knees, his arms stretched forward—his lips parted. "Oh Christ! Oh Christ!," he said, and buried his face in the earth before him. Then, after a moment of silence, he looked up and said:

"Quo Vadis, Dominie?" (Where goest thou, Lord?)

Nazarius did not hear the answer, but to Peter's ears came a sad, sweet voice which said: "If thou desert my people, I go to Rome to be crucified a second time."

The Apostle lay on the ground without motion or speech for a time, and then he arose. Seizing his staff with trembling hands he turned without saying a word, toward the seven hills of the city. Nazarius, seeing this, repeated, as an echo—"Quo Vadis, Dominie?"

"To Rome," said Peter in a firm, low voice.

And he did return. Later he was put to death on the cross—nailed upon it

upside down—as he had requested. In the end, Peter realized that neither Nero nor his legions could overcome the teachings of Christ. He knew at last why the Lord had turned him back on the road.

Today, when one visits the little church of Domine Quo Vadis, he is shown two footprints that were apparently burned in a large rock that forms part of the floor. These, he is told, were made by Christ at the time of His meeting with Peter. And during a certain time of day, through an opening in the roof overhead, the sun sends down a narrow shaft of light that forms a golden halo about the footprints. It was this awe-inspiring sight that first gave Sienkewicz inspiration to dramatize the story in novel form. His successful book has brought peace, faith and hope to millions of people, and finally, in 1905, it brought the Nobel Prize to its author.

Ever since Metro-Goldwyn-Mayer made "Ben Hur," its most successful picture, back in 1924, the studio had sought another and equally powerful story with a religious background. After a prolonged search, it was decided, about 1935, to film "Quo Vadis"—in Italy. Research and preparation work was started immediately and when we entered World War II, MGM writers were still working on an acceptable motion picture treatment. After the war, it was decided to postpone the production for another two years to permit E. J. Mannix and Henry Henigson, studio executives, to go to Italy and arrange for studio space and to survey the numerous production problems which shortage of equipment and facilities in Italy presented.

It was decided to produce "Quo Vadis" in Rome, the actual locale of the historical novel. Mannix and Henigson leased the Cinecitta Studio, located eight miles from Rome, and set in motion plans for reconditioning it.

Mussolini, in 1936, had erected Cinecitta as his answer to Hollywood's supremacy in the world film market. During the war, it had been allowed to fall into disrepair, then subsequently was converted to various uses—a factory producing war materials, a barracks for German troops, etc. It also had suffered considerably from bombing and machine-gunning by the Allies.

Mannix summoned three technicians from Hollywood to assist in the reclamation of Cinecitta and to prepare for the production of "Quo Vadis." Arriving from Hollywood shortly thereafter were art director William Horning, costume designer Herschel McCoy and set director Hugh Hunt. The tremendous undertaking that faced them required two years of hard work before a single camera started turning.

Equally difficult preparations were being made back at the Studio in Culver City. Assigned to head the production were Sam Zimbalist, producer, and Mervyn LeRoy, director. Script writers John Lee and Hugh Gray, meanwhile continued whipping the story into shape. During the 1949 Christmas holidays, members of the MGM staff in Rome were returned temporarily to Hollywood for a rest. Meantime, extensive casting tests were being made and these culminated in the selection of Robert Taylor and Deborah Kerr for the choice roles of Marcus Vinicius and Ligia. Other great names—many from the European theatre—were added to the cast: Leo Genn, as Petronius; Peter Ustinov, as Emperor Nero; and Finlay Currie and Abraham Sofaer were given the extremely important roles of Peter, the Apostle, and Paul. Other well-known players were added to the cast, including Felix Aylmer, Nora Swinburne, Ralph Truman, Norman Wooland, Rosalie Crutchley, Elspeth March, and Patricia Laffan. From among promising Italian artists, MGM chose Marina Berti for the choice role of Eunice, the slave girl. Buddy Baer, from America, was elected to play the giant slave who slays Croton, the gladiator, played by

(*Continued on Page 417*)

A LULL in the shooting at Cinecitta studio, while set is being readied for a scene for "Quo Vadis." In foreground is director Mervyn LeRoy; next to camera is director of photography Robert L. Surtees, and at right—Deborah Kerr, who played Ligia.

FILMING a chariot race on the famed Appian Way, outside of Rome. The Technicolor camera is mounted on a giant camera crane, shipped to Italy from Hollywood especially for the production.

NEW ORLEANS street scene, one of two major sets for "A Streetcar Named Desire," where much of the most dramatic action was staged. Here cinematographer Stradling's camera shoots from a boom to obtain a high angle scene equivalent to a second-story window view from across the street.

Uninhibited Camera

Harry Stradling establishes a new high in cinematic artistry with his imaginative camera treatment of "A Streetcar Named Desire."

By HERB A. LIGHTMAN

"A STREETCAR NAMED DESIRE," winner of the Pulitzer Prize and the coveted New York Drama Critics Award, scored as one of the most powerful dramas in modern theatrical history when it electrified Broadway a few seasons ago. It was impossible to imagine at that time that this play could ever be translated into the language of the screen with its basic power undissipated. But Warner Brothers have accomplished the impossible by bringing the vehicle to the screen with its original honesty and force intact. If anything, the film is even more compelling than the play, because the camera has added a scope and fluidity that could not be achieved within the confines of the proscenium.

"Streetcar" is a rare blending of superbly executed cinematic elements: screenplay by its original author, Tennessee Williams; acting by Vivian Leigh, Marlon Brando, and supporting members of the Broadway cast; direction by Elia Kazan; and photography by Harry Stradling, A.S.C. These elements, each of which is a triumph in its individual right, add up to a filmic drama with Academy Award possibilities. There is such perfect *rapport* between elements that it is impossible to tell where the effect of one leaves off and the other begins.

In his superlatively executed camera treatment, director of photography Stradling has struck exactly the right note in a vehicle which made extraordinary demands upon the science of cinematography. His photographic approach called for a blending of pungent reality and vague fantasy, spirituality and animal passion, beauty and shabbiness, frustration, loneliness and violence. This *pot pourri* of paradoxical human emotions has been stirred by a master hand

(*Continued on Page 424*)

ADROIT, low-key lighting perfectly compimented the shabby, crowded apartment, lending realism to the bawdy action. Here a knockdown, dragout brawl ensues. Wild walls afforded dramatic camera angles.

EXTERIOR street scene, constructed on sound stage, received skillful lighting treatment, with low-key illumination lending a mood of sordidness. The night effect is in striking contrast with the day shots.

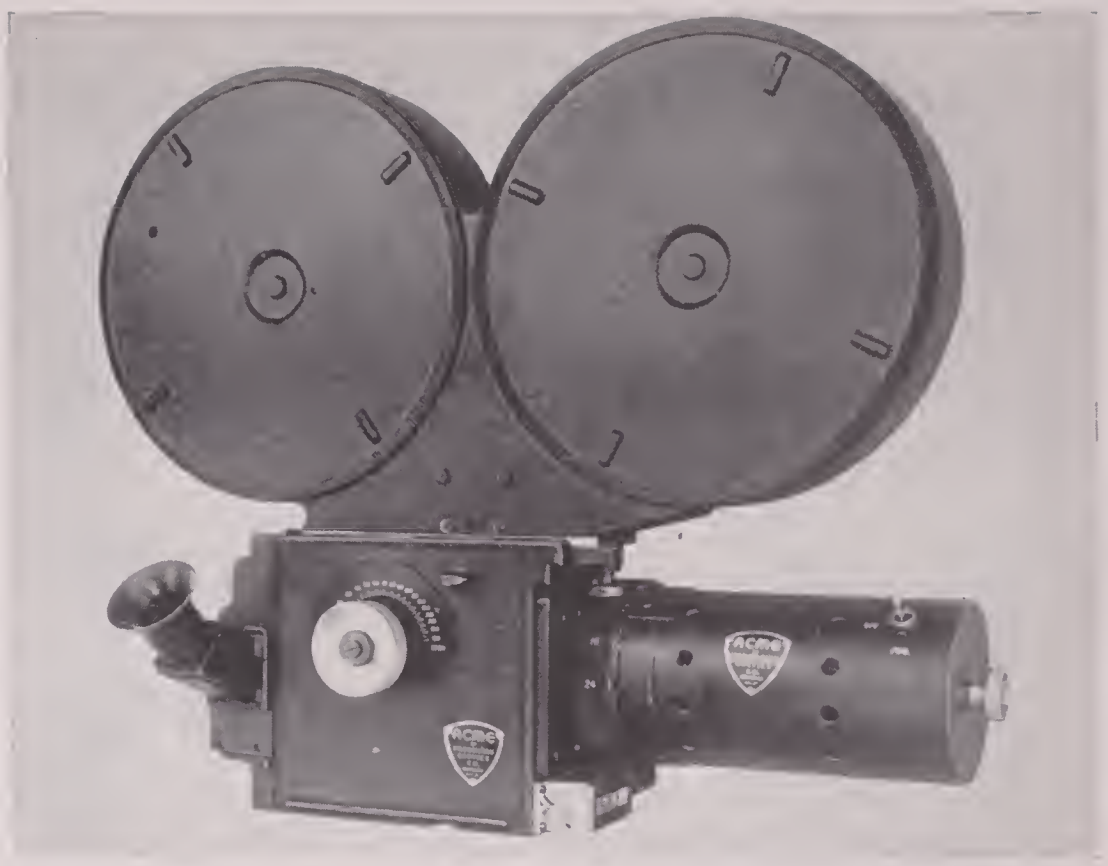


FIG. 1—The Acme Process Camera includes a color wheel for 3-color successive-frame photography. Film movement accommodates one, two, or three strips of film and maintains perfect registration on all three.

The Acme Process Camera

Designed especially to meet precision requirements of special effects photography, it is now available for 16mm as well as 35mm process work.

By JOHN P. KIEL

Producers Service Co., Burbank, Calif.

THE GREATLY ADVANCED art of process cinematography today demands a special camera having a mechanism more highly refined than that found in cameras used in ordinary motion picture photography. Until recently, it was the practice to alter a standard motion picture camera, such as Bell & Howell, Mitchell, Wall, etc., to meet the demands of special effects photography. This was usually done by the studios' own engineering departments. While such cameras proved adequate for a particular procedure, the process departments were often hampered by the limitations of the equipment.

With the Acme camera, which is now available for 16mm as well as 35mm film, Producers Service Company has met the studios' need for a specialized, yet versatile, process camera to increase the range of activity of the process departments.

Color separation negatives, matte shots and other exacting process procedures require the highest degree of accurate and positive film registration. The film movement of the Acme Process Camera, therefore, is of the solid, or stationary, register-pin type. This particular method of film registration is extremely accurate because the pins are mounted directly to the movement base and operation of the camera does not entail any motion or mechanical action of the register pins.

In order to compensate for the inherent shrinkage of film without sacrificing accuracy of registration, the registration pins are in horizontal alignment. One register pin is "full-fitting" in the film perforation; the other is "full-fitting" vertically and slightly undersize horizontally. The movements are so accurate that a single strip of film may be exposed in the camera a number of times and still maintain perfect registration on each exposure. This ability of the film movement to duplicate registration is assured regardless of the direction of film travel.

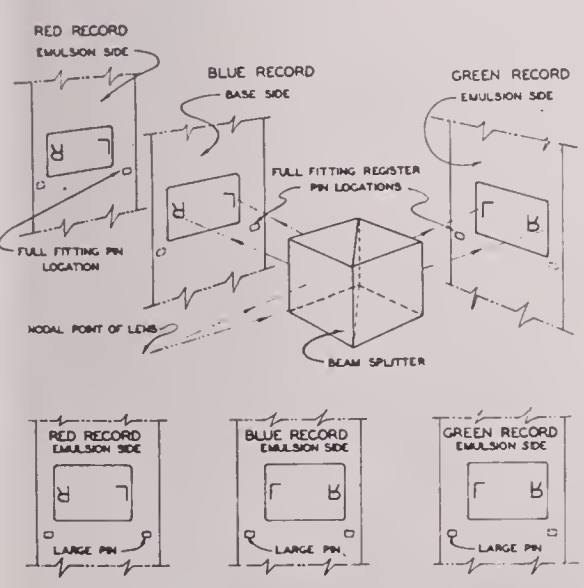


FIG. 2—Typical three-color, three-strip registration locations.

In the engineering process every precaution has been taken to eliminate the possibility of film damage; the most important, perhaps, being the elimination of pressure on the film during the pull-down cycle. After the film is located on the register pins, just before the shutter opens, a small amount of pressure is applied; but the accuracy of registration is not dependent on this pressure—it serves only to hold the film precisely in the focal plane during the exposure interval.

Pressure and stripper plates of hard-chrome plated stainless steel engage and disengage the film perforations on the register pins prior to and following the exposure.

Perhaps one of the most distinguishing features of the camera's film movement is its ability to accommodate up to three strips of film at one time, maintaining perfect registration on all three. Need for manual adjustments, when more than one film is threaded in the camera, is eliminated by the spring-loaded pressure plate, which automatically compensates for the varying film thicknesses, applying equal pressure to all.

To enable the use of this camera in conjunction with existing studio equipment and procedures, the film movements are supplied with the register pins either above or below the aperture and with the large, or "full-fitting," pin located at any one of the corners of the aperture. Moreover, the film movements are easily removed and completely

(*Continued on Page 420*)

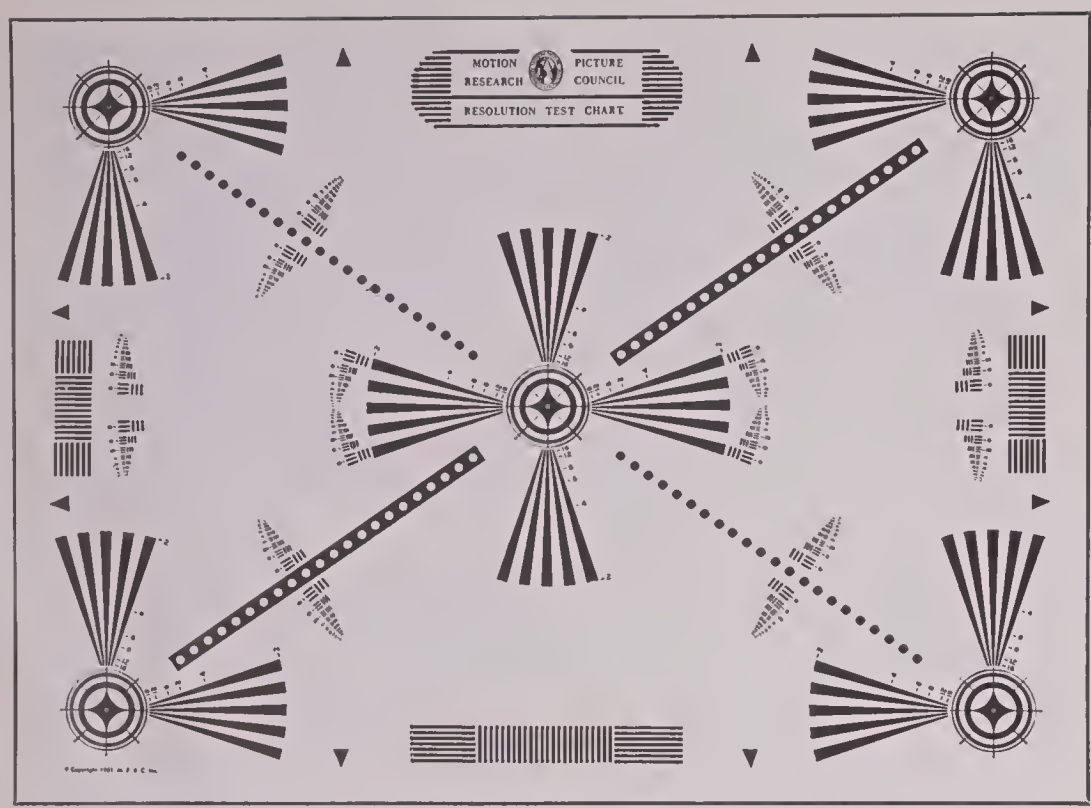


FIG. 1—Motion Picture Research Council Resolution Test Chart. Copies, enlarged to practical size, are available to the motion picture industry at small cost.

A Resolution Test Chart For Motion Picture Cameras

Improved chart for testing limits of resolution of a lens or of a lens-film combination developed by the Motion Picture Research Council, Hollywood.

By ARMIN J. HILL

Motion Picture Research Council

IN THE FALL of 1950, the Motion Picture Research Council undertook a study of the methods used in the cooperating studios to test and check their camera lenses. It was found that no standard test procedure existed, and that in general any tests that were conducted made use of whatever material and equipment was on hand at the studio. In an attempt to improve this situation, preparation of a series of standard test charts was planned, and the Council recently announced the publication of the first of these, a chart designed to test the limits of resolution of a lens or of a lens-film combination.

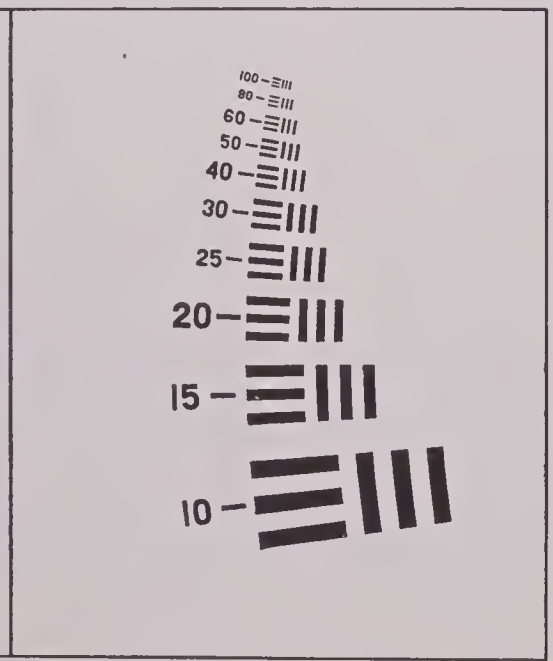
Lens testing can be a very intricate process if all of the various lens characteristics must be known with precision. Fortunately, what is usually required is a less precise, but simple check on such characteristics as resolution, depth of field, and setting of the focus scale. An indication of the resolution of the lens, or of the resolution of a system of lens and film, is often desirable, and if a test indicates the factors which may be limiting resolution in addtiion to showing the limits at various positions in the field, it will gve much of the information concerning a lens which is desired by the camera departments.

With this in mind, therefore, attention was first directed to the preparation of a suitable resolution test chart. A survey of published charts showed that while a few had more or less acceptable design, none would give all the information desired in a simple manner. Representatives of each of the camera departments of the major studios were asked for their suggestions. The National Bureau of Standards and the Air Forces photographic section also kindly furnished suggestions and information on their testing procedures. Various types of test figures used in the television industry were analyzed. It was decided that any study of dependence of resolution upon contrast would complicate both the chart and the test procedure and that such an analysis would constitute a separate type of test. Likewise, it was evidently impractical to include a study of depth of focus, or to make a focal scale setting at the same time that resolution over the field was being analyzed. Finally, the intended uses of the chart were such that high precision would not be required. This reduced the care required in preparing and reproducing the chart to a point where

(*Continued on Page 422*)

Fig. 1

Fig. 2



ENLARGED details of chart segments are shown at left. Fig. 2 shows detail of Focus Figure while Fig. 3 is enlarged detail of the Resolution Pattern.

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AMPEX Model 401 portable magnetic tape recorder which affords half-track recording at 7½" per second, equalling the performance of 15" per second full-track recorders.

The Ampex Magnetic Recorder

Popular tape recorder employs 60-cycle control signal to maintain sync with the camera.

By RALPH LAWTON

THIS IS THE FIFTH in the series of articles by Ralph Lawton in which he describes various magnetic film and tape recording equipment applicable to the recording of synchronous sound for motion pictures. Earlier articles have illustrated and described such recorders as the Westrex (May), Kinevox (June), Stancil-Hoffman (July), and RCA (August). Mr. R. H. Ranger, in a special article in the September issue, described the Rangertone recorder. The merits of still other recorders will be treated in subsequent articles by Mr. Lawton.—EDITOR.

UNTIL RECENTLY, design and manufacture of Ampex Magnetic Tape Recorders were devoted almost exclusively to the field of radio and television broadcasting. Today, the Ampex is well established as the ideal instrument for recording radio network shows, masters, and other program material where no deterioration in original sound quality can be tolerated.

With the rapid growth of magnetic recording for motion pictures, it was only logical that the Ampex should take its place along with other professional tape and film recorders in the field of motion picture production. Full application to motion picture use awaited only perfection of Ampex's Synch-Lock device, which—coupled with the recorder—causes a 60-cycle control signal to be recorded on the tape simultaneously with the sound as a means of maintaining recorder speed in sync with the camera.

The Ampex utilizes quarter-inch tape as the recording medium. There are two recorder models: the Model 300 console and the Model 401 portable. A feature of the latter is half-track recording at 7½-inches per second speed, said to equal the performance of 15 i.p.s. full-track recorders. Up to 132 minutes of program material or motion picture sound can be combined on one ten-inch reel of tape. The machine also records at 15 i.p.s. speed.

Made to operate on 60-cycle, 115-volt current, Model 401 has been designed to feed, or be used in conjunction with any high-quality power amplifier and loud speaker combination, or a standard 600 ohm line. Otherwise, the recorder is essentially the same in design and performance as the console, Model 300.

With both models, a single control affords convenient and rapid selection of tape speeds and automatically provides the necessary equalization changes. Double flanged 10½-in. diameter NAB reels are employed. These have a capacity of 33 minutes at 15-in. per second and allow tape to be safely stored and handled.

Tape transport mechanism consists of supply and takeup reels mounted on turntables carried on vertically extending shafts of the rewind and takeup drive assemblies; a capstan-drive assembly with tape-locking idler; a reel idler and compensating tension arms; and three drive motors—one for the capstan drive and the other two for the reel assemblies.

Both rewind and takeup assemblies are brake-controlled. Brakes are self-energizing in opposite directions of rotation and in such order that, regardless of tape travel direction, the supply reel will always receive the stronger braking action. Solenoid control of brakes assures their operation in unison.

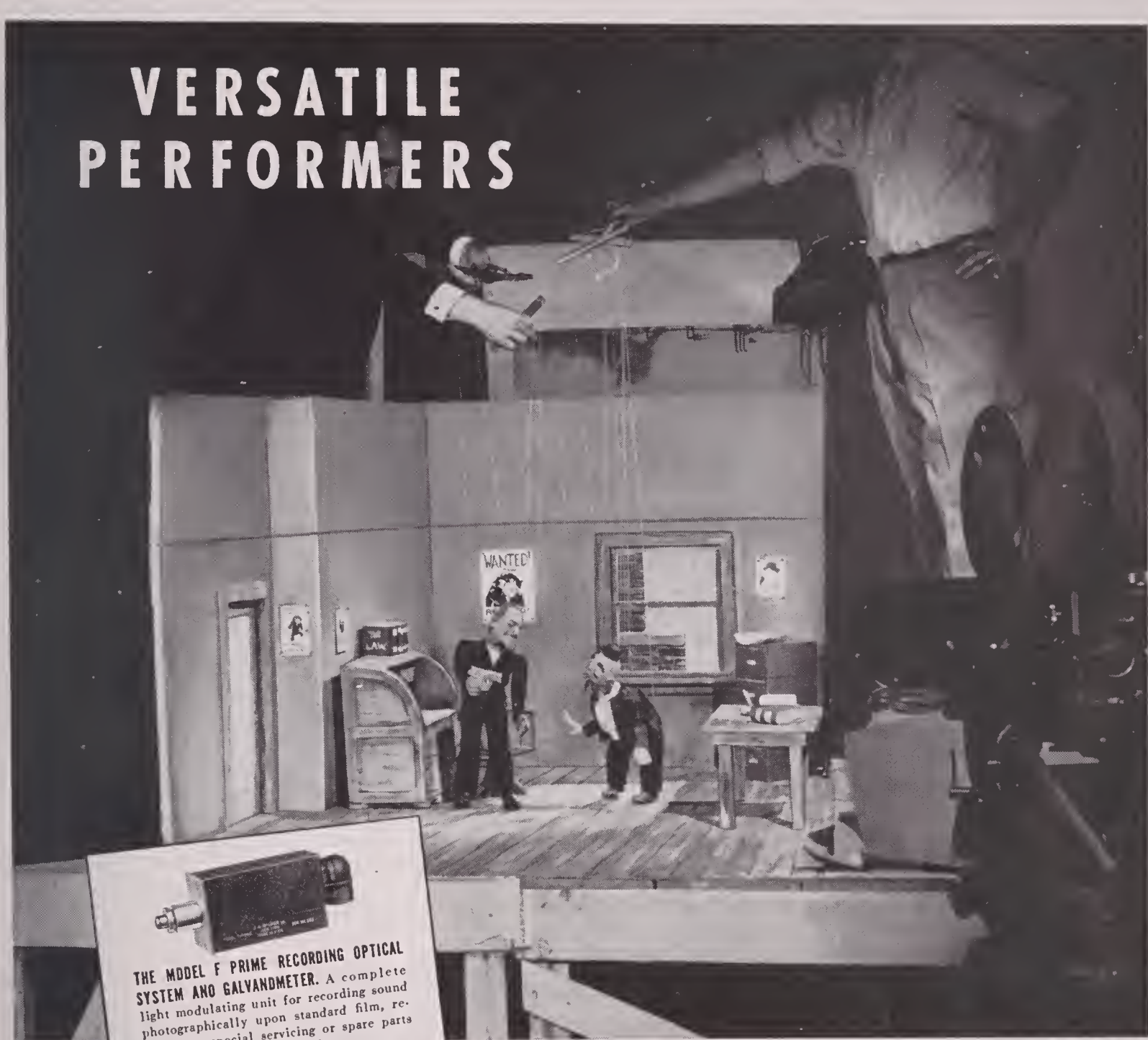
Extensive engineering and research went into the design of the capstan-drive assembly. Result is a remarkably wow-free and flutter-free drive with a minimum of precise, close-tolerance parts. Tape drive is accomplished by clamping tape between a rubber-tired idler and the capstan shaft, which runs in a bronze, scientifically lubricated bearing. The capstan assembly is driven by a dual-speed synchronous motor. A special feature of the drive system is instant starting — a very desirable feature in editing. When the machine is threaded, the takeup tension arm is pulled away from its idling position by the tape, causing the capstan-drive motor to start. When the start button is depressed the rubber-tired idler clutches the tape against the running capstan, bringing it to full speed in less than a tenth of a second.

Control buttons and switches of the recorder are so located that when the

(*Continued on Page 416*)

AMPEX Model 300 console type high fidelity magnetic tape recorder, long a favorite with radio engineers. Addition of Ampex Synch-Lock attachment converts recorder for synchronous motion picture sound recording.

VERSATILE PERFORMERS



THE MODEL F PRIME RECORDING OPTICAL SYSTEM AND GALVANOMETER. A complete light modulating unit for recording sound photographically upon standard film, requires no special servicing or spare parts (other than recording lamp).

THE MAURER 16MM., designed specifically for professional use, equipped with precision high-power focusing and view-finder. Standard equipment includes: 235° dissolving shutter, automatic fade control, view-finder, sunshade and filter holder, one 400-foot gear-driven film magazine, a 60-cycle 115-volt synchronous motor, one 8-frame handcrank, power cable and a lightweight carrying case.

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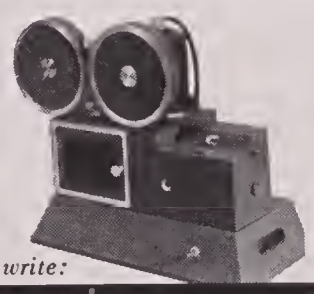

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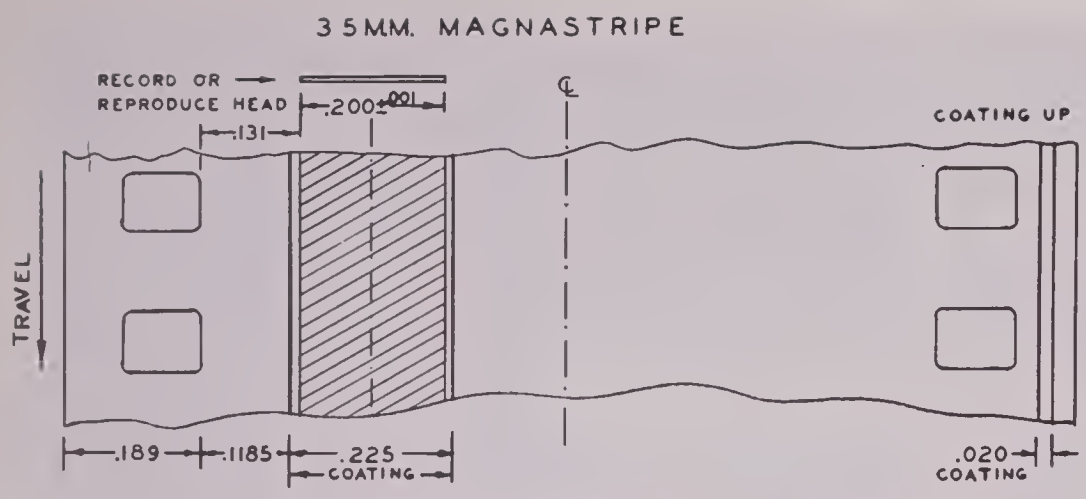

FIG. A—35mm Magnastripe, showing position of the magnetic recording sound track coating. A narrow stripe of coating is also applied on opposite edge of film, as shown at right, which balances the roll of film for winding. Magnastripe coating may also be applied to the edges of any 8mm, 16mm, or 35mm film, unexposed or processed.

Magnastripe--An Aid To Magnetic Sound Editing

Magnetic stripe on clear base 35mm film provides matched sound tracks for 35mm films, speeds editing.

By LOREN L. RYDER

Ryder Sound Services, Inc.

It is said that new tools make the job easier. Magnastripe is just such a tool. It will have many uses; it is already simplifying editorial handling of magnetic sound film.

Stripes of magnetic recording oxide are now being coated on 8 mm, 16 mm, and 35 mm film. It is coated on the base side and can be applied to unexposed photographic print stock, processed print stock and clear base.

This article explains the use and advantages of professional Magnastripe. This is a non-photographic 35 mm clear safety base film with a magnetic stripe 225 mils wide having a center line 420 mils from the edge of the film. A 40 mil stripe is placed outside of the sprocket holes on the side opposite the sound track so as to balance the roll for winding. The placement of these coatings and the dimensions are shown in Figure A; 17½ mm Magnastripe having only the 225 mil stripe will also be available.

The original production recording may be made on 17½ mm or 35 mm full coated or Magnastripe film. In this recommended procedure the print takes are electrically transferred to 35 mm Magnastripe (Figure A). The film is then run through the modulation writer which scribes a visual sound track pattern on the clear area between the sprocket holes and the 225 mil stripe. The modulation writer was described in the April 1951 issue of the American Cinematographer.

The picture and sound dailies are synchronized, code numbered and where necessary crayon marked in the usual manner. The code numbers and markings are also viewed in transparency. Crayon markings should not extend over the oxide sound track.

In line with standard editorial practice the picture and sound film held together can be run through a picture-only or sound-only magnetic Moviola unit. As dual films they can be handled on synchronous rewinds, double head Moviolas and dual film projection. The only requirement is a conversion of the sound reproducers for magnetic reproduction.

For use on most magnetic sound reproducers these films can be spliced on the regular Bell and Howell hot, straight lap splicers with no blooping. This is provided the blades are demagnetized and the heater is changed so as not to remagnetize the blades. If noisy splices do occur, they can be taped out with one to two layers of No. 33 Scotch electrical tape. Generally, the tape is cut straight across and if two layers are required, the ends overlap at the splices. Demagnetizing pencils can also be used; however, they require skill and extreme caution against improper erasure.

The Magnastripe cutting print is also used as the dubbing print. This saves days in time and dollars in film cost. If the sound effects libraries and music are on Magnastripe, they can be set up and handled in the same manner as production films, thus effecting further savings.

After usage, all Magnastripe film can be erased, cleaned and reused. Carbon tetrachloride will remove the modulation writing from the base side of the film. It is not advisable to attempt to record over lap splices, so the film should be broken down into individual rolls which should be classified by length and used individually in the second round of printing.

Professional 35 mm Magnastripe was designed to work with standard magnetic recording and reproducing heads having a 200 mil slit length. It is recommended that these heads be aligned so that the end of the slit shall be 131 mils from the inside edge of the sprocket holes and that this condition shall prevail regardless of the length of the slit in the head.

A paper is to be presented at the October 1951 convention of the Society Of Motion Picture and Television Engineers recommending the above head position. The paper will show that a head alignment and striped film as herein described will give better quality than is now available from the proposed A.S.A. standard for magnetic sound track placement. Magnetic recordings made on the A.S.A. proposed standard will reproduce better under the conditions of this recommended procedure than on the A.S.A. proposed standard. Further, recordings made on the basis of this recommended procdure will reproduce better on the A.S.A. proposed standard than a recording made and reproduced on the A.S.A. proposed standard. In other words, whenever the work and/or equipment used is intermingled between old and new, the result is always improvement and never degradation.

Many people take exception to some of the claims that have been made in regard to the savings effected by magnetic recording and editing. On a picture involving 60,000 feet of production sound recording, 25,000 feet of prints and 7,500 feet release length, optical photographic recording film, processing, printing and a dubbing print will cost $3,700. With magnetic the cost will be $650, the

(*Continued on Page 430*)

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A DOLLY SHOT being supervised by the author for a TV commercial spot announcement. Note plain background and use of simple boom lights for illumination of subject's hair, which demanded visual emphasis.

The Production Of "TV Commercials" On Film

Because of their brevity, TV spot announcements must pack a teriffic selling punch, visual as well as aural. Careful preplanning, therefore is essential to success in this growing field.

By JOHN H. BATTISON

IN TELEVISION, as in radio, preparation of the entertainment part of the program assumes no greater importance—in the eyes of the sponsor, at least—than preparation of his selling message, which makes up part—a very important part—of the overall program. The only reason for a sponsor's investment in fifteen, thirty or sixty minutes of costly TV time is to get his selling message before the vast video viewing audience. To do this, he has, generally speaking, three minutes in every thirty minutes of air time.

The preoccupation with the TV "commercial" means that its presentation and format are not only constantly being improved upon, but ways and means are being constantly sought to reduce the cost of its preparation without reducing selling appeal. The series of articles on TV Commercials, of which this is the first, will therefore deal with the various methods of approach and describe common problems encountered in the production of these valuable—and vulnerable—abbreviated motion pictures.

TV commercials follow set patterns in length, ranging from 4 seconds to a little over a minute. The longest in general use at present is one minute and fifteen seconds. Commercials of this length are generally used on a participating program, where a popular figure entertains for an hour or more, with four sponsors splitting the cost—each "sponsoring" a fifteen minute segment. A good example of the minute-plus-fifteen-seconds commercial is that of Oxydol on the Kate Smith shows.

Next in the assortment of "sizes" of TV commercials are those of one-minute duration. These are normally used at the opening and close of television programs, where there is room for them to be integrated into the program structure. Until a year ago, the one minute commercial was the most popular with sponsors; but the tremendous increase in television's popularity with its consequent increased acceptance on part of advertisers has made it impossible to schedule such commercials at the most

BECAUSE most shots for TV commercials are closeups, extreme care in lighting model or subject is essential to achieve correctly balanced illumination minus the objectional contrasts so detrimental to satisfactory TV transmission of film.

desirable times. As a result, the twenty second "spot" and eight second "break" have become the popular trend.

Although the increase in commercial sponsorship of programs has made it pretty difficult to spot one-minute commercials adjacent to good programs, there seems to be increasing opportunity to use the shorter twenty second spot announcement. Hence their rising popularity. Four- and eight-second announcements are also finding favor when used in conjunction with a brief video picture on the hour and half-hour, when station identifications are made. Such spot announcements skim the cream off the "tune-in" and "tune-out" viewers—tend to catch them coming and going.

As the length of the TV commercial spot announcement has been compressed, it has brought with it demand for greater skill on the part of the planner and the photographer. It has meant trimming the copy to the bone, so that only the barest of essentials remain—yet ample to "sell" the sponsor's product or service.

Because TV spot announcements created one of the first substantial demands for fresh and continuing film production for television, there was—and still is—a great rush among producers of films into this field. To those about to venture into the business of creating television commercials on film, our advice should be *"don't!"* But, the world being what it is, we'd probably be ignored anyhow; so here are some pointers to remember in creating copy for and photographing TV commercials:

A twenty second spot is *not* an abbreviated sixty second spot. It is rather a message made to measure for its alloted time—or should be. Too often, we find, it is only a rehashed one minute commercial, with the same opening and closing but a different middle. The fallacy here is that in one minute's time, there is ample opportunity to unfold at least a brief story, and lead more adroitly to the selling "punch." But with only twenty seconds of time, the "selling" must begin instantly and sustain itself at high level. Therefore, a good twenty second commercial cannot successfully be tailored from a one minute spot.

The eight second station break is completely different in that there is only sufficient time to establish the product and make the punch line appeal to "buy some soon," etc., before it disappears from the screen. But some very effective selling ideas have been developed for commercials of this length. A clever artist and skilled photography can do wonders to make such brief film strips effective.

(*Continued on Page 422*)

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1952 AMATEUR MOTION PICTURE COMPETITION

for the

THE AMERICAN CINEMATOGRAPHER
ANNUAL TROPHY AWARDS

Opens: December 1, 1951 — Closes: March 1, 1952

SPONSORED jointly by the American Cinematographer and the American Society of Cinematographers, this annual competition to select the "Top Ten" amateur films of 1951-52 is open to all amateur movie makers residing within the continental United States and its possessions.

ELIGIBLE for entry are 16mm and 8mm amateur-made films regardless of subject, either black-and-white or color, silent, with sound on film, oteur-made film regardless of subject, either black-

AWARDS—The first ten films receiving highest rating in the judging will receive handsome gold American Cinematographer Trophies. The ten next best films will receive Honorable Mention certificates.

RULES

- Entries must be wholly amateur-produced, except for any commercial production of titles, processing of film, or re-recording of entrant's own sound recording.
- All sound films must be wholly amateur-recorded, regardless of sound medium used.
- Film length restricted to maximum of 800 feet for 16mm sound or silent entries; 400 feet maximum for 8mm entries.
- Sound medium (discs, tape, wire) must accompany film in same package.
- Entrants must pay transportation on films and sound records both ways.
- No films should be submitted before December 1, 1951. Both reels and reel containers, and containers of sound medium must bear labels indicating name and address of entrant.
- Entry blank must be submitted in advance.

Write for Entry Blank Today, using Form on Page 430

ANNUALLY, advanced amateur movie makers are afforded opportunity to present their work for criticism and evaluation by the most critical of judges —the professional directors of photography of Hollywood motion picture studios. Again this year, members of the American Society of Cinematographers join with the editors of American Cinematographer to select the Top Ten amateur motion pictures of 1951-52 from among the entries to be submitted in American Cinematographer's Annual Amateur Motion Picture Competition.

To the winners—the Top Ten—go handsome gold American Cinematographer trophies, and for the runners-up, there will be attractive Honorable Mention certificates.

Amateurs striving for perfection in their camera work and those who engage in amateur ciné photography in a serious way, should find in this annual competition incentive in worthwhile and purposeful picture making. And when your film is cited by a professional, as in this competition, you have reason to feel that your work is well above the average, and that it shows professional promise.

Obviously, this is not the competition for the beginner's family films or those films not fully planned and completed. It offers instead a competition on a higher level, aimed at helping the advanced and more serious worker. The beginning amateur must not construe this as intentionally discouraging his efforts; all cine cameraists once were beginners; but only those films which display serious effort in the planning, photography and editing can receive consideration in the final judging.

The basic rules of the competition

(*Continued on Page 424*)

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ANSCO, Binghamton, N. Y. A Division of General Aniline & Film Corporation. "From Research to Reality."

Technical Teamwork

Film made by non-professionals for local Cancer Society points way for other amateur cine clubs interested in group production of worthwhile films.

By WILLIAM MESSNER

Photos by George Labes

COLLECTIVE FILM MAKING has been the interesting subject of articles by Alvin D. Roe, which appeared in the July and September issues of American Cinematographer. In these articles, Roe has endeavored to probe the reason for what appears as widespread laxity—or declining interest—on the part of many American amateur movie makers, and has suggested that, as a means of rekindling this interest and opening up new horizons of activity for the amateur, serious cine cameraists undertake to work collectively with small groups of associates with similar interests, in the cooperative enterprise of producing worthwhile films—a movement, incidentally, to which American Cinematographer has long been dedicated.

That this premise is on sound ground is evidenced by the fact many amateur cine groups already have been working together, producing films for civic and charity groups which otherwise might not enjoy the benefit of motion pictures as a means of furthering their cause.

It is therefore timely that we observed in the Summer, 1951, edition of the Bolex Reporter, William Messner's article which describes how he and a group of amateur movie maker associates pooled their technical talents to produce a film for the Bergen County (New Jersey) Chapter of the American Cancer Society.

Because this story points up the theme which Alvin Roe has set forth so admirably in his recent articles, we are reprinting William Messner's article below, thanks to the kindness of Thomas Elwell, editor of Bolex Reporter.

—*Editor.*

THE TECHNICAL difficulties in the making of "Why Should I Fear Cancer," a documentary film on cancer and cancer detection, that I had the honor to direct, were many and varied.

AUTHOR William Messner examines one of the three Bolex cameras his group employed in shooting "Why Should I Fear Cancer?"

It all began when Miss Armstrong, executive director of the Bergen County Chapter of the American Cancer Society, approached the Amateur Movie Society of Bergen County, of which I am a member, and asked our Society to take on the job of making a 16mm film to show the chapter's specialized services to the public viz., channeling people to their doctor in time, clinical work and free medicine, dressing and home care, nursing treatment and terminal care.

Earlier films of the Cancer Society's national program seemed to emphasize a thread of fear, whereas locally cancer fighters had turned to talking in terms of aggressive action and hope. So a film patterned more on the County's own aims was decided upon.

Inasmuch as I had just won a prize for producing one of the Ten Best amateur films for 1948 in a contest conducted by the Amateur Cinema League, I was asked to take on the job of producing and directing the film. Pictures of such magnitude demand more technical attention than one man alone can give to them. The answer, of course, was to organize a group of associates to assist with the production. I chose for my "crew" George Labes, cameraman; Gene Huebler, lighting technician; and, because this was to be a sound production, Dr. Rudolph Van Gelder served as sound technician.

A straight narrative story was written by William A. Caldwell, assistant editor of the Bergen Evening Record, a county daily with a circulation exceeding many of the leading newspapers of some of our great cities. The plot has to do with a young banker who worries about a lump on his leg and just keeps letting it go. Carried along with this story is that of a Hudson river barge captain who, likewise, ignores a lump on his leg, but the Captain winds up in a nursing home with a full blown cancer.

Capt. John's side of the story tells how the Bergen County Chapter's treatment and care services work; the young banker's story shows how educational and detection programs can catch cancer in time, or banish fear of it. The banker comes out all right. The story had to be rewritten and adapted to a combination shooting and narrative script. Each scene had to be figured out, set down in logical continuity order, narration fitted and timed to each scene. After many nights of sweating it out we were ready to shoot.

Calling on the Bergen Players, a popular theatrical group, my good friend Ray Meilbrecht offered to take the lead. Miss Armstrong played herself; Miss Ming, Steve Hand, nurses, doctors, bandaging groups and volunteer ambulance groups, police officers and welfare workers rounded out the cast.

Because we decided to shoot the film on commercial Kodachrome, we had some difficulty getting adequate lighting, as this film is slower than regular Kodachrome. For instance, in one scene where we have the cancer specialists huddled

(*Continued on Page 414*)

TRUCKING shot of actor's feet to be superimposed over shot of a clock face, required critical timing and real teamwork on part of amateur crew. Girl in foreground is watching frame counter on camera while actor synchronizes his steps with metronome (shown in foreground). Later it was necessary to retake the scene, with actor keeping proper distance between camera and feet by holding taut a string stretched (outside camera range) from his fingers to camera dolly.

PHOTOFLOODS and reflector-floods supplied ample illumination for most interiors. Here William Messner directs a scene staged in the Cancer Society offices. The picture was shot silently in 16mm Commercial Kodachrome. Narration, recorded on magnetic tape, was added later.

BELOW: (Left) Scene showing diagnosis being made of man suspected of cancer affliction. (Right) Shooting scene in actual hospital. Here line voltage was too low to furnish ample power for the desired number of photoflood lamps; required shooting with lens wide open, using fewer lamps.

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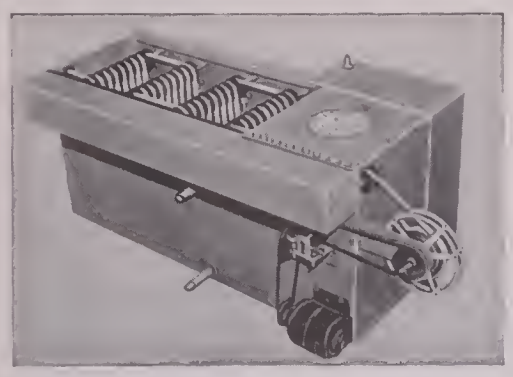
Producers, TV stations, small labs., colleges and microfilmers . . . Do it in your own plant. Control your production from the start. Recent buyers are U. S. Army, Canadian Army, Indiana University, Cuban F.B.I., U. S. Treasury Dept., University of Alabama, National Advisory Committee for Aeronautics, Dept. of Commerce.



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BARGAINS GALORE in the Classified Advertising Pages of this Issue!

TECHNICAL TEAMWORK

(Continued from Page 412)

over Captain John (the character in the story who was a retired barge captain, with a suspect lump on his leg), we just couldn't seem to get enough light from the regular power lines. This scene was actually taken in the hospital; the line voltage was so low, that when we turned on the number four photofloods to supplement six number two photofloods, the lights actually turned red; so we had to cut down on the lights and shoot with the lens aperture wide open. We didn't want to shoot at this setting as we knew the picture would get too soft—but we couldn't do otherwise.

Another problem arose in a scene in which Meilbrecht, the star, was walking along the street toward the Cancer Society's headquarters. (I should explain that the previous shot showed him coming out of his office building.) The sound of a clock ticking off the seconds —the theme being "time is life"—had to be dubbed on the sound track later with the star's steps in synchronization with the second hand of a clock. As the seconds "ticked off" by the clock being filmed, we had to set up a metronome so that he could *hear* it "tick" and keep in step with the second hand.

From this long shot of Meilbrecht's walk from his office, it was decided to show a closeup (we had to make a special dolly) of his feet along the pavement. To keep the proper distance between camera and feet, our genius, cameraman Labes, came up with the idea of using a string six feet long, one end held by the actor and the other end fastened to the dolly. As the dolly was pulled along the sidewalk the actor judged the length of his steps by keeping the string taut, so that he was always six feet away from the camera. All this time, he took his timing for every step from the metronome which was set at 120, registering a click every one-half second.

For this superimposition we filmed the clock first—set the frame counter on the Bolex—and shot enough footage (timing predetermined in the script) and then wound the film back to the beginning of the clock scene for the shooting of the scenes mentioned above.

One sequence shows a patient at the cancer headquarters inquiring what he should do about a lump on his leg. He becomes disturbed with all the activity and the seeming disregard of his troubled mind. To show this activity, a diagonal split image shot was planned. A masking device was clipped on the front of the lens and set to that the frame was split from the upper left to the lower right (diagonally). First it was placed so that the right angle was masked out. The viewfinder was also masked off with tape in order to insure that, when looking through the finder, all of the action wanted would be in the scene; the frame counter was set so that the other side of the split image could be matched on the frame when the film was wound back and the other half taken. A cancer society employee was shot making 'phone calls to patients—we filmed a semicloseup, an extreme closeup and then back to semicloseup. When sufficient footage was taken, the film was wound back to the start of the scene, then mask and tape were transferred to the other side of the diagonal. The shots on this side of the frames included a hospital nurse answering a telephone call and an ambulance pulling up to load and unload patients. This effect served a dual purpose—showing the society making arrangements and then these arrangements being carried out, all on the same frame.

The story also called for the showing of different medications. To lend dramatic impact the different bottles and boxes were set up on black velvet, and the Bolex zoomed from three and one-half feet to one and one-half feet depending on the sizes. The effect is as though the medications come from out of nowhere to practically fill the frame. Each one was zoomed separately and filmed long enough to read the labels.

When the script called for a sequence on X-ray therapy, another trip to the hospital was made. These scenes were shot, when the X-ray room was particularly busy, and we had to remove the

NEXT MONTH

Gordon Malthouse, editor of **Amateur Cine World,** Great Britain's popular publication for the British amateur movie maker, has written a special article of interest to American Cinematographer's cinefilming readers, which will appear in our November issue.

Prompted by the views expressed in recent issues of A.C. by Alvin D. Roe, Mr. Malthouse's article will deal with still another factor vital to the success of the amateur—the public showing of his films.

> "It is not merely that good amateur films deserve an audience," says Mr. Malthouse. "They **need** it."

Read his absorbing and provocative article in

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American Cinematographer

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camera from the room whenever the machine was on, to keep the film in the camera from being fogged by radiation. We had Captain John on the X-ray table and had the technician go through all the steps of X-ray therapy treatment.

When the actual shooting was finished it was thought that the bulk of the work was behind us—but we soon learned differently. Each scene was carefully cut and marked. It was then checked with the narration for length, etc. Fadeins and fadeouts were decided on and where we didn't fade in the actual filming (with a Boole fader) chemical fades were made by hand.

The shots were then edited and spliced together, checking continuity constantly. A black and white work print was then made so that the original commercial Kodachrome wouldn't be damaged by further editing or projection. The black and white print was then screened and the narration timed. The film had to be re-edited at times for better fitting of the narration, the narration changed where necessary and the film properly paced.

Then came the selection of appropriate music for background. Many more nights were spent at Dr. Van Gelder's sound studios. A narrator did the commentary using a tape recorder; Dr. Van Gelder mixing in the background-music

NEW 1951
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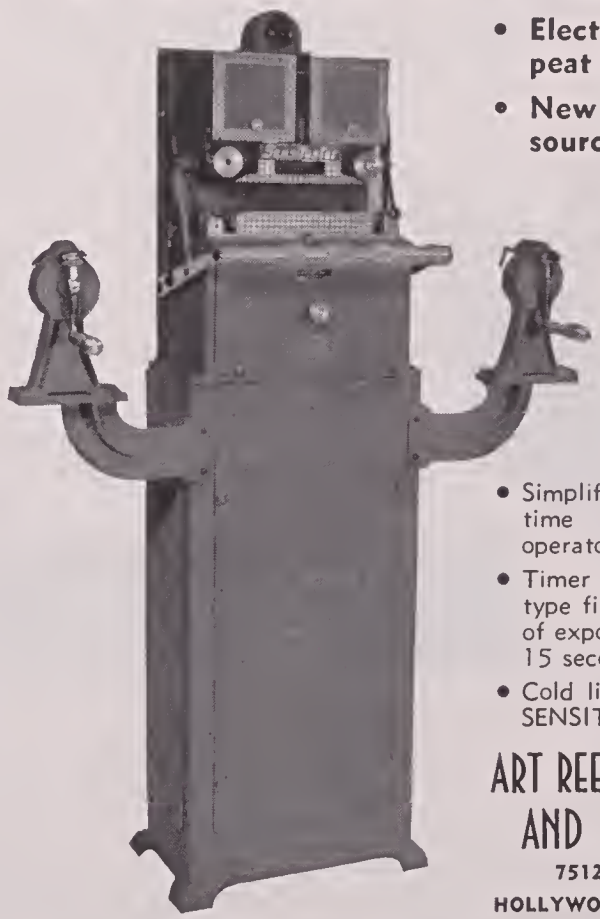
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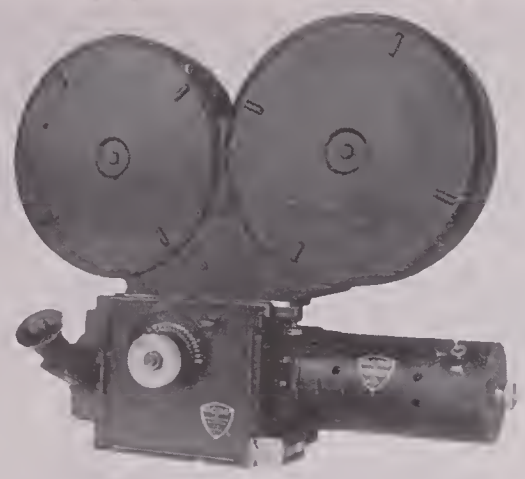

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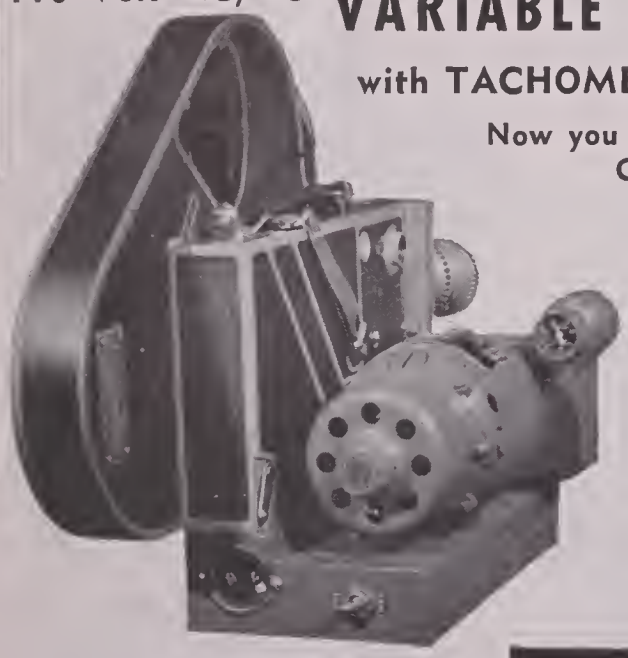

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from two turntables, while I cued the narrator so that the narration fitted in place. From this tape recording George Labes made an optical sound track and then a combination finished print was made.

So — after eight months — a 16mm color sound film taking twenty-two minutes to screen had its premiere.

My Bolex proved the champion that it really is, its versatility and performance helping to make the actual shooting of this picture a pleasure. The fact that George Labes, Dr. Van Gelder, Ray Meilbrecht and myself are proud owners of Bolex H-16 cameras bears out this conclusion.

AMPEX RECORDER

(*Continued from Page 404*)

top plate assembly is mounted on either the console cabinet or portable case, they are conveniently located along the front edge. The push-button controls for STOP-START-RECORD are relay-operated and may be remote controlled. Stopping of tape movement is almost instantaneous. When playing or recording at 15 i.p.s., the tape moves less than 2 inches after stop button is depressed.

The final production design of the recorder's electronic assembly was preceded by considerable development work, the purpose of which was to simplify all components and reduce both cost and size. The record amplifier takes signal from the microphone or radio input directly to a bridging input transformer or in the optional form with a matching input transformer. There are three stages of amplification, affording sufficient gain to operate from a line level as low as —30 volume units. Overall performance characteristics fall well within the proposed NAB standards. Frequency response is plus or minus 2 db from 50 to 15,000 cps at 15 i.p.s. and plus or minus 2 db from 50 to 7,500 cps at 7½ i.p.s. Signal to noise ratio is better than 60 db.

Other features, no less important, include monitoring jack that provides for direct monitor of record input signal before or during recording, and monitoing of recorded output signal from playback head; pilot lights on panel for indication of power and recording status; positive reel locking hubs; and the three magnetic heads in a single shielded housing.

The Ampex is a product of Ampex Electric Corporation, San Carlos, Calif. Prominent among users of Ampex Recorders in Hollywood, is Bing Crosby Enterprises, Inc., now west coast distributors for Ampex equipment.

QUO VADIS

(*Continued from Page 399*)

Arthur Walge, who was found after a lengthy search among the habitues of Santa Monica's famed "Muscle Beach." Peter Miles, tested in Hollywood, was given the role of Nazarius.

In April of 1950, Dore Schary gave the signal that started actual production of "Quo Vadis" on its way. I had just completed the photography of "King Solomon's Mines," and within a week John Schmitz, my camera operator, and I were flying the Atlantic, bound for Rome and Cinecitta.

The morning following our arrival in Rome, we drove to the Cinecitta Studio for a first-hand study of the photographic problems that lay before us there. I was at once astounded by the immense amount of work that had gone into the preparation for the production. Never before had I seen such large and beautiful settings for any picture. Art director Horning had accomplished wonders in the face of tremendous handicaps and the difficulties of inexperienced Italian labor. Here, Horning without experienced construction department men had to supervise the driving of virtually every nail and every stroke of every paint brush in the hands of willing but untutored Italian workers. It had been a feverish day-and-night job, and the cost item was just as important as though we were making a "B" picture, instead of the most expensive motion picture ever produced.

Two unpleasant surprises were mine upon viewing our sets that morning. First, it would be impossible to use overhead light platforms. The stages, walls and ceilings were in such bad repair they would never be able to hold the weight of heavy arc lighting equipment. This meant all light decks would have to be supported from the floor. Then, as a matter of course, it followed that none of the set walls could be made "wild," because they, too, would have to help support my equipment.

The second surprise was the set for the Roman banquet scene. This setting was so vast that none of the regular Cinecitta stages was large enough to contain it. Also, we did not have enough lighting equipment to properly illuminate it for Technicolor.

As a last resort, art director Horning had the set constructed on Cinecitta's stage 15, which consisted of four walls and no overhead roof whatsoever—the war had interrupted its completion. But the situation had its good side, too. It enabled us later to augment the illumination of the vast set with sunlight.

A year earlier, John Arnold, MGM's

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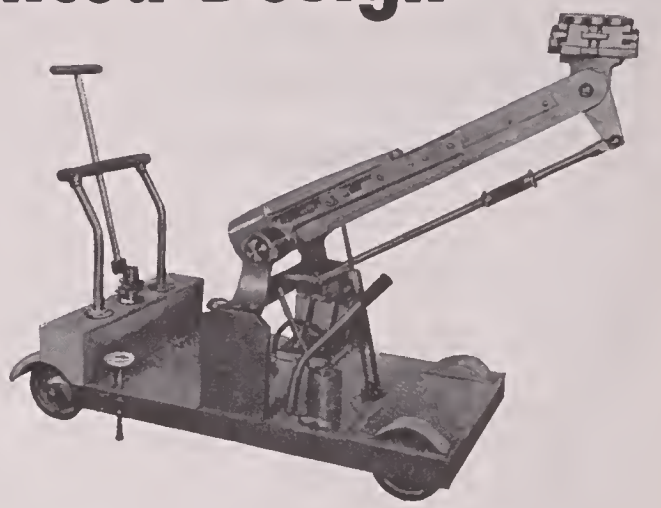

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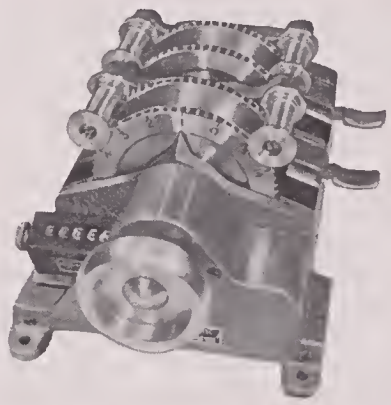

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executive director of photography, and the late Charles Schoenbaum had made extensive tests with this type of lighting, and the net result of their findings was of vast help to us later when lighting and photographing Nero's banquet scenes.

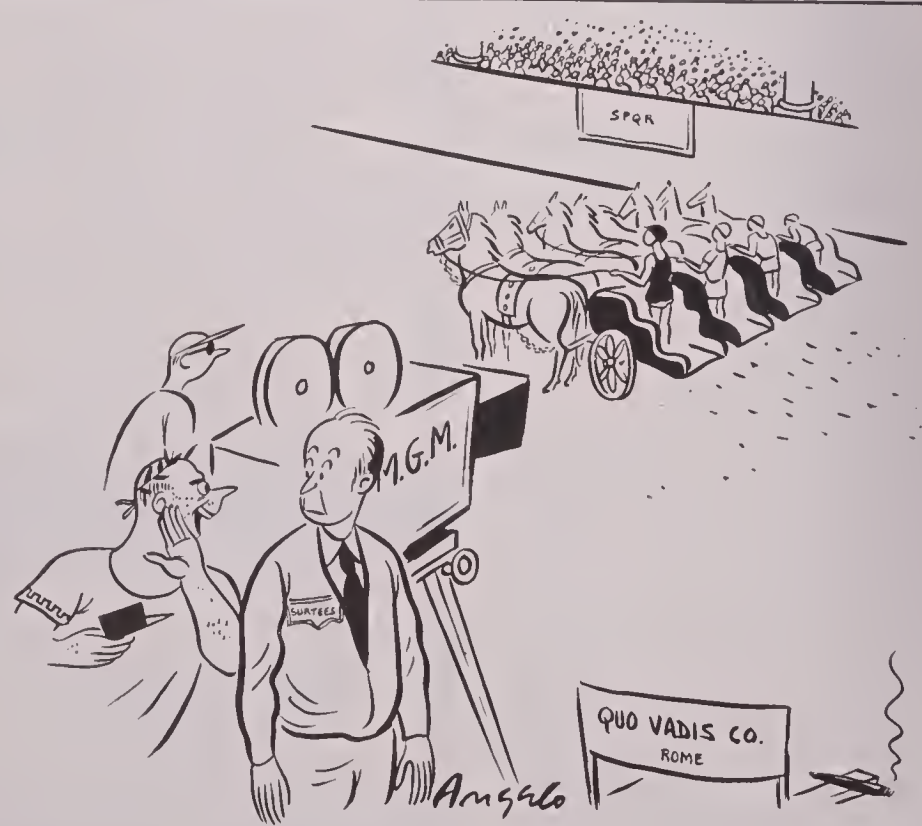
I added one or two innovations to their system, however, which made it possible to maintain greater control of the sunlight falling on the roofless stage. We stretched two sets of diffusers overhead, one on top of the other, so that, with the aid of about thirty men pulling on ropes, we could vary the amount of light falling on the set. We found that wild light alone would measure about 400 foot candles, which was about twice that needed to supplement the illumination from our artificial lighting equipment. Thus, by varying the density of the overhead diffusers, as the sun rose and then gradually descended toward the close of day, it was possible to maintain a fairly consistent value of 200 foot candles in the daylight falling on the set.

When it came time to film the night interior extreme effect sequence on this stage, again we found there was too much daylight splashing about on our set. This was especially true on the top of the walls, where the diffusers spilled most of the light from the outside. To correct this, Horning had the topmost part of the walls painted a darker tone; we also eliminated one diffuser, dyed the one remaining a deep blue-grey color, and resumed shooting. This worked great until a day or so later when a rainstorm occurred, causing unsightly streaks of blue dye from the rain-drenched diffusers to mar the set walls. Also damaged was much of the furnishings and expensive draperies. Thus, Nero's banquet set goes down in my book as the first *interior* I ever worked on where we photographed, "weather permitting!".

Horning had his problems in set construction, too. The lumber shortage in Italy, lack of skilled woodworkers, and the tendency of the limited lumber stocks to warp, all contributed to making his already enormous task an extremely tough one. The warping of wooden floors was remedied by substituting cement for wood. But the problem continued in the construction of the vast Arena set, made to seat more people than Los Angeles' Gilmore stadium, and in the construction of the gigantic bridge, over which 5,000 people were to be filmed as they made their way across it in their escape from burning Rome.

The exterior of Nero's Palace was an immense set capable of holding a crowd of 10,000 extras. The forecourt was cement, beautifully decorated to simulate mosaic. Six 50-foot statues of various Roman Gods were erected on pedestals on the raised platform. The colors of the building, and the mosaic designs in the forecourt all had been selected with an eye toward blending satisfactorily with the custumes of the players. At the rear, overlooking the set, a hundred-foot steel construction tower was erected which we used for making elevation shots with the camera.

These and other unusual camera



"Who do you want in this race?"

NO WAY OUT

Stretched out on his psychiatrist's couch, an actor pleaded, "Doctor, you've got to help me. I'm having a tough time. My director says I can't act; my cameraman is having trouble photographing me; the soundman says it's difficult to hear me. As a matter of fact, I also have difficulty remembering my lines."

Psychiatrist: "My advice would be for you to quit the picture business."

Actor: "I can't. I'm a star."

—*Variety*

angles had been charted and agreed upon during the various set design meetings held earlier in Hollywood. The perspective drawings made by Cedric Gibbon's art department were used as a guide whenever lining up our camera setups. We were not required to follow these implicitly, which permitted us the latitude of watching for and utilizing improved camera angles, where possible. We were ever alert for making improvements over our basic plans.

Edward Carfagno, joined Horning later to assist him with his task of set construction supervision. Here mention must be made of what was probably the art department's most outstanding contribution—the construction of an entire Roman street, complete with homes and shops of two thousand years ago. Other construction accomplishments included the building of 100 additional interior sets, which required the services of 500 carpenters for a period of over two years. Sculptors took over one complete sound stage where they designed and moulded more than 500 pieces of statuary used in decorating the sets.

Costuming was a major undertaking. Designer Herschel McCoy and his staff were continually swamped with work in making custumes. This required the utilization of still another of Cinecitta's sound stages for the manufacture and storage of costumes. Another stage was divided into sections where a dry-cleaning plant, a laundry and a shoe repair shop were set up.

So vast was the costuming job, McCoy sought outside assistance in making the costumes; but there were not enough companies in all Italy capable of turning out the tremendous number of costumes the production required. McCoy finally contracted much of the work through agents who parcelled it out among housewives in and around Rome. The combined project consumed more than 52,000 yards of materials, resulting in more than 32,000 costumes. Turned out by hand were more than 15,000 pairs of sandals, 12,000 items of jewelry, 4,000 helmets of brass, aluminum and tin, 4,000 breastplates, 2,000 shields, and 21,700 water bottles.

Novel shortcut methods were devised in the issuing and checking-in of costumes for the thousands of extras. When we worked the Arena set, 14,000 extras would have to be outfitted, and at the close of the day's work, all wardrobes had to be turned in. During the night, these were cleaned, repairs made where necessary, and all made ready for use again the following day. Besides the mechanics of issuing and retrieving costumes daily, McCoy's greater problem concerned the colors in the costumes. Here the technical requirements of the camera had to be considered as well as the pictorial composition of the photography. The rushes were carefully studied each day to make sure we were not getting too many people in blue or red uniforms in clusters in the vast assemblages. To avoid the problem of too many red-dressed players grouping together inadvertently in a scene — which would create a strong distracting factor — the red costumes were dyed in various shades of red, so that there would be little likelihood of too much of any one color tone appearing in any one spot.

(To be continued next month)

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THE ACME PROCESS CAMERA

(Continued from Page 401)

interchangeable within the accuracy of 0.0001 inch. This makes it possible to use supplementary movements with the various register-pin locations. Also, this selectivity and interchangeability not only provide film movements which coincide with the optical printer and/or production camera, but also facilitate and augment the bipack methods presently employed for special effects and two-color photography.

The feasibility of the supplementary movements is best emplified in the emulsion-to-emulsion printing of two-color bipack negatives to the separation positives, and subsequent process shots from these positives. In such operations, because of film shrinkage and inaccuracies of the perforations, it is essential to register consistently with the same "full-fitting" perforation as well as the same pair of perforations as used for the original negative. Those who have used bipack photographic methods know that when the two films are simultaneously exposed in the emulsion-to-emulsion superimposed manner, the "full-fitting" register pin locations of the two records are opposite from left to right, in relation to the emulsion and image. Therefore, the advantages of supplementary film movements with "full-fitting" register pins which coincide with the oriented bipack records may be readily appreciated.

Figure 2 illustrates the locations of the register pins and the left-to-right image relation of three-color, three-strip negatives. Again, as in two-color, the locations of the "full-fitting" perforations are reversed due to the emulsion-to-emulsion operation of the red and blue records. In the lower part of Fig. 2, the three records are viewed from the emulsion side and it may be seen that the registration perforations of the blue and green records correspond, and the red record is dissimilar.

The viewing device of the camera is of the positive reflex type. This enables operator to view the image, as seen by the camera lens, without shifting or "racking-over" the camera. To view the image, a lever on the camera is actuated to position a 45°-angle, first-surface mirror between the lens and the photographic aperture in the camera. The image is thus diverted to a ground glass, and is seen magnified about two times, and erect and correct from left to right. A notable feature is the safety device which prevents the camera mechanism from operating while viewer is employed.

Within the viewer are two register pins, which are in exact optical alignment with the register pins of the film movement. Thus, by placing a piece of processed film on the register pins of the viewer, a matte shot view or a composite view of the objective scene is obtained. This assures exact composite alignment and registration during future printing operations.

A special arrangement of the viewing tube, which allows it to be removed and a lamphouse substituted, makes it possible to mount processed stock on the viewer register pins and project the image through the photographic objective. A matt may then be painted from the projected image. The raw stock in the camera is not exposed in the process. Thus, because of the exact optical alignment obtained between the register pins of the movement and register pins of the viewer, composite alignment of original scene and matt shot is assured during the bipack printing operation.

Mitchell Camera Mentor

•

INAUGURATING a program of assisting cameramen to use Mitchell cameras and equipment with maximum efficiency, Mitchell Camera Corporation's Charles Austin is currently speaking before groups of professional cinematographers throughout the country. Service also is being made available to technical schools and colleges teaching motion picture techniques, through Theodore Altman, Mitchell's eastern representative in New York City.

•

The camera is equipped with a 75mm Ektar enlarging lens, although other lenses of different focal lengths may also be used. The size and location of the reflex viewer preclude use of lenses of shorter focal length. The minimum focal length lens which may be used is approximately 62mm.

Between the aperture and the lens, a color wheel is built in that contains the necessary ND and color filters for three-color, successive frame photography. This wheel rotates synchronously with the camera shutter and places, in sequence, the blue, red and green filters in front of the film during the three successive-frame exposures. When the camera is to be used for black-and-white photography, the color wheel is retracted by means of a lever at the front of the camera; this also is the only operation required to reconvert the camera to successive-frame color photography. Because of the different requirements of 16mm photography, the color wheel of the 35mm model is omitted on the 16mm camera.

Other features include a footage and frame counter in one resetable unit; a variable shutter adjustable from 0° to a maximum opening of 170°; and an optional automatic shutter device which produces selective fades of 1-, 2-, 3-, 4- and 8-foot lengths. A unique gearing and linkage arrangement closes and opens the shutter at a semilogarithmic differential. Thus, when closing, the amount of shutter variation between successive frames gradually decreases as the shutter approaches the closed position. The variation operates inversely when opening.

A gear-driven automatic takeup for the film magazines, which operates both forward and reverse, completely eliminates belts, pulleys and manual operations when changing the direction of film travel. Drives are available for use with either 400-foot or 1000-foot capacity film magazines. The conventional pulley-and-belt type takeup is available for bipack magazines. This is mounted on the camera case in the same manner as the automatic magazine drive and is interchangeable with it.

Takeup failure is automatically checked by a buckle switch which instantly stops camera motor when failure occurs. Removing the film buckle, by manually rotating the magazine spindle, automatically resets the buckle safety switch.

Two types of motor drive units are available for use with the camera. They are (1) the variable speed synchronous drive motor featuring synchronous operation at various speeds, and (2) the stop-motion motor for single-frame exposure. Both motors operate either forward or reverse. Speed selection is obtained by shifting gears of the interconnecting transmission. The speeds of 24, 16, 12, 6, 3 or 1.5 frames per second are provided with the synchronous drive motor. Selective speeds or exposure times are also provided by the stop-motion motor. A range of ¼, ½, 1, 2 or 4 seconds exposure is provided. Also a 1/16 second exposure for rewinding and straight title work is provided, although this operates continuously only.

The stop-motion is actuated by a remote, portable pushbutton switch, which produces one exposure at each operation of the button. For three-color, successive-frame, animation photography, a selector switch is provided which changes the ratio to three exposures each time the switch is pressed.

The camera, which was described for the first time in a paper presented before the Society of Motion Picture and Television Engineers early in 1950, is a product of Producers Service Company, 2704 West Olive Avenue, Burbank, California.

The foregoing article is based upon a paper by the same author which appeared in the May 1951 *Journal of the Society of Motion Picture and Television Engineers*.—Ed.

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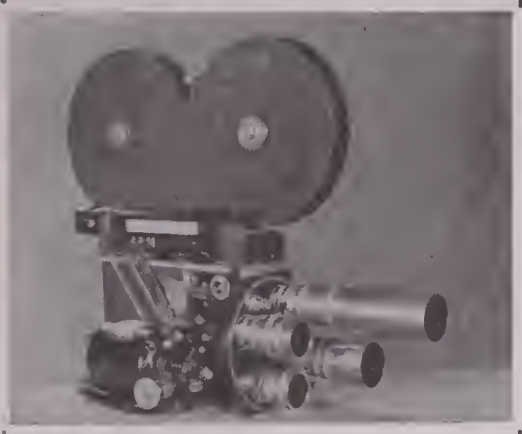

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PRODUCING TV COMMERCIALS ON FILM

(Continued from Page 409)

Regardless of the length of the TV commercial, planning should take into consideration that there must be two seconds less of sound than the nominal length of the film. Thus, a one minute commercial will have 58 seconds of sound and sixty seconds of picture; an eight second station break, six seconds of sound, and so on. The silent "area" is divided as follows: 1½ seconds at the opening of the film, and ½ second at the end.

These silent portions of the film have become standard procedure. If the reader will consider the physical relationship between the picture frame and position of the corresponding sound on the sound track—26 frame differential for 16mm, and 19/20 frame lead in the case of 35mm—it will be seen that in order to have sound with the opening frames of the brief commercial film, it would be necessary for it to appear in the blank leader. From purely operational considerations it would not be possible to insure that the projectionist would always be able to transmit the first part of the sound track. For the same reason, at the end of the film a half second of silence is left to prevent any abrupt cut in audio when the switch-away from film is made. Watch for this the next time you are looking at your television programs.

By closing the commercial on a "freeze frame" — that is, a frame in which there is no movement (so that the one frame may be printed over and over again an indefinite number of times) — it is often possible for the sponsor to get more than one minute of air time out of a one minute spot film. Quite often there is a slight delay on switching over from film, and if the film is still running on an already well established shot, there is a double impact and the advertiser gains a few seconds air time at no extra cost. Thus, spots are rarely cut to exactly the allotted length, and most have extra frames at the end.

It is essential that quality of the commercial spot film match that of the program; and yet, how seldom does this happen! Where the spot is inferior, invariably it can be traced to poor film equipment operation, a poor film print, or both.

There are two schools of thought on the question of release print gamma. One, to which the writer belongs, holds that the laboratory should print its release positives two points lighter than theatrical prints—i.e., about 2.3 gamma. This produces a finely graded print, which is not too dark and does not produce the secondary emission in the iconoscope camera tube which causes those "clouds" so often associated with televised films. As a matter of fact, keeping a firm check on this release print gamma contributes toward greatly satisfying the sponsor.

Thus, it can be seen that careful preproduction planning of TV commercial films pays off handsomely, just as it does with successful theatrical films. By going into production with every detail planned not only will save time, film and lights, but lessen, if not eliminate entirely, the possibility of rejects of your product on the part of sponsor and advertising agency.

Next month we shall deal with the planning, production and cutting phases of TV commercial films.

RESOLUTION TEST CHART

(Continued from Page 402)

commercial methods could be used, and a great saving in time and cost was thus effected.

From these preliminary considerations it was decided that a suitable test chart should (1) supply most of the required information on a single photograph made under specified conditions, (2) give direct comparison of focal sharpness at the center and in each corner by having similar figures in these positions, (3) give information on resolution in terms of lines per millimeter under contrast comparable to that in the commonly used National Bureau of Standards test charts, (4) give results with a minimum of auxiliary equipment and with a minimum of calculation, (5) give resolution on limits at various points in the field of the lens, (6) indicate the lens defects which contribute to these limitations, (7) have enough symmetry about its center to reveal any mis-centering or mis-alignment of the lens elements. The chart is reproduced in figure 1. It will be noticed that the same "focus figure" appears at the center and at each of the four corners. This makes a rapid comparison of corner to center sharpness possible. Near each figure are several sets of wedges, designed to assist in visual analysis, and to indicate resolution when the chart is used at a considerable distance from the lens. Along the diagonals are small circles of uniform diameter, black circles against the white background along one, white circles in a black field along the other. These indicate coma and also permit a study of film characteristics. Rectangular sets of lines near each of the edges are useful in aligning the chart and testing for steadiness of motion pictures. The margins of the

chart, however, are exactly marked by the eight triangular "points." When the chart is mounted at a distance from the lens in inches equal to the focal length of the lens in millimeters (more precisely at 26 times the focal length), the images of these points will outline the standard (Academy) aperture.

Resolution limits are obtained from the eight pairs of resolution patterns located at selected positions. Two pairs are found near the outer edges of the horizontal central wedges, four are located along the diagonal lines, and the other two pairs are near the outer edges of the chart. It is also possible to read resolution values from the focus figures, using scale values supplied in the directions furnished with each chart.

The focus figures located at the center and at each corner are shown in greater detail in figure 2. These were designed to facilitate maximum sharpness of focus with the chart at any reasonable distance from the lens, and also include resolution patterns so that resolution in each of these positions can be determined. The basic design consists of circular and radial elements of differing widths. The heavy cusped figure can be seen at long distances and can be used to obtain a maximum sharpness of focus when finer detail is not visible. Ordinarily the white center will be visible, and under moderately favorable conditions the black dot will also appear. The fine black cross lines will appear only under very favorable conditions with the image in very good focus. The concentric circles and radial lines indicate the resolution limits, and scale values for each set are provided with each chart.

The resolution patterns, shown in detail in figure 3, were designed after careful consideration had been given to the NBS charts and also to alternative designs suggested by the Air Force and by other agencies. It was decided that the three-line pattern was the most desirable since it gave the limiting readings without any necessity of counting the number of lines. At a distance from the lens of 26 times the focal length of the lens, the scale values accompanying the patterns read directly in lines per millimeter, and at other distances can be used in a simple formula to give the lines per millimeter resolution, thus reducing necessary calculations to a minimum.

These patterns are placed approximately one-third, one-half and three-quarters of the center to corner distance. For most lenses the closer sets will give approximately the maximum resolution, the half-way sets will give good mean values, and the outer ones will be near the position of poorest resolution. Each pattern is drawn so that its lines are either radial from the center of the chart or approximately tangential, making it possible to read both radial and tangential resolution without any mixing of the two values. Each pattern has a symmetrically placed one nearby, and each pair has another pair placed symmetrically with respect to the center of the chart. This allows a multiplicity of readings which reduce possibility of error, and provide a check on lens defects.

While it is not often that the chart may be used to make a complete analysis of lens aberrations, it can be used to study them, and various common lens defects are quickly revealed by it. For example, a difference in the sharpness of focus of the center and corner figures indicate a curvature of field. A difference in size of these figures on the photographed object indicates distortion. Coma will be apparent from tear-drop shapes of the circles along the diagonal lines. Astigmatism can be analyzed from the differences in values read from the radial and from the tangential resolution patterns and from a difference in sharpness of the radial and circular lines

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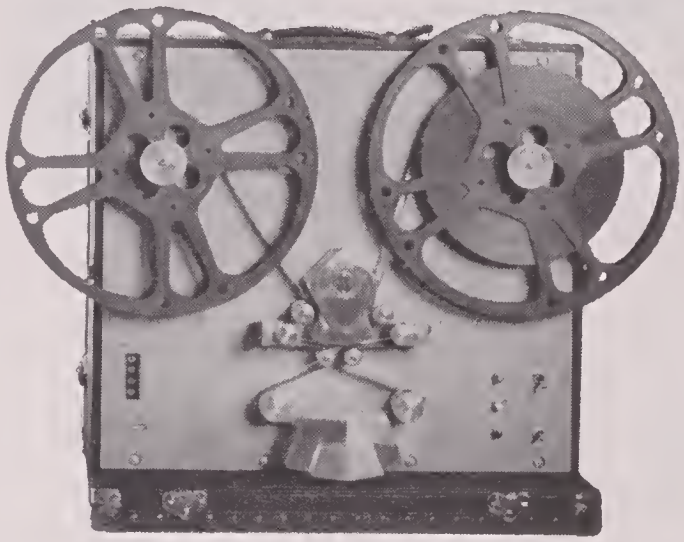

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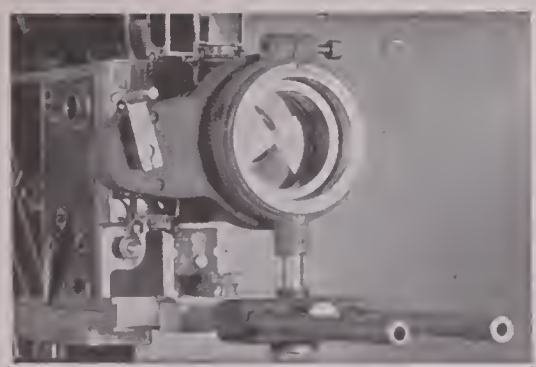

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in the focal figures. Spherical aberration can be analyzed by use of the central focus figure with the chart carefully centered on the optic axis of the lens. The shift in lens position required to maintain sharp focus as the lens aperture is reduced from full open position to the finest opening which still gives a recognizable image indicates the seriousness of this aberration. Chromatic aberration can be studied in a like manner, using the central figure and suitable color filters. Faulty alignment of the lens in its mounting is evidenced by a difference in sharpness of focus between the corner figures. Mis-alignment or mis-centering of lens elements will be revealed by a difference in resolution read from symmetrical pairs of resolution patterns at corresponding distances from the center. Thus most of the important defects in a lens will be revealed qualitatively and some quantitative indication of their seriousness can be obtained by using the scale figures which are either on or supplied with the chart. A set of directions for the use of the chart with either 35 mm. or 16 mm. motion picture cameras or with any type of still camera has been prepared.

1952 ANNUAL COMPETITION

(*Continued from Page 410*)

appear above. Contestants are urged to read them carefully before submitting their films.

It is with great reluctance that American Cinematographer is compelled to eliminate from the competition this year, entries from outside the United States. This has been made necessary by the difficulties encountered in receiving foreign-made films through U.S. customs, and returning them later through the same channels. The foreign amateur is making some of the best cine films, and we shall miss his contributions greatly in this year's competition.

The opening and closing dates of the competition were purposely planned to afford amateurs opportunity to compete in other national contests, and have their films back in plenty of time to enter them in American Cinematographer's competition.

Films which have won awards in other national contests are also eligible in this competition, but films which were submitted in a previous American Cinematographer competition should not be re-entered.

The fact one entry is a sound film or has sound on a separate medium does not make it a more important entry than a silent film. All entries in this competition are judged basically on the photography—the way the picture is presented photographically—with all other factors having a secondary value, and all contributing to the overall evaluation. In other words, a film that is mediocre photographically, is not saved by sound. On the other hand, a well-planned and executed sound track contributes to the value of the *overall effort* put into the picture.

Readers planning to enter films in the competition are urged to clip the form on page 430, fill it out and mail it to the contest chairman today, in order to receive official entry blank.

UNINHIBITED CAMERA

(*Continued from Page 400*)

to emerge as a photographic *tour de force.*

The camera treatment and lighting style evolved from the dramatic demands of the story. The locale of "Streetcar," an important motivating force of the plot structure, is a street called Elysian Fields in the Old Quarter of New Orleans. Here, Blanche DuBois, (Vivian Leigh) a pathetic dreamer of dreams, wanders one day. Her world of magic, created as a buffer against sordid truth, is destroyed by two men—her brother-in-law, who hates her on sight, and his friend, who fails her when she needs understanding and devotion most. Defenseless, Blanche goes tragically to her ruin, as her sister and sympathic neighbors look on, unable to help.

This savage exposé of raw emotion is strong stuff—and there will undoubtedly be those who will consider this film (like "Ace in the Hole") sordid, depressing and too nakedly real.

To capture the emotional violence of the plot on celluloid, Stradling arrived

(ADV.)

"Then I found out his awful secret . . . He didn't own a KINEVOX*"
(**Leading portable, synchronous magnetic recorder.*)

at a photographic style that is at least as honest as every other phase of this remarkable production. His task was to create the atmosphere of a steaming, dirty, evil-smelling fragment of what was once the most lavish quarter of a fabulous city. Elysian Fields lingers shabbily in the shadow of its ghostly former elegance. Its inhabitants are a crew of primatively passionate beings—and the atmosphere of the setting is very much a part of their violent behavior.

The effect of this locale on the screen is a perfect combination of settings by five-time Academy Award winner Richard Day, and the photography of Stradling. The exterior street scene, constructed inside Stage One of the Warner Brothers' lot, is lighted for low-key night effect to provide a mood of sordidness softened by the romance of fantasy as visualized through the dream-shrouded eyes of the main character. Added to the effect of the lighting is a fine mist, so subtle and yet so compelling that one can actually feel the oppressive humidity of New Orleans.

The night effect of this street is in striking contrast to the day scenes which transform the Quarter into a teeming, raucous mélange of sound and color. Photographically, this contrast in lighting key adds powerful shading to the dramatics of the story. The main action, however, takes place within a shabby, crowded apartment to which clings only the faintest trace of a bygone elegance. Within this confined space is played the main action of the film, and it was a great challenge to light this confined space as a suitably modulated background for the great range of emotion projected against it. Stradling achieved this result through an honest style of low-key that chucked glamor out the window and dragged in reality by the hair of the head.

Stradling is enthusiastic in his praise of director Elia Kazan, maintaining that the film's photographic honesty is due in great measure to the fact that he was encouraged by this fine director to kick over the cinematic traces. " 'Gadge' Kazan kept telling us all to be bold, until finally 'be bold!' came to be a kind of battle cry on the set. It was wonderful to be able to light a picture without having to worry about the fact that the star's face would be in shadow during part of the scene. When a light burned out, we'd often leave it out, because the effect was more honest and dramatic that way."

Stradling was no less impressed by the artistic integrity of the star, Vivian Leigh. A very lovely person in real life, Miss Leigh kept coming up to ask him if she were wearing enough make-up to make her look old and haggard for the role. She was quite willing to use more, if necessary. After years of having to use every trick in the book to make actresses look their glamourous best, Stradling found Miss Leigh's attitude most refreshing.

One of the most interesting lighting effects in the film is used in the sequence in which Miss Leigh, portraying the hallucinations of approaching madness, dresses in a crumpled white satin evening gown complete with rhinestone tiara, and dances about the room in the belief that she is an elegant Southern belle who has just received an invitation for a cruise in the Mediterranean. The room is supposedly illuminated only by small, subtly shaded lamps. In the romantic lighting thus produced, she looks ethereal, with a fragile loveliness that ties in perfectly with her fancied image of herself.

At this moment, the antagonist enters the room and switches on the main light. Instantly the illusion is shattered.

(*Continued on Page 428*)

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CURRENT ASSIGNMENTS of A. S. C. MEMBERS

Major film productions on which members of the American Society of Cinematographers directed the photography during September.

★ ★ ★ ★ ★ ★ ★ ★ ★

Columbia

- FRANK PLANER, "Death of A Salesman," with Frederick March, Mildred Dunnock. Laslo Benedek, director.
- WILLIAM SKALL, "Golden Hawk," (Technicolor) with Rhonda Fleming, Sterling Hayden. Sid Salkow, director.
- HAL MOHR, "Fourposter," with Rex Harrison, Lilli Palmer. Irving Reis, director.
- JOSEPH WALKER, "The Marrying Kind," with Judy Holliday. George Cukor, director.
- WILLIAM BRADFORD, "Night Stage to Galveston," with Gene Autrey. George Archinbaud, director.
- CHARLES LAWTON, "The Mother," with Loretta Young. Rudy Mate, director.
- BURNETT GUFFEY, "The Sniper," with Adolphe Menjou, Marie Windsor. Edward Dmytryk, director.
- GUY ROE, "My Six Convicts," with John Beal, Millard Mitchell. Hugo Fregonese, director.
- HENRY FREULICH, "Montana Territory," with Lon McCallister, Wanda Hendrix. Ray Nazarro, direrton.

Independent

- ERNEST LASZLO, "Three For Bedroom C," with Gloria Swanson. Milton Bren, director.
- PAUL IVANO, "For Men Only," with Paul Henreid, Margaret Field. Paul Henreid, director.
- JOSEPH BIROC, "The Bushwhackers," with John Ireland, Dorothy Malone. Rod Amateau, director.
- FLOYD CROSBY, "High Noon," with Gary Cooper. Fred Zinnemann, director.

M-G-M

- FREDDIE YOUNG, "Ivanhoe," with Robert Taylor, Eliz. Taylor. Richard Thorpe, director.
- CHARLES ROSHER, "Scaramouche," with Stewart Granger, Eleanor Parker. George Sidney, director.
- WILLIAM MELLOR, "Skirts Ahoy," with Esther Williams, Joan Evans. Sidney Lanfield, director.
- JOSEPH RUTTENBERG, "Young Man In A Hurry," with Glenn Ford and Ruth Roman. Mitchell Leisen, director.
- ROBERT PLANCK, "Belle Of New York," with Fred Astair, Vera Ellen. Charles Walters, director.
- HAROLD ROSSON, "Singin' In The Rain," with Gene Kelly, Debbie Reynolds. Gene Kelly and Stanley Donen, directors.
- RAY JUNE, "The Invitation," with Dorothy McGuire and Van Johnson. Gottfried Reinhardt, director.
- ROBERT SURTEES, "The Merry Widow," (Technicolor) with Lana Turner. Curtis Bernhardt, director.
- GEORGE FOLSEY, "Lovely To Look At," with Kathryn Grayson, Red Skelton. Mervyn LeRoy, director.

Monogram

- WILLIAM SICKNER, "Northwest Territory," with Kirby Grant, Gloria Saunders. Frank McDonald, director.
- HARRY NEUMANN, "Rodeo," with Jane High, Don Archer. William Beaudine, director.

Paramount

• Loyal Griggs, "Shane," (Technicolor) with Alan Ladd, Jean Arthur. George Stevens, director.
• Harry Wild, "Son of Paleface," (Technicolor) with Bob Hope, Jane Russell. Frank Tashlin, director.
• George Barnes, "Somebody Loves Me," (Technicolor) with Betty Hutton. Irving Brecher, director.
• Daniel Fapp, "Sailor Beware," with Dean Martin, Jerry Lewis. Hal Walker, director.

R.K.O.

• Russell Harlan, "The Big Sky," with Kirk Douglas. Howard Hawks, director.
• William Snyder, "The Korean Story," with Robert Mitchum. Tay Garnett, director.
• Harry Stradling, "Androcles and The Lion," with Jean Simmons, Victor Mature. Chester Erskine, director.
• Karl Struss, "Tarzan The Hunted," with Lex Barker, Dorothy Hart. Cyril Endfield, director.

20th Century Fox

• Norbert Brodine, "Five Fingers," with James Mason. Jos. L. Mankiewicz, director.
• Leon Shamroy, "Wait Till The Sun Shines, Nellie," with Jean Peters, David Wayne. Henry King, director.
• Arthur Arling, "Belles On Their Toes," (Technicolor) with Jeanne Crain, Myrna Loy. Henry Levin, director.
• Milton Krasner, "Phone Call From A Stranger," with Gary Merril, Shelley Winters. Jean Negulesco, director.
• Lucien Ballard, "Return Of The Texan," with Dale Robertson, Richard Boone. Delmer Daves, director.

Universal-International

• Irving Glassberg, "Bend In The River," with James Stewart, Arthur Kennedy. Anthony Mann, director.
• Maury Gertsman, "Son of Ali Baba," with Tony Curtis, Piper Laurie. Kurt Neumann, director.
• Cliff Stine, "Broncho Buster," with John Lund, Joyce Holden. Budd Boetticher, director.
• Carl Guthrie, "Francis Covers The Big Town," with Donald O'Connor, Nancy Guild. Arthur Lubin, director.
• Russell Metty, "The World In His Arms," with Gregory Peck, Ann Blyth. Roaul Walsh, director.
• Charles Boyle, "Steel Town," (Tech.) with Ann Sheridan, John Lund. George Sherwood, director.

Warner Brothers

• Ted McCord, "I'll See You In My Dreams," with Doris Day. Michael Curtiz, director.
• John Boyle, "Carson City," with Randolph Scott, Raymond Massey. Andrew de Toth, director.
• Ed DuPar, "The Lion And The Horse," with Steve Cochran. Louis King, director.
• Robert Burks, "Room For One More," with Cary Grant, Betsy Drake. Norman Taurog, director.
• Wilfrid Cline, "She's Working Her Way Through College," with Virginia Mayo, Ronald Reagan. Bruce Humberstone, director.
• Ted McCord, "This Woman Is Dangerous," with Joan Crawford. Felix Feist, director.
• Warren Lynch, "Retreat, Hell!" with Frank Lovejoy, Richard Carlson. Joseph Lewis, director.

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UNINHIBITED CAMERA

(*Continued from Page 425*)

The evening gown looks cheap and gaudy; the rhinestone tiara looks like dime-store rubbish; the woman herself looks dissolute and worn—old with the compressed age of imminent madness. The two sharply contrasting styles of lighting used so closely together account for much of the impact of the sequence.

Another dramatic sequence, involving a knock-down-drag-out brawl between the drunken brother-in-law and his card-playing buddies is filmed entirely with rim-light, creating an atmosphere of harsh brutality the likes of which have seldom been recorded on film. Here again, it is as much that which is left to the imagination, as that which is actually shown, that gives the sequence its hammer-like punch.

From the purely mechanical standpoint, photography of the picture within its main set presented certain problems. The set was necessarily a small one, since much of the dramatic impact of the plot arises from the basic situation of three volatile personalities confined in close quarters. The problem was to preserve the feeling of cramped space, while still allowing the camera mobility and a variety of angles.

Removable or "wild" walls permitted camera set-ups from almost every angle, but even so it was the originality of the director of photography that accounted for the great variety of point of view from which the action was filmed. Even the shots made from directly overhead are well-motivated and add greatly to the dramatic effect.

Fluid camera (as thought of in terms of boom, dolly and tracking shots) was severely limited by the set plan, so instead the action was played up to and away from camera, creating an effect of fluid action in relation to the lens. The large number of striking close-ups in the film point up every flick of an eyelash for fullest effect.

Stradling's compositions are extremely forceful, especially the split-focus shots characterized by a large head in the foreground and a full figure dominating the background. As every technician knows, such shots usually call for a wide-angle lens—but a wide-angle would have exaggerated the perspective of the rooms, making them look too large and destroying the closed-in effect. As a result, the entire production had to be shot (and the necessary compositional effects achieved) with 35mm, 40mm, 50mm, and 75mm lenses.

To film actual scenes of New Orleans (most of which unfortunately do not appear in the final cut), the cast and crew went on a four-day location jaunt to that fabled city. Working all night, they shot scenes at the L. and N. Station at the foot of Canal Street, while literally thousands of people looked on. Although the original streetcar named Desire has since been replaced by a bus named Desire in busy New Orleans, the city made it possible for the star to ride the trolley by importing one of the retired trams and putting it into active service once more, just for the film incident.

Commenting on the filming of the picture, Harry Stradling explains: "There are two facts that worked very much in my favor while shooting 'Streetcar.' One is the complete free rein given me by the production heads. I was encouraged to plan and execute the photography exactly as I saw it in terms of the script. My camera was not inhibited by any cut-and-dried rules. The second advantage was the two days' of rehearsal shooting we did prior to actual production. The shooting done in these two days was not meant to be used in the picture. It was set up solely as a method of experiment, to try out effects and set a definite style. As a result, the actual shooting went much faster, and we weren't forced to do our experimenting while shooting for keeps."

For Harry Stradling, A.S.C., "Streetcar" was an important milestone in a long and eventful career. When just 16 years old he began his career as an assistant to his uncle who was Mary Pickford's first cameraman at the Famous Players-Lasky Studio in New York. After that, he worked in rapid sequence as assistant to ten or twelve other cameramen, including George Folsey and Ernie Haller. At the ripe old age of 19 he became a full-fledged director of photography, probably the youngest in the history of the industry. He worked on one of the first talkies in 1929, a film called "Syncopation," starring Morton Downey. He then sailed for Paris supposedly to film one picture, and ended up staying in that magic city for six years.

Stradling was brought to Hollywood under contract to David O. Selznick, but his first picture was "My Son, My Son," for Edward Small.

When his contract was completed, he signed with Samuel Goldwyn, and his first effort for that producer was "Edge of Doom." On loan-out he shot "Valentino" for Edward Small and "My Son John" (unreleased) for Paramount. He recently completed "I Want You" for Goldwyn and is currently at work on "Androcles and the Lion" at R.K.O.

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(Continued on Next Page)

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(*Continued from Preceding Page*)

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(*Continued from Page 406*)

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S.M.P.T.E. CONVENES

(*Continued from Page 390*)

reports, discussions and demonstrations dealing with the latest developments in stereo or three-dimensional motion picture projection. This closing session is scheduled for the Academy Award Theatre Friday evening.

Members have been encouraged to take their wives to the convention. An attractive week-long program of entertainment is being prepared for them by the ladies committee, headed by Mrs. Charles R. Daily.

Not included in the tentative convention program are many committee reports which the chairmen of several engineering committees are planning to submit. As these develop, they will be scheduled for presentation during the most nearly related technical session.

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Setting focus for a cockpit scene for "United 6534," photographed by Ed. McGlone.

THIS MONTH

- **Animation With Puppets**
- **Set Lighting By Remote Control**
- **Reflected Light For Color Photography**

NOVEMBER 1951

PHOTO BY FRANK TANN

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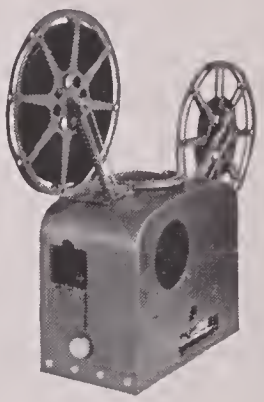

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ON THE COVER

PRODUCER-PHOTOGRAPHER E. D. McGlone, of Cate & McGlone, Hollywood, lines up a shot depicting action in cockpit of a transcontinental sky cruiser for "United 6534," promotion film for United Air Lines photographed in 16mm Commercial Kodachrome. (See story on page 452.)

—United Air Lines Photo.

AMERICAN CINEMATOGRAPHER, established 1920, is published monthly by the A. S. C. Agency, Inc., 1782 N. Orange Dr., Hollywood 28, Calif. Entered as second class matter Nov. 18, 1937, at the postoffice at Los Angeles, Calif., under act of March 3, 1879. SUBSCRIPTIONS: United States and Pan-American Union, $3.00 per year; Canada, $3.00 per year; Foreign, $4.00. Single copies, 25 cents; back numbers, 30 cents; foreign single copies, 35 cents; back numbers, 40 cents. Advertising rates on application. Copyright 1951 by A. S. C. Agency, Inc.

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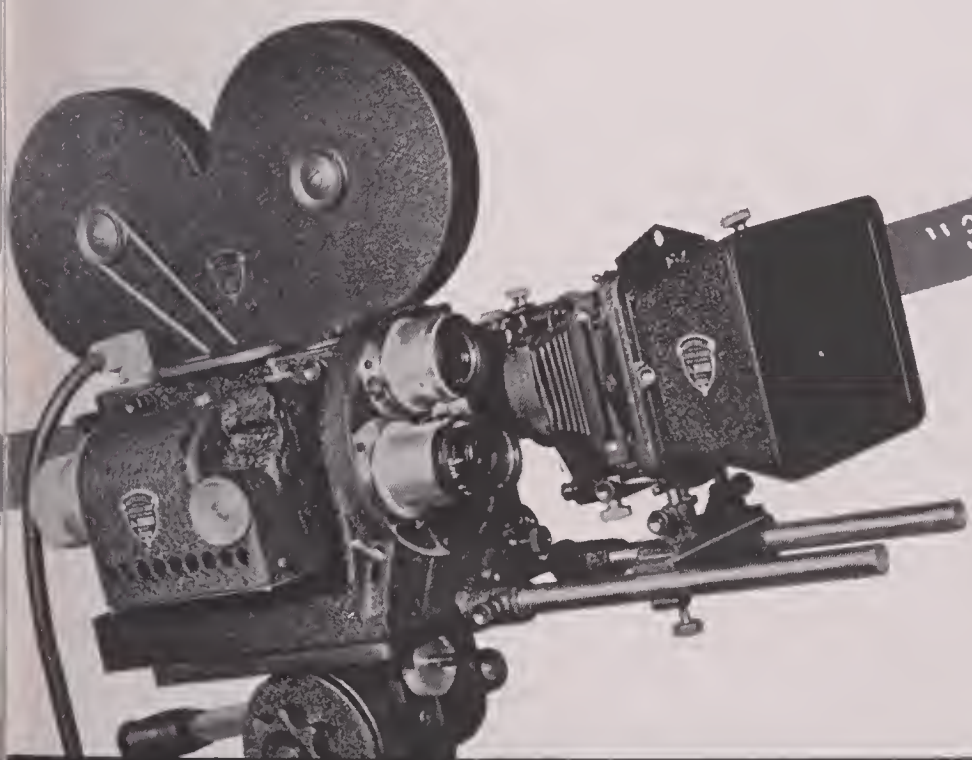

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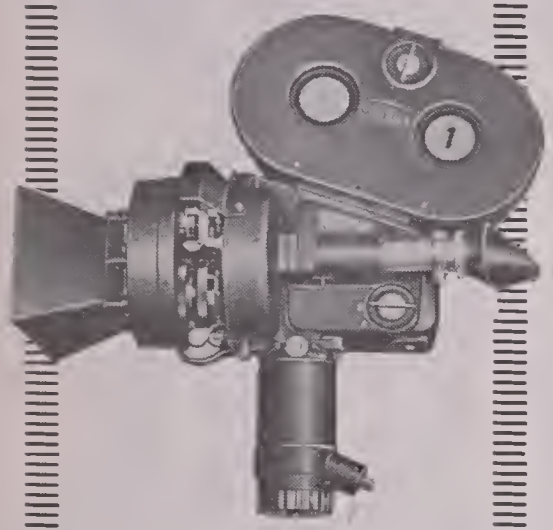

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Hollywood
Bulletin Board

November 2nd meeting of American Society of Cinematographers will feature a demonstration of the new 20th-Fox color filming system. The exclusive ASC showing of films will take place at the Grandeur Projection Room at the Fox Western Avenue studio, with Sol Halprin, studio's lab and camera department head, presiding.

•

The industry's top directors of photography are due for some important, nation-wide publicity during the coming year, with more than five national publications scheduling feature stories on the photography of outstanding Hollywood motion pictures. Popular Photography magazine will start series next month. Other publications already carrying monthly articles on Hollywood cinematography are Modern Photography, Home Movies, Movie Makers, and of course—American Cinematographer.

•

Academy's twenty-fourth annual Awards presentation will be held at the RKO Pantages Theatre in Hollywood, site of two previous awards, on Thursday evening, March 20, 1952.

•

Tom Tutwiler, A.S.C., planed out from Hollywood October 30 via Pan-Am. Airways for Bangkok, where he will direct the photography on first of several feature films to be produced there by Sathaporn Cinema Co., Ltd. Production is first to be made in Thailand with assistance of experienced Hollywood technical personnel. Robert G. North, currently in Thailand on assignment for 20th-Fox, will act as technical advisor. Tutwiler holds option for two additional pictures for company.

TUTWILER
Bangkok Bound

•

Wilson Leahy, A.S.C., has severed his connection with Acme Film Laboratories of Hollywood, and is now established in his own business, Associated Film Laboratories, at 5631 Hollywood Blvd. New company is specializing in color film printing, and will announce several new innovations in printing technique shortly.

PHIL ROSEN

Phil Rosen, 63, veteran film director and former cinematographer, died in Hollywood October 22. He started in the industry as a cameraman in 1912. Rosen was a charter member of the American Society of Cinematographers and its first president. He also was active in forming the Screen Directors Guild. Funeral services were held October 24 at Hollywood Cemetery Chapel. Among ASC members named as honorary pall bearers were Fred W. Jackman, Homer A. Scott, Charles Rosher, Victor Milner, Arthur Edeson and Guy Wilky.

Rosen was engaged in making films for television at the time of his death. Two sisters survive.

•

Ed. B. DuPar, A.S.C., has finished shooting *The Lion And The Horse* at Warner Brothers, second feature to be made by the company with its new color filming system. Picture was shot mostly at Kanab, Utah.

•

Karl Freund, A.S.C., is being acclaimed for his TV film photography, following telecasting of the first three films in the series, *I Love Lucy*, starring Lucille Ball and hubby Desi Arnaz.

•

Paramount Studio will shortly announce a complete new system for dubbing foreign versions of Hollywood films. System will employ dual sound tracks on release prints: (1) optical—carrying the music score, and (2) magnetic

(Continued on Page 478)

HOUSTON-FEARLESS PANORAM DOLLY... This versatile piece of equipment provides the cameraman with complete mobility and adjustment of camera angles. Leveling head, upon which friction or geared head is mounted, can be quickly, smoothly raised from 14" to 70" high, remaining level at all times. Entire cantilever arm revolves easily on turret base fast or slowly. Dolly rolls smoothly, quietly, turns on its own axis or can be moved sideways. Very maneuverable in tight places. Steel and aluminum construction provides maximum strength and minimum weight. Top quality throughout. Developed and improved during many years use by leading Hollywood Studios.

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WHAT'S NEW

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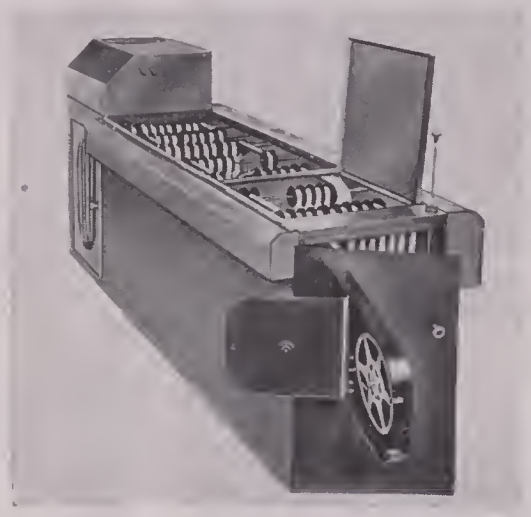
TV FILM DEVELOPER — S.O.S. Cinema Supply Corp., 602 W. 52nd St., N. Y. City, announces the Bridgamatic TV Special automatic 16mm reversal pro-



cessing machine. Slightly less than 8-ft. long, 3-ft. wide and 2-ft. high, unit contains 9 stainless steel tanks, feed-in elevator with rising indicator, daylight magazine with unique swinging door, and spraybar in final wash tank. Unit automatically develops and dries fast process film, such as Du Pont No. 330, at 720 ft. per hour; negative at 800 ft. per hour; and soundtrack at 250 ft. per hour. Price is $2.995.00, plus tax.

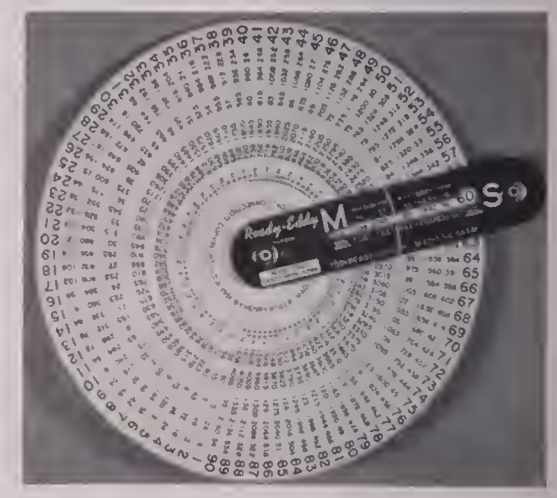
TV LIGHTS—Bardwell & McAlister, Inc., 2950 Ontario St., Burbank, Calif., announce a group of 3 new lights for TV set lighting. Illustrated are the "5000," "1000/2000," and the "500/750."

With proper grouping of the three models, effective lighting may be achieved for any TV setting, according to the manufacturer. Data and prices on complete line may be had by addressing company direct.

VACUUMATE INSTALLATION — Color Service Company Laboratory, 115 West 45th St., New York City, announce the installation of equipment for rendering Vacuumate film protection service gratis to its clients. Company is said to be first laboratory in New York offering this service.

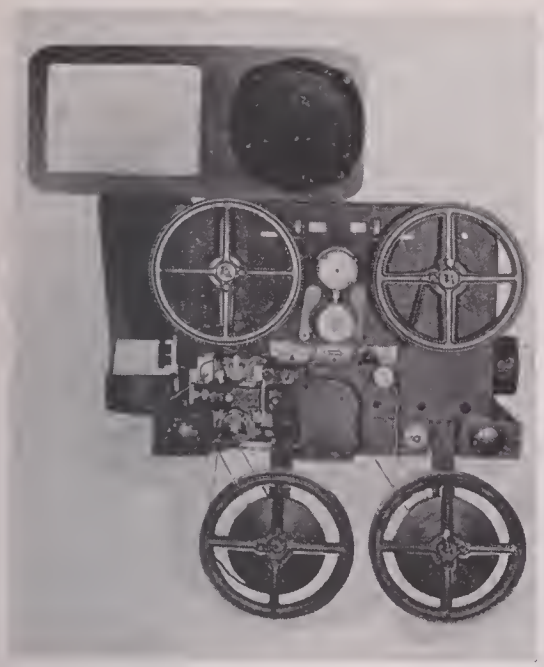
U. S. AGENTS FOR CTM PRODUCTS—Florman & Babb, 723 Seventh Ave., N. Y. City, have been appointed exclusive U. S. distributors of the products of CTM (Cinema Tirage Maurice) of Paris, France. Products include the Morigraf 35mm camera, a lightweight, triple-extension tripod, 35mm and 16mm "hot" splicers, editing machines, a 4-gang synchronizer, film cleaning and waxing machines, film counters and rewinds. Products are now on display at Florman & Babb showrooms. Descriptive literature and prices available on request.

FILM EDITING DATA CHART—"Ready-Eddy" is a new computer affording quick answers to 1001 sound film editing questions. Computer contains three scales on one side which give data on number of feet, number of seconds and frames of 35mm film, and ditto for



16mm film. Two scales on reverse side give data on three additional film measuring and timing divisions. Made of durable plastic, "Ready-Eddy" fits coat pocket or purse. Price is $2.00. Carrying case is 50c extra. Manufacturer is Ready-Eddy, Sandy Hook, Connecticut.

DOUBLE SYSTEM EDITOR—M. W. Palmer, 468 Riverside Dr., New York 27, N. Y., announces a new 16mm double system editing machine for editing picture film and sound track. Designed for needs of professional 16mm film maker, editor has 2 separate film channels for



sound and picture. Either film can be handled independently, or together in synchronism. Separate frame and footage counters are provided and the machine can also be furnished with magnetic pickup for 16mm magnetic film, if desired. A foot pedal control is provided and also a reverse switch for operation of editor in either direction.

TURRETS FOR KEYSTONE — Owners of Keystone "K-40" and "Riviera" model cine cameras now may have them modernized with addition of a 3-lens turret for $25.00. Built-in wide-angle view-

finders will be installed on older models for an additional charge of $8.50. Cameras should be sent direct to Keystone Manufacturing Co., 151 Hallet St., Boston 24, Mass.

MUSIC ON TAPE—First large scale production of musical "records" on magnetic tape is announced by A-V Tape Libraries, Inc., 730 5th Ave., N. Y. City. Catalog just issued lists 14 reels of tape which contains approximately 150 separate music titles, from western square-dance through light dansant, organ and the classics. Reels are available for either 7.5" or 3.75" per second tape speeds. All music, which was specially recorded for the reels, is fully copy righted.

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FIG. 1—A typical installation of remote-control overhead lamp system was demonstrated on this exhibit set at Paramount Studio to members of the A.S.C. Engineer Charles Hisserich shows how lamps are positioned and lit by turning dials and pushing buttons on system's remote control panel.

FIG. 2—Closeup view of Master Control panel. Rotating dial at left pre-sets lamps or selected lamp groups. "Wobble-bar" control in center tilts lamps when operated up and down, pans them when turned left or right. Push buttons turn lamps on or off after pre-set by lamp selector dial.

Set Lighting By Remote Control

System developed by Paramount Studio Engineers affords wider control of lighting by the director of photography; promises substantial economies by speeding up production.

By ARTHUR ROWAN

PARAMOUNT STUDIO's engineering department in collaboration with some of Hollywood's best cinematographers, has developed a remote control incandescent lighting system which offers a quick method for automatically adjusting overhead set lamps, speeding up light changes, and otherwise shortening the time required for lighting studio sets. The complex lighting problems faced by director of photography George Barnes, A.S.C., in undertaking the photography of Paramount's *Greatest Show On Earth*, gave impetus to early development of the new system.

Briefly the system consists of (1) a number of lightweight set lighting units especially designed for the system; (2) a control unit or "bail" for each lamp that, when actuated by remote control, automatically tilts the lamp, pans it, and adjusts the lamp beam from spot to full flood or to any point in between; and (3) a remote master control by which the lamps in the system may be selectively controlled individually or in groups — making it unnecessary for the gaffer to remain overhead to make these adjustments manually from the scaffolding. Actually, in most setups where this lighting system is used in the studio, scaffolding is no longer necessary.

The system had its beginning in the unusual requirements for lighting the vast circus tent interiors for *Greatest Show On Earth*. Because laws prohibit use inside circus tents of any open flame type of lamp, including arcs, this made it necessary to use incandescent lamps entirely for illumination. Fortunately, the timely development of Technicolor Corporation's new low-level color film made this decision practicable.

The studio was therefore faced with the problem of installing some fifty 5-KW lamps inside the circus tent in such a manner that there would be no interference with the acts or with the rigging of the tent. As no parallels or platforms for the lamp operators could be used, and as the rigging of all lamps would have to be prepared on the ground and then hoisted into place, it became obvious that some means of remote control for the lamps would have

to be worked out; also, that the lamps would have to be considerably lighter in weight than those which are normally used for studio set lighting.

The fifty 5-KW lamps ultimately developed for the circus picture featured a complete new design, which resulted in a remote control lamp and bail having a combined weight of only 32 pounds. (The average 5-KW lamp in use today alone weighs between 60 and 80 pounds.) In addition, the remote control afforded George Barnes and his crew direct control from the circus floor of every set lighting unit.

Successful operation of the lamps on the circus picture created considerable interest by the Paramount studio management on possible applications for general studio set lighting.

In discussing the factors influencing the development of these lamps, Loren L. Ryder, Director of Engineering at Paramount, said it should be kept in mind that the first group of fifty lamps was primarily developed to do a special job which could not be done by any other means. Therefore, in considering the application of the system to studio set lighting, it must be recognized that the lamps and the method of remote control used in the circus tent interiors is not ideal for studio set lighting. The circus lighting job, Ryder explained, was set up to provide clusters of four lamps on each of the twelve quarter-poles surrounding the circus rings, and remote control facilities for these groups were extended to points immediately adjacent to the base of these poles.

As the circus tent was over 400 feet long, it was found advisable to use multiple control stations and to disperse the control centers so that each one handled the lighting for one of the three circus rings. As a result, the original installation provided a safe margin of flexibility to allow the control centers to be moved to the most desirable position for shooting. Separate cables were run from each control center to each lamp, a fact which entailed extensive rigging. Such a layout, of course, required some modification for studio use, and this was accomplished in adapting it to the shooting of interiors on the sound stage for the circus picture, and also the interiors for *Somebody Loves Me*, which George Barnes subsequently photographed.

For studio set lighting, the lamps are arranged on parallels or on the edge of the set in a continuous "line" distribution, rather than in separate clusters, as in the circus picture.

The application of the remote control equipment to studio use allows simplification to be made in the power sources used to energize the lamp actuators. For the circus job, these power sources consisted of separate portable boxes containing 24 volts of dry cell batteries, each box controlling one 4-lamp group. This method of energizing was chosen primarily because of the fact the company did not wish to tie into the circus lighting system and possibly choose an outlet which would not be under the camera crew's control.

In setting up the remote control system at the studio, it is of course possible to energize the actuators from a power supply tied in to the stage wiring. The choice of 24-volt power supply was predicated upon the demand that no element in the control system provide operator hazard.

The remote control, lightweight lighting equipment presently in use at Paramount West Coast Studio consists of most of the equipment used on the circus picture plus some new equipment specifically designed for studio set lighting.

The system, as presently used on the sound stage, consists of a Master Control, shown in Figs. 1 and 2; Power Supply unit (Fig. 3); Group Control Panel (Fig. 3); and the light units with their respective motorized bail and control box, as pictured in Fig. 4.

The Master Control, which is operated from any floor position on the stage, affords remote pushbutton control of (1) lighting the lamps, (2) panning and tilting them to any desired position within a 180° arc; and (3) altering the lamp beam from spot to full flood or to any intermediate position.

An important consideration was designing a new lamp especially for this system that would be considerably lighter in weight than the conventional incandescent lamp units. At present

(*Continued on Page 466*)

FIG. 3—Two important units in the remote control system: the Group Control Panel (top) which provides automatic on-off control of lamps individually or in groups; and (below) the power supply unit. The two were combined here for convenience of photographer, only. Normally, Group Control Panel is mounted on lamp parallel.

FIG. 4—Engineer Robert Devinney shows how lamp fits in motorized bail, which is immediately below lamp and fitted to control box (4). Motor (1) controls tilting of lamp; motor (2) the beam spread; and motor (3) rotation of lamp in 180° arc. When three-piece unit is mounted above set, its entire operation is controlled from floor.

FIG. 1—Giant reflected light unit was used in illuminating the large theatre interior set for MGM's "Scaramouche." Besides improving quality of light, unit is cheaper to operate, less costly to rig than heavier single-lamp units.

FIG. 2—Closeup of "Skylite" unit (unlit) shown at left. Here it is used to illuminate huge stair well for MGM's "Lovely To Look At." Simply-made of three panels of corrugated aluminum painted flat white, two rows of R2 photolamps furnish light source.

Reflected Light For Color Photography

New type lighting units developed at MGM give "north light" quality to set illumination.

By LEIGH ALLEN

THE INCREASING use of color film in motion pictures has stimulated considerably research aimed at developing a light source for color photography having softer quality than presently obtainable from existing studio equipment. Among the more technically-minded cameramen are many who, remembering the peculiar diffused quality of the north light used so effectively by old-time portrait photographers, have searched for a practical means of obtaining lighting of similar quality for studio sets.

The search for a "softer" light source has progressed with considerable success at Metro-Goldwyn-Mayer Studio, one of the greatest single producers of feature films in color. Here, under the supervision of John Arnold, A.S.C., the studio's executive director of photography, several prototype lighting units have been developed based on the principle of reflected light. The units have been given exhaustive tests in the photography of several recent MGM color productions.

From the numerous tests conducted by Arnold in the studio's camera department and on the sound stage, it was found that reflected incandescent light more closely approximates the quality of the north light of the portrait photographer.

The direct illumination from a bare incandescent lamp in a conventional lamphouse usually has a strong straight-line beam characteristic, with no ability to "curve" or disperse light around a three-dimensional object. Even when

FIG 3 — John Arnold, A.S.C., stands beside giant 5000-W floodlamp, one of new series of reflected light units he developed for MGM.

diffusion screens are placed in front of such lamps, the straight-line characteristic cannot be diffused or broken up sufficiently to produce the quality of soft light necessary to give the wide range of gradation in shadows possessed by a light source with "north light" characteristics.

In pursuing his research in reflected light, Arnold found that by directing a light source back into the lamphouse reflector and thence toward the set, a change in the light beam characteristics takes place. The light becomes almost "shadowless" and regardless of the distance of lamp to subject, it will not create sharp shadow definition. Player's faces are rendered softer—the light apparently "reaching around" them to effect a degree of modeling which was the hallmark of expert portrait photographers in the days of the studio north light.

A standard 2000-watt MGM floor lamp was the first to be converted to the new reflected light principle (Fig. 5). The front or primary reflector was made of sheet aluminum in the shape of a flat-bottomed pan, and mounted directly in front of the lamp — its sides blocking and at the same time reflecting side rays from the lamp. Mounting of the reflector was hinged, so that it could be quickly removed for replacement of bulb, as shown in Fig 6. Interiors of both the lamphouse and the primary reflector were painted flat white. The paint is a special formula developed after considerable research to find a surfacing material with the right reflective qualities and having no tendency to alter color temperature of light from CP globes.

Following tests to determine the lamp's ability to hold color temperature to normal, it was then moved to the test stage where it was subjected to photographic use with both black-and-white and color films. Results were highly promising. George Folsey, A.S.C., long a believer in the value of reflected light for set illumination, used the lamp in photographing many of the scenes for *The Law And The Lady*, starring Greer Garson.

FIG. 4—Dome-type 5000-W reflected light floodlamp has three-tier ring-type primary reflector unit in center. Photo shows lamp integrated with other types of set lighting equipment on set for "Lovely To Look At."

Meanwhile, additional units of increased size — some of different design — were being completed by the studio. The first, pictured in Fig. 3, was a 36-inch floodlamp using three 2000-watt CP lamps behind a reflector pan similar in design to that used in the first lamp.

A 5000-watt dome light (Fig. 4) was next completed. This lamp was designed for lighting large indoor sets from a high position overhead. George Folsey used this lamp in lighting many of the sets for MGM's *Rain, Rain Go Away*, as yet unreleased.

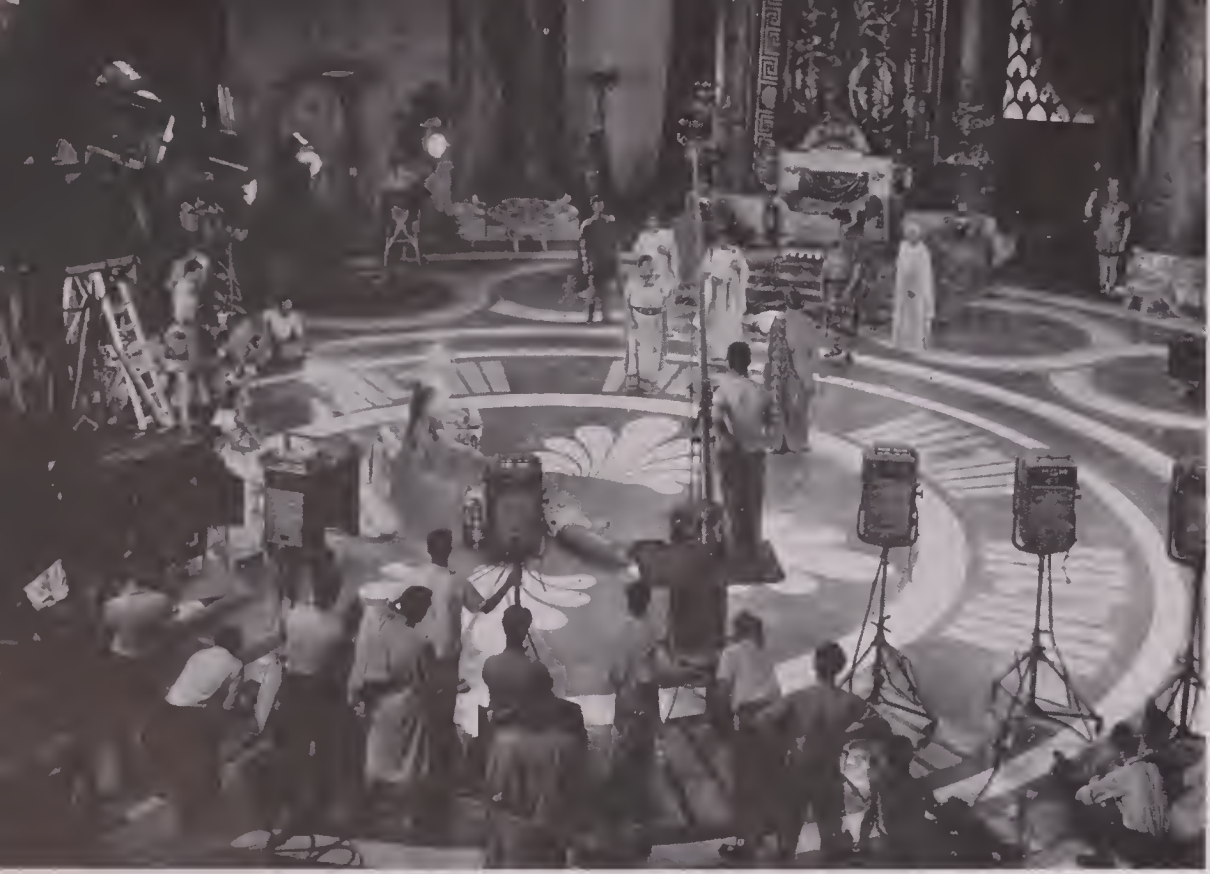
The aim now was to design (or to provide by re-design and reconstruction) a complete range of reflected light units for integration with other set lighting equipment. As each new lamp proved its worth, the program progressed to other lamp types. Interesting is a complete new application in what Arnold terms the "picture frame" lamp, which is similar to a standard side-lamp. Rectangular in shape, the body, except for the top and bottom, is a single piece of sheet metal curved slightly in an arc, then curved in sharply at either end toward the inside to form the reflectors for the two No. 2 photo-

(Continued on Page 471)

FIG. 5—Initial model of reflected light unit developed by Arnold and used in actual production. Primary reflector "pan" in center has louvers in sides for heat dispersion.

FIG. 6—View of same unit showing the primary reflector opened for easy access to 2000-W CP globe. Unit is 18" in diameter.

FIG. 7—Side-lamp model reflected light unit which has four No. 2 photofloods concealed in curved reflectors at either side.



LOOKING DOWN on the big set of Emperor Nero's throne room for MGM's "Quo Vadis," filmed in Technicolor in Italy. Unusual overall lighting of the scene was achieved through use of huge diffusion silks and arc light high above the set.

Filming "Quo Vadis" In Italy

—PART TWO—

By ROBERT L. SURTEES, A.S.C.

LAST MONTH I described here some of the interesting experiences and also some of the major photographic problems encountered in making *Quo Vadis* in Rome. No one before ever had made a Technicolor feature production in Italy. Italian studios and sources of equipment therefore were unable to supply many of our needs. And so it was that before we could begin shooting, camera parallels had to be built, as did camera perambulators and tracks, reflectors (for which we had to send back to Hollywood for the silver leaf!) overhead scrims, etc. A "Council" camera crane and also a large boom, secured in New York, had arrived in bad shape due to a rough oversea crossing.

The technical help problem proved to be a major headache, too. One thing I have found to be true, as a result of my experiences in making pictures in foreign countries, and that is: one American crew member is worth more to a production than all the inexperienced help recruited in the country where the picture is made. This is in no sense belittling the fine Italian, German, Arab and African men who have worked with me during the production of U. S. pictures made in their respective countries. It is only that these men have not had the same kind of training as our American technicians and therefore do not adapt themselves to our pace. That some of these foreign motion picture technicians are catching on was evident when I returned to Italy several months later to photograph *The Light Touch*, also for MGM. I found the same Italian crew I had used on *Quo Vadis* a much improved outfit.

THE FIRST few days of shooting "Quo Vadis" were hectic; camera motors blew, sound systems went out, and progress was limited to but three or four setups each day. Here, disturbed but not discouraged, Bob Surtees directs a change in reflector position on an outdoor set at Cinecitta studio in Rome.

Adapting the Italian worker to our methods and integrating him with our own studio-trained men was greatly a matter of education. That became evident before we had progressed many days in the shooting of *Quo Vadis*. One of the first steps taken in this direction was our school for electricians conducted in Rome by Fenton Hamilton, my gaffer, and his assistant Frank Leonetti. Prior to our arrival in Rome, there had been only three arc lights in the entire Italian film industry, which explains why competent Italian operators of this type of equipment just weren't to be found.

In addition to the large amount of lighting equipment MGM had shipped to Italy, the studio also sent over five large generators. Later we found it necessary to borrow an additional generator from the Italian government — one that had been removed from the decommissioned battleship "Vittoria Veneto"!

In the 250 tons of electrical equipment shipped to Italy from the U. S. were a score of "brutes," one hundred and fifty seniors, and many other miscellaneous lamps—all equipped with the necessary cables, splicing boxes, etc. When all this was dumped on the Cinecitta lot, the Italian workers were completely amazed.

Cinecitta had previously been stripped clean of all electrical equipment—even to the wiring — by the German army, which accounts for the necessity of having to ship so much from America. On arrival, we found much of the U. S. equipment badly in need of repair, so roughly had it been handled on the ship, and in loading and unloading. But Hamilton and Leonetti soon had their students sufficiently organized and advanced in their training to tackle the job of getting the equipment in shape and the studio in order for its use.

The first few days of production in Rome were "rough." We were able to secure only three or four setups per day. Camera motors broke down; sound equipment blew; the Italian electricians, new to their jobs, allowed lamps to go out during takes. One tried trimming an arc lamp with the switch on! The shock he received taught his associates a lesson as well. Since the generators did not have voltage regulators, and thus had to be controlled manually, we ran into voltage fluctua-

(*Continued on Page 473*)

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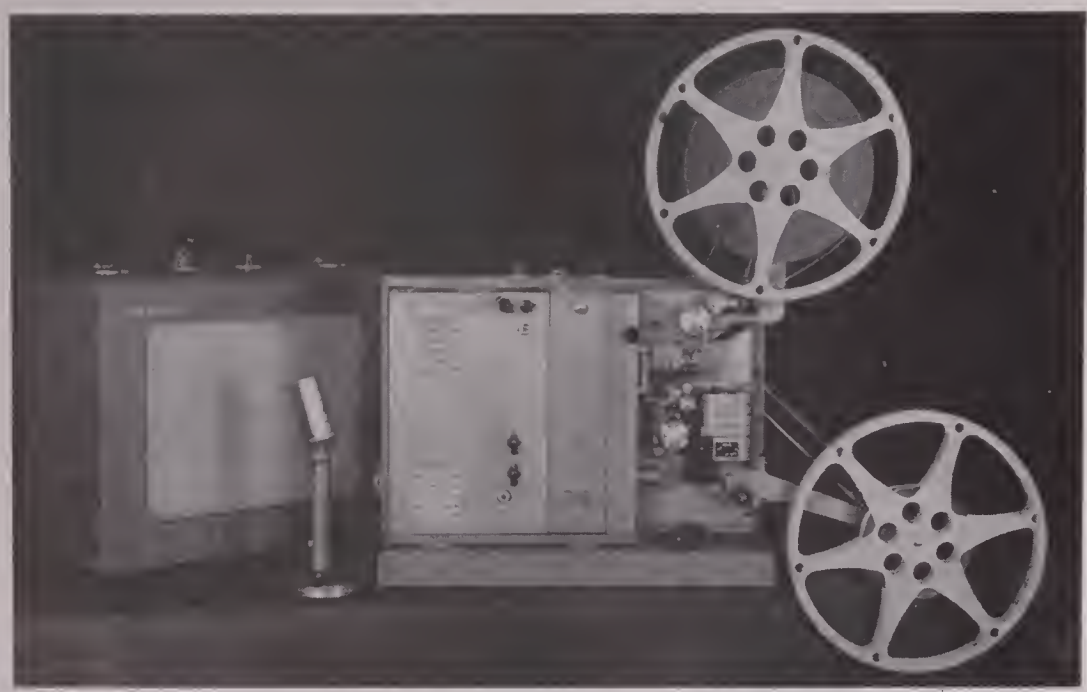

FIG. 1—The new RCA "400" combination magnetic recorder-projector makes possible the recording of sound on processed 16mm films, without studio facilities. It also projects sound films having optical tracks. Machine opens up wide possibilities for non-professional sound film makers.

Dual-purpose Projector

New projector-recorder provides first commercially available means of magnetically recording sound on processed 16mm motion picture film.

By RALPH LAWTON

EVER SINCE magnetic sound recording was introduced as a means of providing sound tracks for motion picture films, non-professional movie makers and others have looked forward to—and indeed have been promised—a simple application of magnetic recording to processed motion picture films. The movie amateur particularly has anticipated a simple magnetic recording-playback device which would enable him to record sound magnetically on his home movie films and to be able to play this sound through his projector.

While such a device as a separate auxiliary unit or accessory is not yet available, the first step in that direction has been accomplished in the development by Radio Corporation of America of the new RCA "400" projector-recorder. This machine in the hands of any capable operator may be used for recording sound tracks on processed 16mm motion picture films, and for playing the sound back on the same machine along with projection of the picture. Not only will amateur movie makers find interest in this equipment, but it opens new avenues of simplified sound film production for industry and education — particularly for organizations requiring simple, low-cost sound films in limited print quantities. An industrial training film, for example, can be produced by the firm itself, and sound in the form of narration can be added by magnetic recording following completion of the film. Often only one or two prints of this type film are required, and this new low-cost method of providing a sound track will find immediate favor.

Delay in the development of a suitable combination projector-magnetic recorder has been due to problems encountered in developing an acceptable method of edge-coating motion picture film to provide the sound track. The first successful edge-coated sound film was demonstrated by Marvin Camras, of Armour Research Foundation, in 1947. Reeves Soundcraft Corp., late last year, demonstrated on the first experimental RCA 16mm projector-recorder the first successful production of edge-

(*Continued on Page 476*)

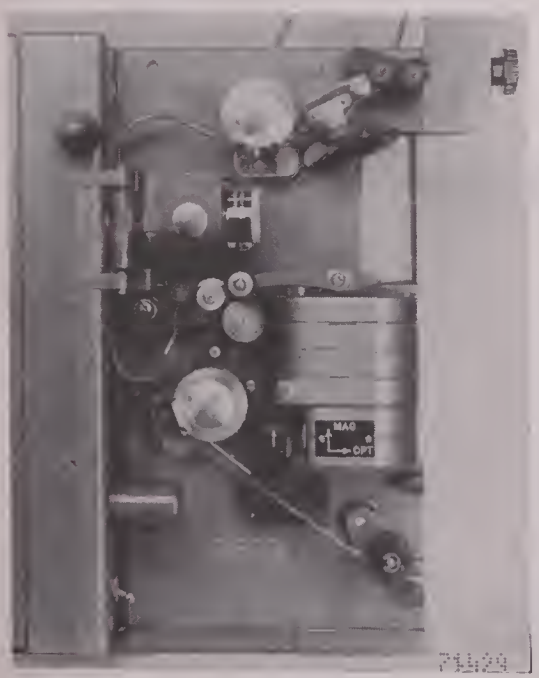

FIG. 2—Components required for sound recording and playback have not altered simplicity of machine's threading. Erase head is at right of top sprocket.

FIG. 3—The record-play head combination is encased inside sound drum, just above drive sprocket (center). Thus, film path remains same for either type track.

FIG. 4—Detail view of sound drum in which is located the record-play head. This location permits standard 26-frame spacing from sound to picture.

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Camera Equipment...

... the most versatile and dependable camera accessories available for those who prefer the finest.

Interchangeable - Removable Head Tripods

Friction Type Head on Standard Tripod Base and Collapsible Adjustable Metal Triangle

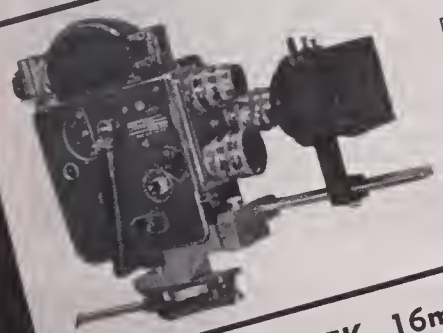
FRICTION TYPE

Handles 16mm. EK Cine Special with or without motor; 35mm. DeVry; B&H Eyemo with motor and 400' magazines and all 16mm. hand-held cameras. Head is interchangeable with the Gear Drive head. Both types fit "Professional Junior" standard tripod base, "Hi-Hat" and "Baby" all-metal tripod base.

GEAR DRIVE

The head, made of Dow Metal magnesium, weighs but 5½ lbs. and is interchangeable with the Friction type head. It handles all types of cameras. Snap-on metal cranks control pan and tilt action from both sides. Worm - driven gears are Gov't spec. bronze.

SUNSHADE & FILTER HOLDER COMBINATION

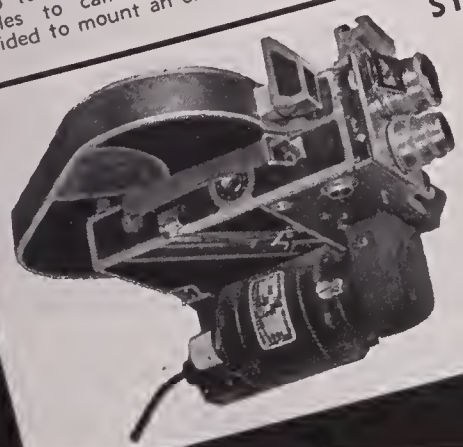


For use with Bolex and Cine Special 16mm. cameras. Holds two 2" sq. glass filters and 2½" round Pola Screen with handle which can be rotated for polarization. Covers all lenses from 15mm. to 6" telephoto and eliminates need for various filters. Precision made of the finest materials. Compact, simple to assemble and dismount. May be permanently affixed to camera or quickly detached.

BLIMP for EK 16mm. CINE SPECIAL

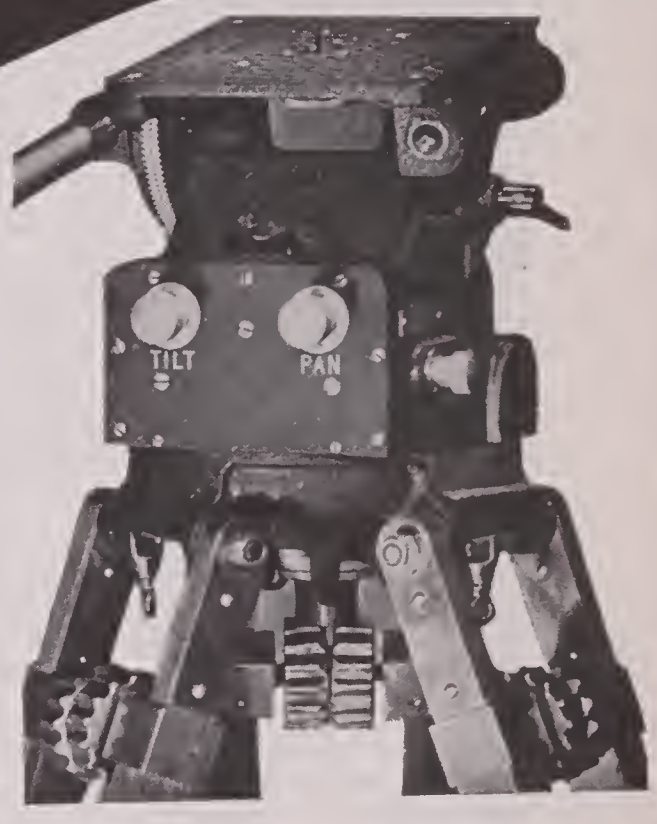
This Blimp constructed of Dow Metal magnesium, is thoroughly insulated to afford absolute silent operation. Exclusive features: Follow focus mechanism permits change of lens focus while camera is operating in blimp. Blimp takes synchronous motor drive which couples to camera. A dovetail bracket is provided to mount an erect image viewfinder.

SYNCHRONOUS MOTOR DRIVE



110 Volt A. C., Single Phase, 60 Cycle

This motor will run in synchronization with either 16mm. or 35mm. sound recorders. It is provided with mounting platform which permits removal of magazine while camera remains mounted on motor. Drive coupling attaches to single-frame shaft of camera and is mated to spring-steel drive arm of motor gear box. This assures that camera mechanism cannot be damaged if a film jam occurs as the spring steel arm drive will shear. This is easily replaced. A knurled knob on motor armature permits rotating for threading. "On-Off" switch built into base. Platform base threaded for ¼" and ⅜" camera tie-down screws. Rubber covered cable with plugs included.



Small GYRO Tripod

This light weight GYRO Tripod performs with all the efficiency of larger, heavier and costlier tripods now in use.

New, small size GYRO tripod handles all 16mm. professional type cameras: Mitchell 16mm.; Auricon single system; Maurer 16mm.; motor-driven Cine Special; also 35mm. motor-driven Eyemo with 400' magazine. It features Super Smooth Pan & Tilt Actiton.

Positive pan-locking knob. Tilt locking lever. Quick wrist action locking knob for leg height adjustments. Pan handle can be inserted at 3 different positions on tripod head for operator's convenience or extreme tilt work. Legs are hard maple specially treated and warp resistant. Tripod head is Dow Metal magnesium and aluminum. Built-in spirit level. Swivel tie-down rings. Platform available with either ⅜" or ¼" camera screw.

— ALSO AVAILABLE —

Baby Tripods ● 3 Wheel Portable Dollys ● Changing Bags ● "Hi-Hats"

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Documenting An Airline's Operations

Skillful aerial photography in 16mm color enhances third Cate & McGlone promotion film for United Air Lines.

By FREDERICK FOSTER

NIGHT SCENES at the airport were photographed by a battery of three 16mm cameras—a 16mm Mitchell and two Cine Kodak Specials. Portable motor generator supplied power for the huge arcs which furnished illumination for the large exterior sets.

In a number of major cities throughout the U.S., United Air Lines is currently screening its latest 16mm color film production, "United 6534," produced by Cate & McGlone of Hollywood. Industrial film producers, 16mm cinematographers, and others interested in seeing a top-flight 16mm color production will tab this as "must see." For two reasons: (1) it is an excellent job of color photography and (2) it clearly demonstrates the value of the careful pre-planning that went into this 1,050-foot promotional film—planning of the calibre given the average feature film production.

Ted Cate and Ed McGlone are the same team which turned out United's highly successful "High-Way to Hawaii" and "Skyway to Yosemite." Their former extensive airline experience is reflected in the authencity of their latest film. McGlone spent 17 years with United; Cate formerly was Director of Advertising for Western Air Lines.

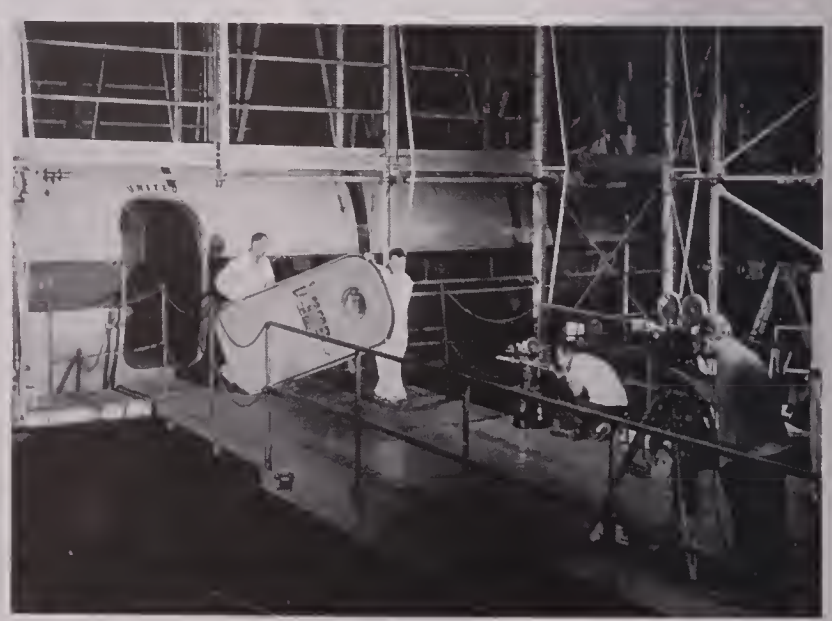
Ed McGlone directed the photography and personally photographed all of the aerial shots which do so much to enhance the production pictorially. Scenes from the air showing a panorama of New York City at sunset add tremendously to the pictorial impact of the closing sequence

Research, documentation and narration for "United 6534" were done by Charles Palmer, major feature writer

(*Continued on Page 468*)

ED McGLONE'S head almost touches ceiling of repair dock as he shoots from chair secured to tip of DC-6's tail. Another cameraman, Al Stensvold, crouched on stabilizer, makes shots from a lower angle.

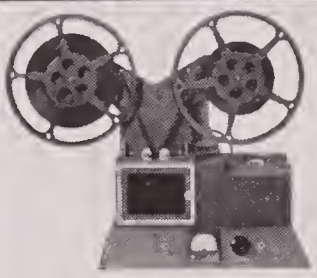
MANEUVERING the star of the picture — United Air Lines' "6534" — into position for a shot showing plane coming into dock for inspection. Site was United's maintenance base in San Francisco.



EVERY SHOT in the script was covered from different angles by two or more cameras. Here dismantling of "6534" begins as cameras record the removal of door and other parts.

MAURER...
AT HOME ANYWHERE

THE 16MM. SOUND-ON-FILM RECORDING SYSTEM. Capable of recording either negative or direct positive variable area and variable density sound tracks.



THE 16MM. FILM PHONOGRAPH. Its unique optical system gives an unusually narrow reproducing image with high light output.

THE MODEL F PRIME RECORDING OPTICAL SYSTEM AND GALVANOMETER, a complete light modulating unit for recording sound photographically upon standard film.

THE MAURER 16MM. CAMERA. Equipped with unique precision high-power focusing. Equipment includes: 235° dissolving shutter, automatic fade control, viewfinder, sunshade and filter holder, one 400-foot gear-driven film magazine, a 60-cycle 115-volt synchronous motor, one 8-frame handcrank, power cable and a lightweight carrying case.

The Maurer 16mm. camera is at home for every professional requirement—and little wonder since it's the only "16" specifically designed for professional use. The Maurer has many unique features—its simplified operation, hair-line accuracy, and job after job dependability, all make it the favorite choice of those who consider time and expense important—and a fine motion picture even more so.

For details on this and other Maurer equipment write:

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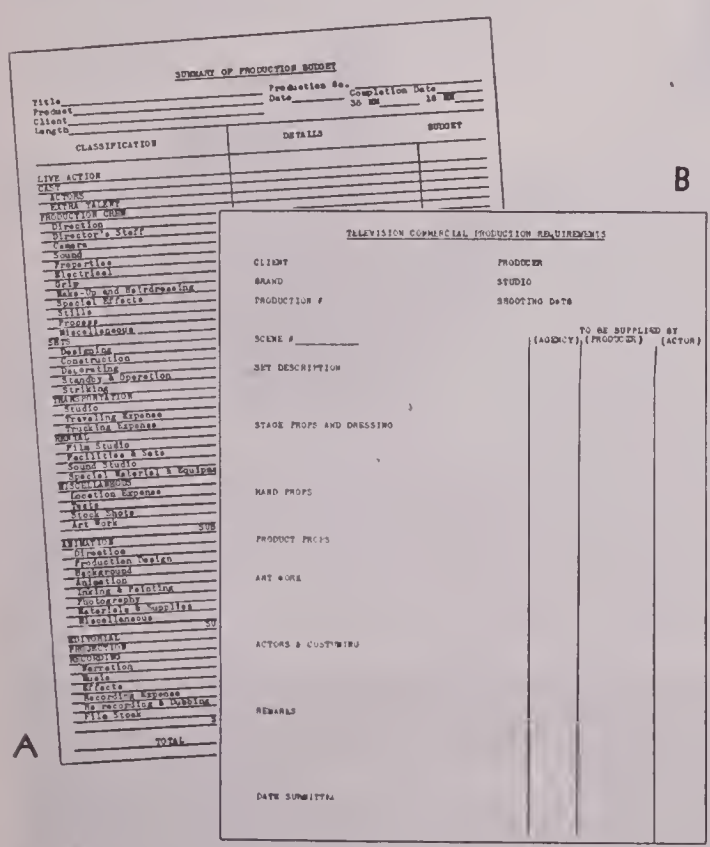
16mm maurer

CABLE ADDRESS:
JAMAURER

SUCCESSFUL production of TV commercial films requires ample equipment resources—the best camera, lights, lenses, and crane or dolly for zoom and trucking shots. Whether these are owned or rented, they figure prominently in ultimate cost of production.

Planning And Estimating TV Spot Announcement Films

By JOHN H. BATTISON



SUMMARY OF PRODUCTION BUDGET

Title
Product
Client
Length

Production No.
Date
Completion Date
35 MM 16 MM

CLASSIFICATION	DETAILS	BUDGET
LIVE ACTION		
CAST		
Actors		
Extra Talent		
PRODUCTION CREW		
Direction		
Director's Staff		
Camera		
Sound		
Properties		
Electrical		
Grip		
Make-Up and Hairdressing		
Special Effects		
Stills		
Process		
Miscellaneous		
SETS		
Designing		
Construction		
Dekoreting		
Standby & Operation		
Striking		
TRANSPORTATION		
Studio		
Traveling Expense		
Trucking Expense		
RENTAL		
Film Studio		
Facilities & Sets		
Sound Studio		
Special Material & Equipment		
MISCELLANEOUS		
Location Expense		
Tests		
Stock Shots		
Art Work		SUB
ANIMATION		
Direction		
Production Testing		
Background		
Animation		
Inking & Painting		
Photography		
Materials & Supplies		
Miscellaneous		SUB
EDITORIAL		
PRODUCTION		
RECORDING		
Narration		
Music		
Effects		
Recording Expense		
Re-recording & Dubbing		
File Stock		
TOTAL		

A

B

TELEVISION COMMERCIAL PRODUCTION REQUIREMENTS

CLIENT — PRODUCER
BRAND — STUDIO
PRODUCTION # — SHOOTING DATE

SCENE # _____

	TO BE SUPPLIED BY (AGENCY)	(PRODUCER)	(ACTOR)
SET DESCRIPTION			
STAGE PROPS AND DRESSING			
HAND PROPS			
PRODUCT PROPS			
ART WORK			
ACTORS & COSTUMING			
REMARKS			
DATE SUBMITTED			

TWO CHARTS used by author for analyzing and preparing cost estimates on TV commercial films. Chart A is used for cost analysis, and chart B for production analysis preparatory to fixing costs.

IN CONCLUDING the initial article in this series, which appeared in the October issue, mention was made of the tremendous importance of adequately planning in advance all television films, particularly short commercial spot announcements. The fact that such brief films, running only 3, 20 or 60 seconds, are involved often leads the unitiated to believe they require but brief preparation. Actually, a good TV spot announcement requires almost as much planning as a video feature film—insofar as detail is concerned.

We are discussing this problem of planning, of course, from the producer's or cameraman/producer's point of view. To avoid production losses, a TV film job must be completed at or below the figure quoted in the original bid or estimate. Business obituaries are already plentiful in film production centers where many entered the video film making business in a rush, made rash bids in order to get the business in a hurry, and quickly wound up out of business because they failed to consider such costs as extra time lost on the set, neglected to figure in an important prop, or failed to arrive at a clear understanding with the client as to "who provides what."

The estimating phase of TV film production is important to the very existence of the film producer, so it behooves him to establish a fool-proof, methodical procedure for arriving at just estimates. Illustrated are two forms which this writer has employed in planning the production of and preparing estimates on TV commercial films for a large advertising agency. Whenever an account group requested an estimate on a storyboard or TV copy, the form A shown below was employed in compiling an estimate of how actual production costs should fall. Thus, when other producers making competitive bids presented their cost estimates, I had a carefully analyzed comparison sheet. This same form can be used by a film producer for pricing a job, although in such a case he would have to provide a further breakdown of various cost items. As an example, in the case of a freelance film producer, he would invariably have to include the cost of rented camera equipment, etc.

The question of the film size to be used—35mm or 16mm—is usually determined by the nature of the job itself. Most of the major advertising agencies specify 35mm for the original negative, even though many of the final prints are made in 16mm.

(Continued on Page 470)

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For image quality that sets the highest professional standards, the Baltar series is internationally favored for news, studio and industrial work. Eight focal lengths, to meet your most exacting needs in color and black-and-white: 152mm, f/2.7; 100mm, 75mm, 50mm, 40mm, 35mm, 30mm and 25mm, f/2.3. All lenses are Balcote anti-reflection surfaced. Order from your professional camera manufacturer.

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LIGHTS!

THE NEW 16 MM

Bell & Howell "200"

winner of the Society of Motion Picture Art Directors Award

With 1" f/2.5 lens, $189.95

Turret model
with 1" f/2.5 lens, $234.95

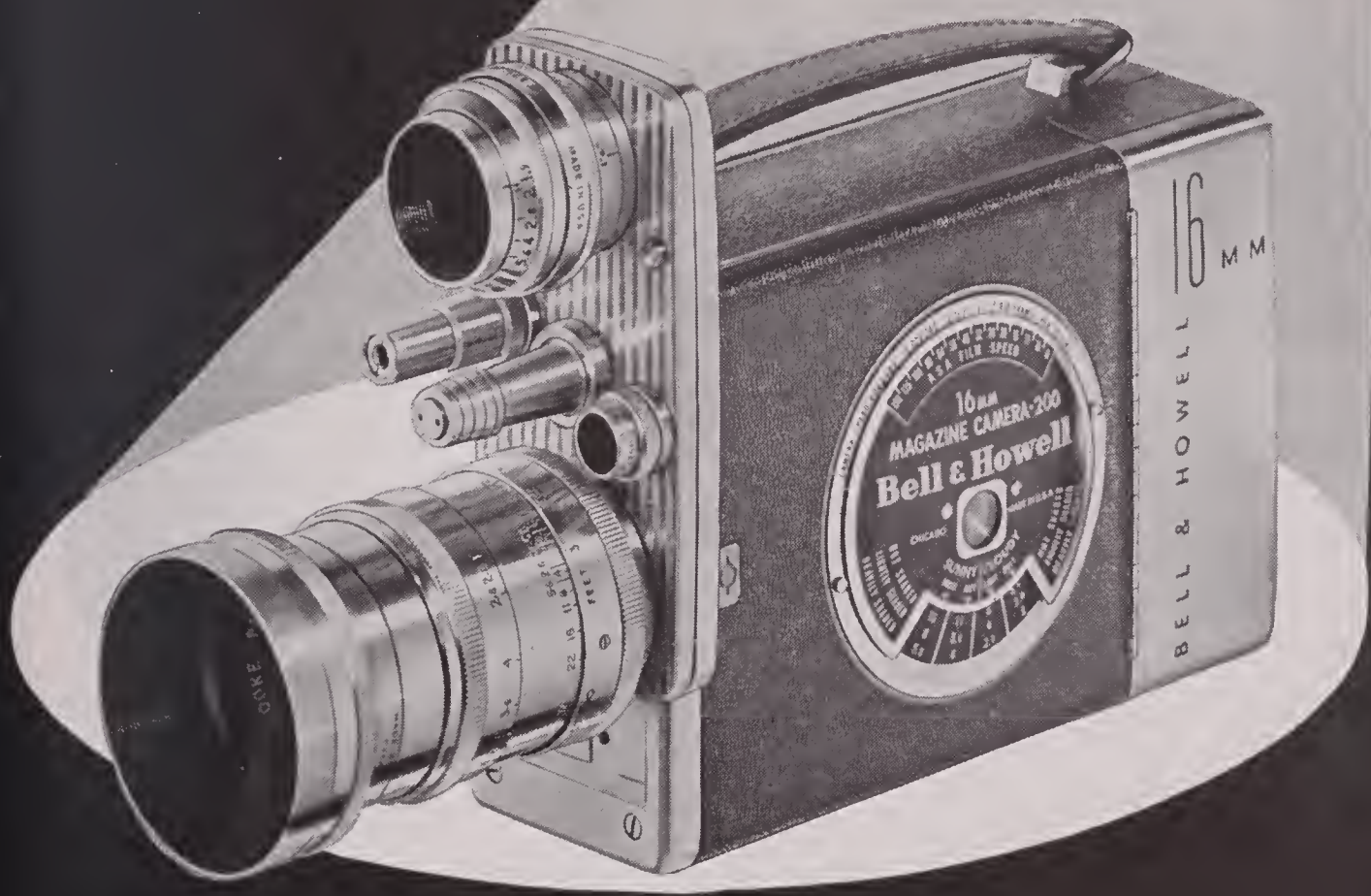
*Guarantee: During life of the product, any defect in workmanship or material will be remedied free (except transportation

OF THE NEW "200"

The smartly styled "200" features a rich gray scuff-proof finish with satin chrome trim. It loads quickly with a magazine of 16mm film . . . has 5 precisely calibrated speeds (including true slow motion) . . . a film plane mark . . . full 12½-foot controlled film run . . . convenient ratchet winding . . . continuous run lock and single frame release . . . is equipped with a new, versatile, built-in exposure guide . . . finest 1" f/2.5 Filmocoted lens that can be quickly interchanged with other lenses . . . and a positive viewfinder. Like all Bell & Howell cameras, the new "200" is guaranteed for life.

CAMERAS!

. . . ***and what cameras!*** Here, at last, is beauty of design in a movie camera . . . *equal* to the craftsmanship and operating performance represented by the Bell & Howell name! Examine the rich styling of this brand new Bell & Howell "200"—compare it with any other make *feature for feature.* You'll *know* that here is the camera of cameras in the 16mm field.



The Swifturn turret model has all the features of the single lens "200" . . . plus the versatility of lens and matching positive viewfinder that rotate simultaneously and instantly.

ACTION!

Now is the time to take action . . . to *see* this new "200" at your camera dealer's . . . to *choose* this award-winning camera for your very own . . . to *make* it the number one gift this Christmas for your favorite person. Remember, liberal terms and trade-in are offered by most dealers.

You buy for life when you buy Bell & Howell!

ANNUALLY, the Ten Best British amateur films are exhibited publicly by various cine clubs under sponsorship of Amateur Cine World, British cine publication. Above photo shows typical crowd queued up awaiting admittance to premiere showing by Fourfold Film Society, London.

PRESENTED in large halls or theatres in the best professional manner, showings of British amateur films attract large public audiences, build greater interest in the amateur film movement.

Good Films Deserve An Audience...

So long as the amateur works within the closed circle of his local club, almost entirely isolated from public opinion, the amateur film movement cannot easily grow in stature.

By GORDON MALTHOUSE

Editor, "Amateur Cine' World," London.

PROMOTION of the highest order is employed by British clubs offering the film showings. Numerous posters like one above are placed strategically in public buildings where they attract wide public interest.

In recent issues of *American Cinematographer*, Alvin D. Roe expressed the view that the way to greater authority of the amateur film movement and to the production of better amateur films lies in organization and in collaboration of individuals; and he pointed to England as a country where this state of affairs does obtain.

It is certainly true that many minds and hands must go to the making of the ambitious film, but it seems to me that there must be organization and collaboration at the receiving end no less than at the producing end. It is not merely that good films deserve an audience. They *need* it. Indeed, if ever more than a handful of good amateur productions are to emerge from the miles of film exposed every year, the stimulus of an audience is essential.

Not just a coterie audience. Not an audience of fellow technicians. Not the zealous groups that keep the art theatres going. No, the people who really matter: the public. The amateur is so often told that his most precious asset is complete freedom from the dictates of box office that he tends to ignore it altogether. And so he makes his films only for himself, and inevitably the result must in so many cases be sterile.

You may object that since the type of film produced by nine out of ten amateurs is designed expressly for home consumption, a public audience is unnecessary to it, anyway. But to say that is to beg the question, because even the home circle is an *audience* whose tastes the producer ought to take into account, but rarely does.

The wider circulation which a club can achieve is reflected

(*Continued on Page 464*)

TO ALL MAGAZINE CAMERA OWNERS!

Now *you* can get the advantages of Ansco *Natural* Color Film!

Your dealer now has magazines of Ansco Color Film, in both 8 and 16mm sizes! Pick up a good supply for your camera today, and begin discovering first hand what a difference Ansco *Natural* Color can make in your movies.

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NOW AVAILABLE IN 8 AND 16MM MAGAZINES; 50 AND 100 FOOT ROLLS OF 16MM FILM.

Ask for

ANSCO *NATURAL* COLOR FILM

ANSCO, BINGHAMTON, NEW YORK. A DIVISION OF GENERAL ANILINE & FILM CORPORATION. *"FROM RESEARCH TO REALITY."*

SHOOTING a night scene for "One Summer Day." A small mirror set up behind the miniature set reflects light from a slide projector through a window, backlighting the puppet.

THE AUTHOR, aided by his wife and small son, executes a difficult shot involving two puppets in action. Simple lighting is provided by a lone photolamp in reflector.

Animation With Puppets

By GLEN H. TURNER

A PROMISING FIELD which more and more amateur movie makers are exploring is that of animated movies employing puppets and miniature sets. This phase of movie making has many advantages over pictorial cinematography in that it can be practiced indoors, in bedroom, attic or kitchen nook — wherever a small stage can be set up and left intact for a reasonable time until shooting is completed. For a small expenditure of cash, you can buy the paper, paint, balsa wood and glue necessary for construction of the puppets; and anyone with reasonable artistic or creative talent can make his own puppets and miniature sets.

One of my first adventures in this field resulted in the 8mm puppet film, *One Summer Day*, which won an award in a recent national amateur film contest. Some "backstage" photos made during this production appear here, and they show some of the techniques as well as the props and puppets which were employed in making the picture.

Although the story for a puppet film is of prime importance, one of the first considerations must be given the puppets themselves; for much of the success of the film will depend upon smooth animation with as much realism as possible. For this reason, the puppets—whether purchased already made, or are made by yourself—require certain mechanical characteristics such as proper size, light weight, flexibility, and yet they must be rigid enough to enable them to hold most any pose without toppling over. Their size should be such that it is possible to include reasonable detail in the features, yet not so large that they require sets of inordinate size. The puppets I used in *One Summer Day* were approximately eight inches in height—a quite satisfactory size in that

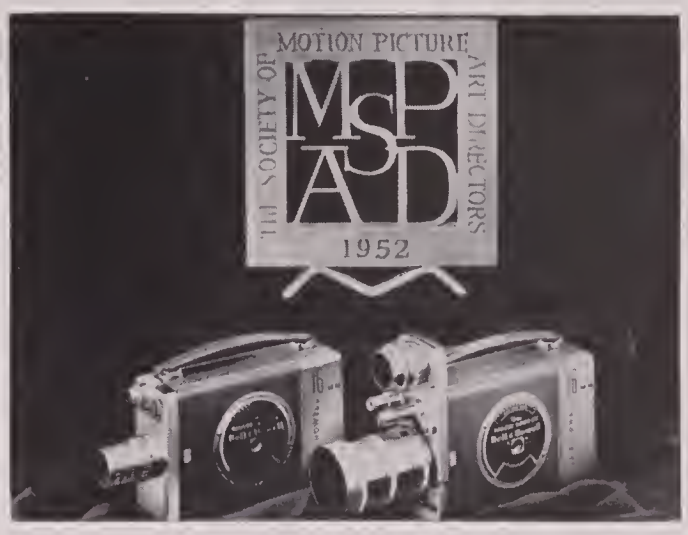
(*Continued on Page 472*)

HOW two mirrors were used to enhance a dance scene. Two puppets give the illusion of four pairs, similarly costumed.

ANIMATING a closeup shot showing pirate looking through his spyglass. Here the action cycle had to be carefully analyzed.

SHOOTING what the pirate saw in the spyglass. Photo of girl puppet properly masked is photographed in a titler.

New Bell & Howell Cine Cameras



TWO NEWLY-ANNOUNCED Bell & Howell cine cameras have won Society of Motion Picture Art Directors' Awards for 1952. Pictured above, they are new single-lens and turret-front magazine-load 16mm cameras.

In Hollywood, on November 8th, Representatives of the Bell & Howell Company, Chicago, will be presented with the Society of Motion Picture Art Directors' Award for 1952 for the design and styling of Bell & Howell's two new 16mm motion picture cameras—the models 200 and 200-T—latest in the company's line of magazine load cine cameras.

Acclaimed the "most exciting cine cameras ever designed," the prize-winners combine modern, functional styling with a finish of dove grey and chrome. The covering is scuff-proof Vinyl, which has all the beauty of leather with greater durability.

In addition to beauty of design, both cameras have important new performance features: The model 200 (single-lens) and the 200-T (turret) have positive viewfinders, which enable the operator to see exactly what he gets on film. The 200-T has streamlined 2-lens turret which gives the camera added versatility. A quick flick of the turret moves the second lens and its matching viewfinder into position ready for instant use.

A film plane mark engraved on the side of the camera housing permits accurate measurements of critical focusing distances for closeups; an important feature of many professional cameras, it will be appreciated by those amateurs who do precision cinematography.

Winding the film has been made quick and easy by a ratchet key which works with a back-and-forth motion similar to the winding stem of a watch.

The built-in exposure guide on side of the camera is calibrated for ASA film speed ratings, and the "exposure index" figures on the guide match those on the click-stop lens.

A three-position starting button can be set for normal operation, for continuous running, or for single-frame exposures for time lapse and animation work. The camera has five accurately calibrated speeds: 16, 24, 32, 48 and 64 f.p.s. Exposed footage is read directly from the film magazine dial through a window in the center of the exposure guide.

An interesting feature is the fact the model 200 can be converted at any time to a model 200-T with the addition of the two-lens turret by the factory in Chicago, or by any of the company's branch service offices.

Price of the model 200 camera with Filmcoated 1" f/2.5 lens is $189.95; the 200-T with 1" f/2.5 lens only is $234.95.

In the 8mm group, Bell & Howell Company also introduces its entry into the low-price field with its new model 134W single-lens 8mm camera. Simultaneously, the company announced the re-introduction of its popular model 134TA tri-lens 8mm camera.

The new 134W, with half-inch f/2.5 coated lens, sells for $79.95, including excise tax. It takes spooled double-8 film and features "drop-in" loading that makes film changing quick and easy. There are no sprockets to thread, no loops to form and no gate to remember to close—making it as simple to use as a magazine-load camera. The film-gate closes automatically as the door of the camera is shut.

A built-in exposure guide indicates the correct lens setting for the hour and light conditions. It has a five-foot film run and four film speeds: 8, 16, 24, and 32 f.p.s.

The model 134TA turret model 8mm camera, with half-inch f/2.5 coated lens, is $129.95, including excise tax. Among its outstanding features are matching positive viewfinders and through-the-lens focusing, assuring accuracy in filming closeups and titles. It takes spooled double-8mm film, has the same easy-to-load feature that marks other Bell & Howell 8mm cine cameras. Film speeds provided are: 16, 24, 32, 48, and 64 frames per second.

Lenses In Photography, by Rudolf Kingslake, covers those aspects of lenses and photographic optics that are of interest to amateur and professional photographers. Aim of book is to make understandable the workings of lenses.

Announcing

AMERICAN CINEMATOGRAPHER'S

1952

Amateur Motion Picture Competition

for the

AMERICAN CINEMATOGRAPHER ANNUAL TROPHY AWARDS

OPENS — December 1, 1951
CLOSES — March 1, 1952

SPONSORED jointly by American Cinematographer and American Society of Cinematographers to select the "Top Ten" amateur films of 1951-52. Open to all amateur movie makers residing within the continental United States and its possessions.

ELIGIBLE for entry are 16mm and 8mm amateur-made films regardless of subject, either black-and-white or color, silent, or with sound on film.

AWARDS — The first ten films with highest rating in the judging will receive gold American Cinematographer Trophies. The ten next best will receive Honorable Mention certificates.

RULES

- Entries must be wholly amateur-produced.
- All sound films must be wholly amateur-recorded, regardless of sound medium used.
- Film length: maximum of 800 feet for 16mm sound or silent entries; 8mm entries, 400 ft.
- Sound medium (discs, tape, wire) must accompany film in same package.
- Entrants must pay transportation on films and sound records both ways.
- No film should be submitted before December 1, 1951. Both reels and reel containers, and containers of sound medium must bear labels indicating name and address of entrant.
- Entry blank must be submitted in advance.

WRITE FOR ENTRY BLANK TODAY, USING COUPON BELOW.

Contest Chairman,
AMERICAN CINEMATOGRAPHER,
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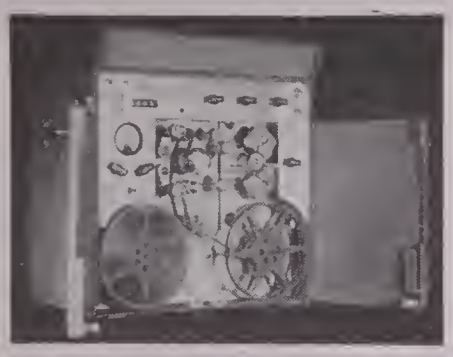
Sir: Kindly send me official entry blank for AMERICAN CINEMATOGRAPHER'S 1952 Amateur Motion Picture Competition. I plan to enter an 8mm._____16mm._____ film, length _____ft.

Name _____

Address _____

City_____ Zone____ State_____



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Latest In Cinema Technology Revealed At SMPTE Convention

During the 70th Semi-annual convention of the Society of Motion Picture and Television Engineers, held in Hollywood last month, the film industry's engineering leaders took time out from their technical discussions to pay tribute to the men who made outstanding contributions to the technical advancement of the motion picture art during the past year.

Top honors went to Earl I. Sponable, technical director of 20th-Century Fox and a past president of the Society, who became the first man to receive two awards simultaneously. He was the recipient of the Samuel L. Warner Memorial Award. Sponable also was presented with the SMPTE Progress Medal, conferred in recognition of his efforts to improve quality of the motion picture industry.

The Society's highest honor for excellence of a report published in its official Journal during the year was conferred jointly on A. B. Jennings, W. A. Stanton, and J. P. Weiss, of the DuPont Co., Parlin, N. J., for their paper on "Synthetic Color-Forming Binders for Photographic Emulsions."

In recognition of outstanding service to the motion picture industry, the Society elevated 16 of its members to the rank of Fellow. They are: Don M. Alexander, Colorado Springs, Colo.; Clarence S. Ashcraft, New York; Louis A. Bonn, New York; Howard A. Chinn, New York; Alan A. Cook, Rochester, N. Y.; Ellis W. D'Arcy, Chicago; William C. DeVry, Chicago; O. B. Hanson, New York; William F. Kelley, Hollywood; Frank LaGrande, New York; Cornelius G. Mayer, London, England; Otto H. Schade, Harrison, N. J.; Huber J. Schlafly, New York; Vaughn C. Shaner, Hollywood; Ethan M. Stifle, New York; and Lloyd Thompson, Kansas City.

The first complete disclosures on the new Ansco Color Negative-Positive Motion Picture Film Process were made during the convention. Dr. Herman H. Ducrr, Technical Director of Ansco, described in detail the new color process for the motion picture industry, and screened a test reel made from negatives supplied by MGM Studio, which is currently using the new color material in one of its forthcoming productions.

A further boost to the Hollywood trend of making more and more feature-length pictures in color was revealed in a new procedure for making color release prints. The new method, described in a paper by C. R. Anderson, N. H. Groet, C. A. Horton, and D. M. Zwick of Kodak Research Laboratories, is less complicated and less expensive than previous color motion picture printing. It involves two new materials—Eastman Panchromatic Separation Safety Film and Eastman Color Internegative Safety Film. In their paper the scientists described structure of the new film and outlined printing equipment requirements. As part of their presentation, Eastman Color Print Film was projected.

Development for the armed forces of

EARL SPONABLE, 20th-Fox technical director, is first man to be honored with two awards from the SMPTE. Awards, made at Hollywood Convention last month, were for technical achievement in motion pictures. Making presentations are (from left) Col. Nathan Levinson, Jack Warner, (Mr. Sponable receiving) and Peter Mole, Society president.

a unique, new motion picture camera which permits automatic film loading and can be used under all kinds of weather conditions was disclosed by G. J. Badgley of the U. S. Naval Photographic Center, Washington.

Called the Badgley automatic film threading camera, it was described by its inventor as "practically foolproof as to loading, and which could be used by relatively untrained personnel in extreme weather conditions, whether the cameraman's hands are bundled in gloves or trembling with fatigue."

Outstanding innovation of the camera is a newly designed film magazine which may be replaced and the camera put into operation "in less than ten seconds," according to Badgley. This will permit practically continuous filming of combat action, he pointed out.

The camera shown was declared by Badgley to be a prototype model which will serve as a production model for at least three types of cameras to be made for the Navy. They are: a combat version, comparable to the present amateur camera; a professional version, both 16 and 35mm; and a television version.

Three-dimensional films were envisioned as the most promising theatre entertainment of the future if the resources of the motion picture industry could be put behind its further development. This prediction was made by Raymond Spottiswoode, of Middlesex, England.

Included in his presentation was the first showing in this country of a three-dimensional abstract film with stereophonic music. Titled *Around Is Around*, it was produced by the National Film Board of Canada and was described as the first of this type to be made anywhere.

Making new prints from shrunken, older motion picture films will now be less of a problem through use of a new variable-pitch sprocket developed in Kodak Research Laboratories. J. G. Streiffert, Kodak scientist, reported on the new sprocket.

The device has a unique sprocket tooth whose driving face is a plane lying on a radius of the sprocket. This is used to improve longitudinal registration of the film over that obtained with conventionally shaped, curved profile teeth. The sprocket, with a supporting drum, accommodates shrinkage through varying pitch.

New portable magnetic recording equipment representing a marked advance in the usefulness and economy of magnetic recording for motion pictures and television was disclosed by the Radio Corporation of America.

By using half-width film (17½mm) at half of the standard release film speed (45 feet per minute instead of 90 feet), this equipment achieves a 75 per

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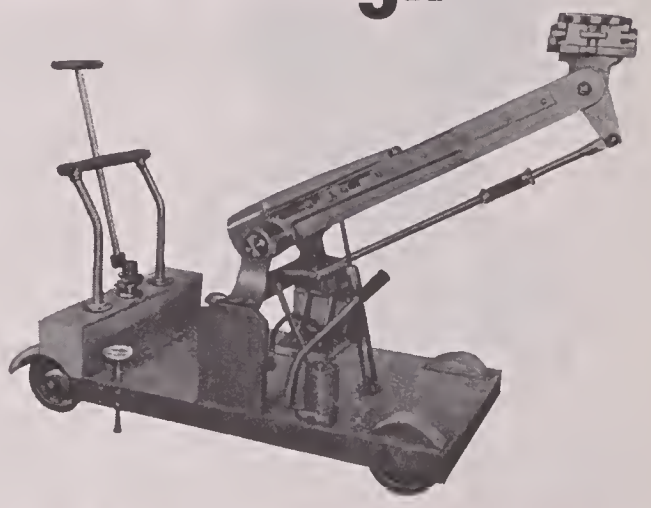

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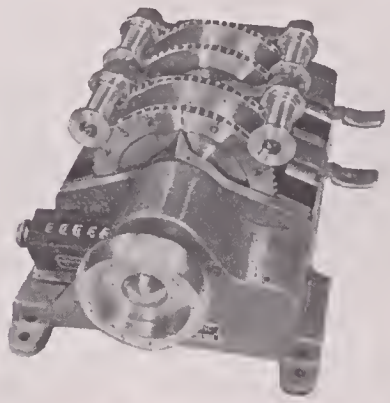

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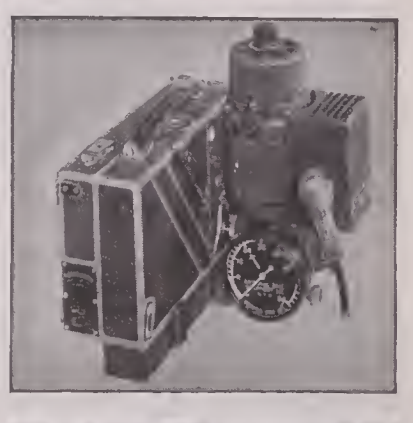

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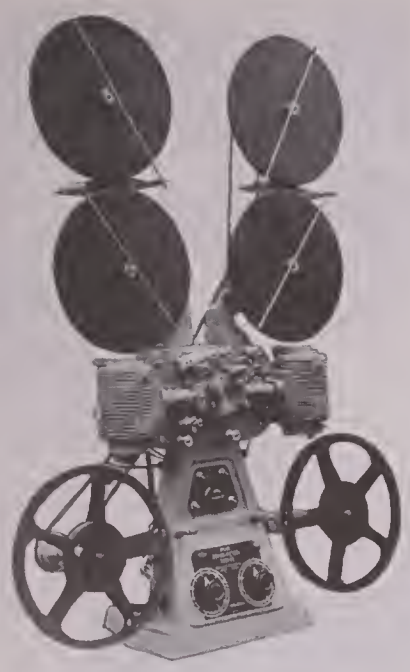

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cent reduction in film costs, a 40 per cent reduction in recorder weight, and a 50 per cent reduction in recorder size.

A change in the present proposed standards for placement of the magnetic sound track on 35mm film was urged by Loren L. Ryder, sound director of Paramount Pictures. In a report delivered to the Society, Ryder suggested that the magnetic sound track be placed 131 mils (131/1000th of an inch) from the sprocket hole of the film instead of the present 50 mils. This suggestion, he said, is based on extensive studies made of both methods, with results showing that interference from sprocket holes is encountered in the 50 to 100 mil area.

In the discussion which followed presentation of Ryder's paper, representatives of three companies presented data tending to refute the Paramount studies. In reply to discussion from the floor, Ryder stated that Paramount will continue to record sound tracks at 131 mils.

A total of 65 papers were delivered during the five-day convention — the largest of the S.M.P.T.E. held to date in Hollywood.

GOOD FILMS DESERVE AN AUDIENCE

(Continued from Page 458)

in the type of subject chosen, but it also profoundly affects the treatment. The audience for the club film is for the most part composed of practising amateur cinematographers, so it is natural that they should take a disproportionate interest in the mechanics of production. Hence the average club film tends to become an exercise in technique, often expert but lacking in warmth and vitality.

So long as the amateur works within this closed circle, almost entirely isolated from public opinion, the movement cannot easily grow in stature, though it can — and does — grow in numbers. And, equally, the films it turns out will be arid. The really good films emerge in spite of the system, not because of it.

That this appraisal of the situation is basically accurate is shown by the results of a scheme designed expressly to combat it. We have in England a Ten Best Films of the Year competition organized by the magazine *Amateur Cine World*. Since the war it has gained astonishingly in popularity and has materially helped to enhance the prestige of amateur films solely because of the one added attraction missing from the pre-war contests: the stimulus of an audience.

Copies of the prize-winning films travel throughout the country and reach as far as the British Commonwealth. Any club, organization or large business house can have them on one condition: that a minimum audience of 200 is guaranteed. That means that a club must hire a local hall or theatre, for neither membership nor club premises would be large enough to satisfy the stipulation. And that in turn means that the presentation has to be specifically for the general public.

The films have been a success wherever they have been shown, and audiences of 600 are by no means uncommon. Local cinemas are sometimes hired for a Sunday afternoon. More often it is in the town hall or community centre theatre in which the shows take place. In many cases local dignitaries give their patronage and introduce the programmes on the opening night.

The shows are publicised for weeks in advance. We supply gratis hundreds of attractive posters on which the sponsors overprint details of their own particular presentations. Last week I had occasion to drive through a London suburb. It was plastered with Ten Best posters—some the 'official' ones but many more produced by the sponsor to the same design but on a larger scale. The loudspeaker van which passed me urged me to remember the date and place of the presentations. As I stopped at the traffic lights, a handbill about them was thrust through the car window.

Had I gone to one of those shows I should have been offered a program. Thousands are printed and supplied to the sponsors at cost. But why bother with programs? For two reasons: to emphasize that the show is an occasion and to introduce it to an audience who may never have seen an amateur film in their lives before.

Here is an extract from the foreword to this year's program:

"Some of the members of this audience will probably have attended amateur dramatic performances, and certainly everyone knows of the existence of amateur dramatic societies. But not everyone will be aware of the fact that there is a thriving amateur film movement in this country . . .

There are many critics of the cinema who see in the individualistic methods of amateur film production a more fallow ground for the eventual blossoming of originality and sincerity. They regard the amateur film movement both as a nursery and as an innovator . . .

A considerable proportion of the entries are family and holiday films—for most amateurs make their entry into the movement with films of this type, finding in these personal records, which faithfully capture mood and movement as well as scene, a pleasure

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TV Film Producers —
Commercial Film Producers —

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infinitely greater than still snapshots can give. The spell of movie-making tightens its hold as experience grows, and the trend of subject-matter shifts from the personal to wider spheres: to film plays and expressions of cultural and civic awareness in the shape of documentary, instructional and educational films. Many such productions have met with notable success, the significance of the amateur's contribution to films becoming more widely recognized each year."

Then follow short biographical details about the producers which might be expected to interest the general public—that the maker of this film is a barrister, that one an advertising designer, another an engineer, a fourth a Ceylonese journalist. And in the centre spread there are frame enlargements from some of the films.

Undignified ballyhoo? Ballyhoo, I suppose, but not—I think—undignified. Doesn't the professional film industry do the same for the same reasons? I'm not one of those folks who affect supercilious contempt for publicity antics; I have a soft spot even for naivety if it springs from sincerity and a genuine love of films.

Of course, the inevitable result of all this is that the films are elevated to a height which their merits cannot always sustain, and that, I agree, is a bad thing for the film producer, whether prize-winner or also-ran, for it makes for false standards. But I try to counter-act

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to it by faithfully publishing adverse as well as favorable criticism of the films. And on no occasion have we attempted to 'sell' the films (no charge is made for them) by intentional over-emphasis on their virtues.

In fact, the public is no more easily 'sold' over amateur films than it is over the professional. It is not satisfied with their novelty alone. But that we were right in thinking that there *is* a large audience for them is indicated by the fact that the Ten Best shows have inspired the production of a professionally-made film which has been released to the public cinemas.

After one show I received a telephone call from a professional producer of shorts. When could we have a talk? He had an important proposition to make. He had gone to see the show out of idle curosity—it was a wet evening and the publicity had enticed him in—but he stayed to be impressed. The upshot of our talk was the making of a 25-minute 35mm film consisting of stretch-printed extracts from the Ten Best, linked together with a commentary outlining the aims and objects of the British amateur film movement. *Filming For Fun*, as it is called, received a high rating from the trade critics and must have gained many adherents for amateur cinematography.

It might be supposed that large-scale shows of this kind would militate against the production of the personal film which is the backbone of the movement. But this is not the case. Indeed, the films which have gained most favor with the general public have been those centered around family life. This has surprised the amateur, but there are signs that the evidence of the popularity polls is weaning him away from slavish unimaginative apeing of Hollywood to a better appreciation of the real role and function of the amateur film.

One of last year's prizewinners, which was included in the Traveling Ten Best Show, was an idyllic little piece about a small boy who set out with his dog to post a letter but returned home with the letter still in his pocket. There were so many things to distract him: a train going by, wheat being harvested, losing and finding the dog. The amateur found the absence of obvious technical adroitness hard to stomach, and the slenderness of the theme seemed to him to be a serious drawback in a prizewinning film. One critic wrote that one could understand an amateur building such a picture around his own child, but that anyone should invent the situation for someone else's child, and be commended for doing so, passed comprehension.

But the general public who knew nothing about the problems of amateur film production and were able to accept the films at their face value, expressed the most cordial approval, as, too, did the professional critic. Several people took the trouble to write and say they found the film quite enchanting. Many more have written to ask how they, too, can make their own films; and few clubs who have sponsored shows have failed to add to their membership. Further, there are few clubs who have not made a profit on them. One group was able to buy a sound projector from the proceeds.

The magnet of nation-wide audiences attracts an increasingly large entry for the competition, the public is made aware of amateur films, and the film producer is afforded the opportunity of seeing what his fellows are doing. Also —and this is the crux of the matter— he is encouraged to undergo the discipline, necessary in any artistic endeavor, required for the production of work which shall appeal beyond his own narrow circle. He is encouraged to make *films* as distinct from exercises in technique for the delight of the *cognoscenti*.

There is, of course, still a long way to go, but at least a highly successful start has been made. That it should have been possible to make it at all lies to a great extent in the fact that there are a sufficient number of progressive clubs able to sponsor the presentations.

And here we come back to Alvin Roe's thesis. Organization is necessary; but there must also be organization for showing the results of it.

SET LIGHTING BY REMOTE CONTROL

(Continued from Page 445)

Paramount Studio has had completed a total of eighty 5-KW seniors and one-hundred 2-KW juniors. By employing thin (.020") duralumin and a new type deep-fold accordion outer sheel both lamps have been made considerably lighter and at the same time much more efficient as a heat radiator, resulting in cooler bulb temperatures. According to the Studio's engineers, the radiation-type cooling of the new lamps has proved far superior to the old-type lamp with its convection (air) cooled lamp house. By actual test, lamp life is increased instead of reduced because heat distribution within the new-type lamp is uniform.

The studio presently is building for the system several 10-KW units, but development of larger 25-KW and 30-KW units must await availability of suitable incandescent bulbs.

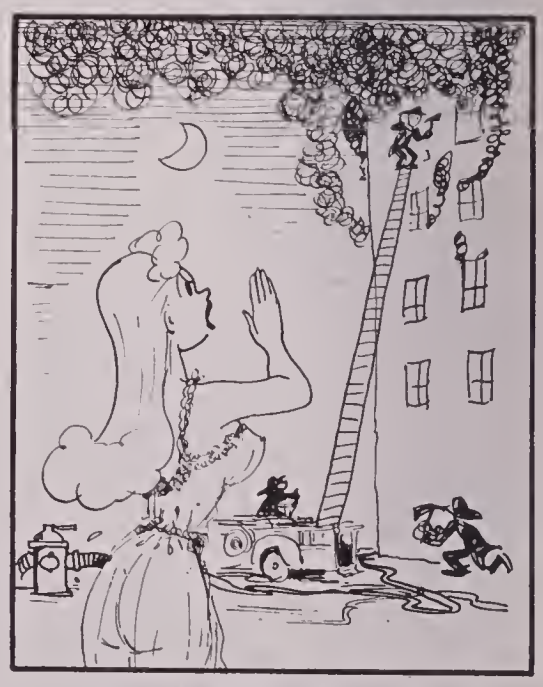
The device that automatically moves the lamp and adjusts the beam spread, as previously mentioned, is called a Bail. This is a separate unit to which the lamp is attached by means of a quick-demountable "Dzus" fastener. The Bail, which is shown in Fig. 4, incorporates three small, 24-volt split-field resversible motors, which originally were designed for aircraft use. Referring to the illustration: motor 1 controls the lamp tilting action; motor 2 controls the beam spread; and motor 3, the rotation of the lamp.

The Bail is mounted on a Remote Lamp Control box, shown at 4 in Fig. 4. This box contains a bi-direction Ledex rotary solenoid selector switch. A red jewel or "bullseye" located on front of the box indicates, when lit, that the box and its respective bail and lamp have been switched into the power circuit, ready for use. At the rear of the box are two sturdy C-clamps by which the box is mounted on a 2-by-12 above the set.

Remote control of the light units is accomplished from the floor through manual operation of the simple Master Control, (Figs. 1 and 2). Two hand-controls and six pushbuttons on the Master Control panel afford the range of manipulation of the lamps previously described. The unit resembles a conventional ash-tray stand, having a circular base and a column which supports the Control Panel. Made of aluminum, its light weight makes it easy to move about on the stage or set. A multiple cable connects the Master Control panel with the Group Control Panel from which cables lead controlling the lamps and their respective Bails.

The central hand-control on the Master Control Panel consists of a "wobble-bar" Micro-switch actuator, which works similarly to the joy stick on early airplanes to secure up-down and right-

ADV.



"To Hell with my mink coat — save my KINEVOX*"!!

(*Leading portable synchronous magnetic recorder.)

left control. Additionally, there is a rotary lamp-selector wheel, on-off push-buttons, and spot-flood beam control buttons.

In operation, the lamp selector switch sends electric pulses along the interconnecting series of cables to the remote control box of the lamp units (4 in Fig. 4). Selector switches within the respective lamp control boxes progressively connect the actuators in the various lamps to the control buss wires, which extend throughout the circuit. In this operation, the red bullseye lights up, as the selector switch makes contact with the circuit. Thus, if control of a specific lamp is desired, the lamp selector dial is rotated clockwise or counter clockwise until the bullseye on the desired lamp control box lights up. This stage of the operation does not light the set lamp, but merely switches it into the circuit, ready for lighting—which the illuminated red bullseye indicates. Lighting the lamp is then accomplished by pressing the "on" button on the Master Control panel.

Through the master control on the floor, any number or combination of overhead lamps may be operated. A number of lamps may be grouped so as to be controlled in gangs, and the groupings integrated into the complete lighting plan for the set by means of the Group Control Panel, shown in Fig. 3.

The function of the Group Control Panel is to provide automatic on-off control of lamps in groups—with each group consisting of not more than four 10-KW, eight 5-KW, or twenty-two 2-KW lamps. The maximum number of lamp groups that can be controlled by any one Group Control Panel is eight. Referring again to the illustration (Fig. 3), two rows of bullseyes will be seen over the row of numerals 1 to 9. Those in the top row are white, while those in the bottom row are blue. These are indicators which show which lamps are lit, or are ready to light. As the selector dial on the Master Control is turned, the lamp circuit thus automatically pulsed or made ready to light is indicated by the illumination of its respective blue bullseye. When the circuit is switched to "on" at the Master Control, the white bullseye above the corresponding numeral lights and remains on for the duration the lamp or group of lamps in the circuit are lit.

In short, the Group Control Panel serves to indicate to the operator of the Remote Control which set lamps or group of set lamps are on or off; also, it permits the operator to pre-select *for lighting* any desired group of lamps (grouped at the time of rigging) by merely turning the selector wheel until its corresponding blue bullseye lights.

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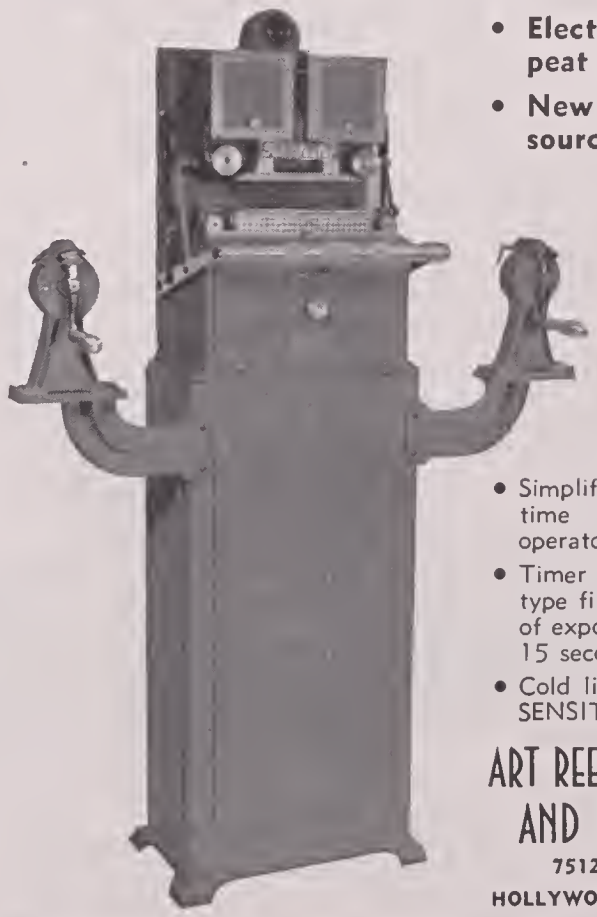

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up—making it unnecessary to first light the lamps on the set.

In demonstrating the lamps and the remote control system before members of the American Society of Cinematographers recently, Loren Ryder said: "We do not believe this is the ultimate in our development of these lamps, and we are eager to have other studios undertake developments along similar paths with the hope that ultimately a truly time-saving remote control incandescent lighting system will be developed for universal acceptance by the major studios."

Perhaps the most pertinent criticism of the system is that at present, with the lamp units mounted on a 2-by-12 above the set without benefit of an attendant gaffer, it is difficult to place diffusers, barn doors, etc., on the lamps.

This problem was recognized early by Ryder and his associates, and there is presently under construction a pilot model pantagraph arm for the lamps, which will allow lamp and its respective remote control bail to be moved anywhere within a fixed arc, or lowered momentarily into the set to permit addition of diffusion, barn doors, snoots, etc. Recent demonstrations of the equipment before technical groups have also brought forth some very valuable suggestions, which Paramount engineers will endeavor to develop and integrate with the system.

"We do not at present claim to have the complete answer to the problem of remote light-control," said Mr. Ryder, "largely because of the great variety of equipment such as screens, snoots, barn doors, gelatins, etc., which are normally used in present-day set lighting. It may be necessary ultimately to incorporate some or all of these facilities in the automatic remote control of the lamps."

While the basis for developing the system lies in the overall production economies it can effect. Ryder pointed out that the savings lie in speeding up production, rather than in the elimination of manpower.

Others who contributed in the development of this system are Charles A. Hisserich and Robert Devinney, of Paramount's Special Engineering and Electronics department and Dr. Charles A. Daily, optical engineer. **END.**

DOCUMENTING AN AIRLINE'S OPERATIONS

(Continued from Page 452)

for Metro-Goldwyn-Mayer. A total of almost 40,000 feet of 16mm Commercial Kodachrome was exposed to obtain the approximate 1,050 feet used in the final version.

The film tells the story of a few weeks in the life of a United Mainliner. Audiences are given an exciting, intimate tour of United's San Francisco maintenance base as the 46-ton "leading lady" enters the dock, is completely stripped of parts and then is reassembled, "better than new." The cameras went along on a flight test, too, to record the plane's altitude, range and engine performance; and a well-conceived sequence shows how a plane is brought through safely to the airport in "ceiling zero" weather by means of the Instrument Landing System.

Palmer's shooting script deviated from the usual motion picture script in that it allowed the director and camera crew to look for "added values," such as special angles, closeups, etc. Normally, a specific shooting script denies this freedom. The greater latitude thus allowed by the script enabled Cate and McGlone to utilize their best experience with airline and flight operations to a much greater degree than if they had been confined to a rigid scene-by-scene rendition of it.

Between the approval of the final story line and the editing of the film lay a vast amount of work. Step-by-step planning was an absolute necessity before a camera was started, in order to insure that production, once begun, would go along smoothly without costly delays.

In the early stages of the production, most of the shooting was on the ground—mostly at the San Francisco base. Here there were three major factors to consider: (1) it would not be possible to upset the complex planning which makes the San Francisco base operate on schedule; (2) the many problems of lighting large areas for 16mm Kodachrome; and, (3) scheduling each factory scene in logical tear-down and build-up sequence to conserve the time of mechanics, technicians, the overhaul dock, and the plane itself. The first two problems were solved during visits made to the base by Cate and McGlone prior to starting the production; the third was readily solved through careful scheduling of shooting and the use of arcs and a Hollywood lighting crew for fast set-ups at the scene of operations.

In order to shoot scenes successfully inside the sprawling 160-foot square dock, the producers brought in one of Hollywood's largest mobile motor generator outfits with a capacity of 4500 amps. Three thousand feet of heavy cable were laid to carry power from the generator to the lamps. Standard Hollywood studio lighting units provided the illumination. These included four "brutes," two "170's," six 50-amp. Duarcs and an assortment of incandescent lamps, including Colortrans.

As the plane was moved into the dock for its periodical inspection, McGlone, Al Stensvold and Les Helhena trained their lenses on the operation. One shot at a low side-angle, another from a high elevation, and the third had his camera set upon the ground outside the dock, shooting into the structure. Cameras used on this sequence were a 16mm

"He says no Betty Grable, no movies!"

Mitchell and two Cine Kodak Specials. With the excellent lighting setups, the cameramen were able to expose Commercial Kodachrome at f/2.5 at 16/f.p.s., using wide angle lenses; and at f/1.6 to f/2 using 1-inch lenses at 24 f.p.s. Although the scene runs only 20 seconds on the screen, it required a full hour to film.

Illumination provided for this scene was probably one of the most complex ever attempted for 16mm Kodachrome photography. The area, 160 feet by 160 feet, was lighted to a height of 35 feet—well above the DC-6's tail assembly. The area was so vast that communications between the various cameramen, electricians, and men handling movement of the plane made a portable public address system necessary. It was the careful attention given to such specific details in the pre-planning stage of the picture that enabled the producers to wind up shooting almost 9,000 feet at the base in five days.

After recording the re-assembly of the plane's inspected parts, the cameras then recorded its takeoff and flight to Denver, where additional sequences were filmed. These depicted important aspects of the Denver base. Here, United Air Lines' employees were given the glamour treatment with makeup and direction in acting, and made actors and actresses for a day.

A major consideration in commencing work on the film was that it be a factual documentation of actual airline operations. In the past, airlines treated the subject of bad weather with great caution, usually ignoring it completely in public statements. "United 6534" includes interesting sequences showing operations under adverse conditions such as minimum ceilings and visibility, and shows dramatically how United Air Lines solves such problems in an efficient manner.

For instance, when United's trip 608 from Hollywood takes off for New York, clouds are hanging low over the airport and the passengers board while rain drizzles steadily. Action then switches to the cockpit where pilot and crew are shown making an uneventful takeoff in the overcast through aid of instruments and direction from the control tower of the airport.

The ensuing flight to Chicago shows what the passengers see aboard such a flight from takeoff to landing: Hoover Dam, the Grand Canyon, the prairie states, etc.—all filmed during an actual flight from Denver to Chicago. Most of the action taking place within the plane, of course, was shot with the ship on the ground. Cables leading from the portable motor generator fed power to the studio lamps and the Colortrans mounted within the cabin, enabling the

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cameramen to achieve excellent lighting of the interior.

The arrival of the plane in Chicago in a snowstorm was one of the most difficult sequences encountered. although landing the plane on the snow-covered field was a routine instrument procedure. In a complete reversal of normal motion picture production, the camera crew *wanted* bad weather, and hoped the local meteorologist would predict snow and sleet conditions.

Four days later the production crew got what it had asked for — sleet and snow plus a strong wind. Cameraman McGlone hustled up a 30-foot steel tower on top of which a camera platform had been erected, and made ready for what had to be a "one-take" scene; because of the time of day and the ramp layout, only one specific plane arrival could be photographed, and that without benefit of rehearsal. The crew had set up a weather-proof tarpaulin to shield the camera from the high wind and driving snow. McGlone set his Ektar lens at f/2.8 and started shooting, hoping the flapping tarp would hold until he finished the shot. "United 6534" was picked up by the camera 500 feet from the ramp and followed as it proceeded to its gate, just 250 feet from the top of the camera tower. Remainder of shooting in Chicago consisted of shots of the servicing of the plane, and its takeoff for New York.

To get a different slant on the touchdown of the plane at New York, the producers conceived an "under belly" shot. Actually, this scene was filmed at the San Francisco maintenance base during test flights. A structure to hold the camera beneath the plane had to be engineered and constructed as compactly as possible to reduce head resistance in flght. There was also the problem of devising ways to protect the camera and its lenses from flying dust and gravel thrown up from the runway during takeoff and landing.

The proper angle at which to set the camera for the desired shot was worked out in advance by McGlone and one of the company engineers. Within a couple of days the rig was set to go into operation. Wind and runway conditions dictated a backlighted shot, so the lens was set at f/8, which McGlone figured would be the norm to take care of the range of changing light values as the plane lifted, climbed and turned.

Operation of the camera was by remote control from inside the cabin. By carefully timing camera operation in coordination with the test pilot's operation of the plane, it was possible to secure one take-off, several feet of cruising action, and one landing scene per flight. The scope of the filming during each flight was severely limited because of the 100-foot supply of film in the camera—the only loading that could be used because of the restriction of space. For these shots, regular Kodachrome was used instead of Commercial, permitting the matte box and filters to be eliminated from the camera.

The excellent editing job on the film is the work of James Algar, whose editing of Disney's "Beaver Valley" and "Seal Island" contributed much toward Disney's winning Academy Awards for these pictures.

At no time was any lip-sync sound recorded for the picture. The picture is accompanied by excellent narration in the voice of James Matthews, and what "lip-sync" sound is used was post-recorded.

"Filming of 'United 6534' required the cooperation of United Air Line employees all across the Main Line," said McGlone. "Step-by-step pre-planning of all scenes permitted shooting without interruption of regular work schedules. Cabin and cockpit scenes were filmed at the Douglas Aircraft Company's plant in Santa Monica.

An estimated one hundred and sixty prints of "United 6534" are to be made immediately available, following completion of previews in New York, Chicago, and 14 other major cities on the itinerary of United's sales officials making the initial presentations. END.

TV SPOT FILMS

(Continued from Page 454)

Where the job is a "rush" and only one print is required, 16mm reversal film often will suffice. If the job is small, and has to be made cheap, then 16mm negative-positive is the best plan to follow. But whatever the gauge of film to be used, camera problems remain much the same, unless the job demands optical effects. In some localities, special effects on 16mm film are more difficult to obtain than in some film production centers, such as Hollywood and New York.

As a rule, the advertising agency contract will call for a union cameraman, and union crews in all the stages of production. This means that it will also be necessary to pay current union rates to the artists as well—even though they have only walk-on parts. Many a film producer has run into trouble paring his talent costs too closely. Another point to remember is that many popular models, artists and narrators no longer accept assignments at current Guild rates; as demand for their services increases, their rates usually increase proportionately.

An essential guide to planning sets and to making camera setups with a minimum of time expenditure is a carefully prepared list of the things required for each scene. The mimeographed form titled "Television Production Requirements" used by the author for this purpose is shown at B in the illustration. By checking over this estimate form with the agency account executive or with the client, it is often possible to pick up additional information with respect to the product uses or its handling, all of which will lead to more effective presentation in the filming. The procedure also will insure that everything necessary for the scene or scenes is on hand when the camera starts to roll. There is nothing more annoying, time-consuming — or "face-losing"—than commencing to shoot in the studio (with account executives, copy writers, etc., getting in your hair as they will!) and discovering suddenly that the jar of face cream—the sponsor's product—has not yet arrived from the agency, or perhaps that the only one available has not received the special label touch-up necessary for good camera pickup, and consequently best rendition on the TV screen.

The "Production Requirements" form also should show what the actors should wear, if special costuming is required, and such important details as "clear" or "no nail polish," etc. It's the little things such as these that are important in making a commercial spot announcement film. Distracting nail polish on fingers holding a sponsor's product detract—take the audience's eyes off the product and make it less effective. In other cases, having such data immediately at hand, such as type of hairdress, etc., can reduce or eliminate entirely the headaches that otherwise might result from a loosely-planned production.

From the point of the photography, extreme care must be given the preparation of the sponsor's product, if it is packaged, in order that the product name or label photographs clearly and legibly. Because many TV screens are yet small, small type must be avoided. For this reason, it is the usual practice to have an artist do a touch-up job on the label—simplifying it if it contains too much copy (reading matter), eliminating all but the trade mark or product name. Also, where colors of the ink in the label are apt to register with too little contrast, this text is usually worked over in blacks and contrasting greys by the artist in order to render a sharp image on the film and eventually on the TV screen.

Products packed in jars thus must come in for considerable attention before the camera is trained upon them. If the container is black or of any dark color, then the label should be light with black lettering; a light colored jar

should have a label with dark background and the lettering white. If the client or the agency has failed to take care of this, then it becomes a cost item to be included in your estimate—or final billing.

The film stock used in the camera has a bearing on the ultimate results, of course. On the east coast, most of the TV film producers use DuPont Superior 2 or Eastman Super-X.

The camera and associated equipment requirements for the production of TV spot announcements invariably is as great as for shooting dramatic films for television. Indeed, with spot announcements, there is greater demand made upon the cameraman for the production of trick effects in the camera, and for this reason he must be prepared to provide zoom shots, dolly shots, tracking shots, and a wide variety of angle shots and lens effects. He must therefore have a wide assortment of lenses at his disposal, and a camera dolly and crane with suitable tracks to insure smooth action when this equipment is used. All this must be carefully considered when analyzing a production prior to submitting estimates.

As with the best dramatic-film photography, the spot ad films also demand top lighting. Lamps and lighting accessories therefore must include floods, spots, and an array of gobos, flags, etc.

Even though most spot announcements are staged against a single flat, simply decorated or tinted, it is the lighting that invarably makes or breaks the photography of such films. Because most shots are closeups, the lighting must be carefully applied; and because the pictorial result that eventually reaches the home TV receiver depends so much on just the right placement of light and dark areas and in the proper balance between the two, composition demands more than ordinary attention of the cameraman.

More about this next month.

REFLECTED LIGHT

(Continued from Page 447)

flood lamps which are mounted on either side. This lamp is pictured in Fig. 7.

The fifth unit (Fig. 2) so far completed in the series is perhaps the most radical in design and application. Dubbed the "Skylite," it comprises three corrugated aluminum panels, which are painted flat white. The center panel is the larger of the three, the side panels at either side being somewhat narrower and set at a slight angle to concentrate the reflection of light. Area of the reflector is approximately 8 by 6 feet. In front of the tripanel reflector is a wooden framework which includes two vertical members, each mounted with five No. R-2 photoflood lamps. These throw light toward the reflector and thence toward the set. The photofloods are controlled individually or in gangs, permitting varying the intensity of the light.

The prototype of this lamp has been widely used by George Folsey in photographing his current MGM assignment, *Lovely To Look At*, and by Charles Rosher, A.S.C., in shooting the vast theatre interiors for MGM's *Scaramouche*. The unit, normally used suspended above the set, is pictured in use on the *Scaramouche* set in Fig. 1. A smaller model of the same design, measuring 4 by 3 feet, has been completed and currently is being tested with the view toward constructing a number of them for general use in all future set lighting.

The Motion Picture Research Council is said to have become interested in this latter unit, and working closely with John Arnold in designing and testing the equipment.

Altogether thus far, the lighting units have been used extensively in photographing five MGM feature films: *The Law And The Lady*, *Lovely To Look At*, *Scaramouche*, and *Rain, Rain Go Away*, which were previously mentioned, and *The Belle Of New York*. All but the first named are Technicolor productions.

MGM's new reflected-light set lighting lamps are not intended as "a new lamp to do away with all other types of lamps." Rather, they are the result of a specific lighting need, and they have proved to be the type of light to fill this need.

They can be—and indeed are being—integrated with other types of set lighting units, both incandescent and arc.

Following further tests and use in actual production, it is likely that MGM, through the Motion Picture Research Council will introduce the lights in other motion picture studios.

That the premise on which they are designed is sound has, of course, already been proved in actual production. Today, a method of set lighting which began at MGM by the simple process of throwing a strong light on a white cloth screen suspended above the set—thus to be reflected down on the set—has evolved into a more practical method wherein the lighting source takes the same physical form as conventional set lighting equipment, and has the same rugged, portable, easy-to-use features.

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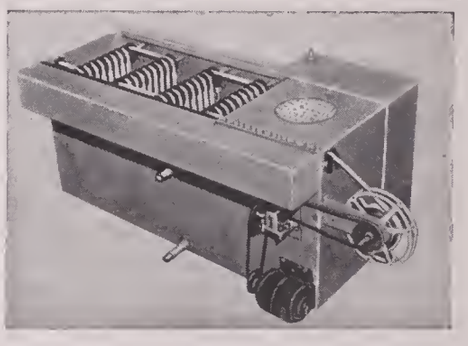

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ANIMATION WITH PUPPETS

(*Continued from Page 460*)

this permitted the building of miniature sets on a small table, enabling the whole production to be made within a limited space set aside in a little-used room.

If you decide to make your own puppets, remember to construct them as light as possible. In so doing, you will be able to set them in almost any position without danger of toppling over. The puppets should be properly balanced, too, with the heaviest weight in the feet. Construction of the feet is important and is a feature which should be given special attention, because on this depends the ability to move the puppets through a cycle of action smoothly and without encountering trouble in having them move or fall right in the middle of a shot. One method is to make the feet of soft, pliable clay that will stick to the table or base on which the action is staged. Another—which is used by many professionals—is to fit sharp pins, such as phonograph needles, into soles of the puppets' feet or shoes so that the feet may be set in any desired position merely by pressing the sharp pin into the table or stage floor. For the latter, it is advisable to use a panel of Celotex wall board. Using this method, you will be able to obtain smoother action in a walking or running sequence because you will be able to break up the action into a greater number of intermediate positions of the puppet's arms, legs and body—all because the puppet can be made more secure to the working surface.

In constructing the various body members for a puppet, balsa wood is ideal. It is soft, light weight, and easy to carve—even by amateurs. The wood is easily painted, too. Puppets should be constructed with the utmost flexibility in mind; therefore, the various body members should be connected by some flexible medium and for this I found copper wire or pipe cleaners ideal. Instead of drilling holes in the balsa wood and twisting wires, a better method is to drive the wire into the body member and secure it with glue or plastic cement. This makes a cleaner job and will provide easier manipulation of the puppets.

If you are hesitant about undertaking the construction of puppets, you can experiment first with ready-made figures such as story-book dolls, and jointed figures such as "Krazy Ikes" which may be constructed from an assortment of wooden units that are available at most department store toy counters. These jointed wooden figures can be assembled and arranged in various positions like Tinkertoys. Plasticine, a non-drying clay, can also be used to advantage for modeling puppets' heads, hands and feet. However it tends to "wilt" when subjected to heat of photo lamps for any great length of time.

Costuming of puppets can be an interesting undertaking — one usually turned over to the woman of the house. Cloth scraps or remnants, beads, lace, etc., are usually to be found in the home sewing basket and are an ideal source of materials for puppet wardrobes.

The quality and character of sets need only be limited by available time and the ingenuity of the builder. Cardboard boxes can form the basic structure of most settings, and vari-colored strips of construction paper can be placed to achieve the effect of stone, brick, boards and shingles, etc. Aging can be achieved by brushing the whole with shellac. Landscaping touches can be accomplished through use of twigs, bits of colored sponge for the foliage, and green paint. Trees, shrubs, etc., should be made with their own individual bases so that they may be moved about, and set securely in place as needed.

The December issue of American Cinematographer will carry a complete index listing titles and subjects of all articles published during 1951.

Illumination of such sets is ordinarily very simple. One or two photo-lamps in reflectors usually suffice. In addition to these, I have employed mirrors to throw sharp light through windows and the light from a slide projector for spotlight effects. Such things are generally worked out by the filmer as the occasion demands.

When we speak of animation, we mean the photography of motion by single frame exposure, and this is accomplished with any motion picture camera with a single frame exposure release. Cameras which do not have this feature can also be employed. This requires a little practice in operating the starting button. The camera motor is allowed to run down completely, then wound just a few turns. With motor tension thus reduced, it usually is possible to operate the shutter for a single exposure by merely "flicking" the starting button. The amount of pressure to be exerted on the button varies with different make cameras.

In the beginning, some thought must be given to tempo of the action and how to achieve it. Generally there is the tendency of the beginner to move the puppets too much between each exposure. It should be remembered that the greater the number of single-frame exposures in a given action cycle, the smoother will be the action. For example, an action cycle, such as the movement of an arm, filmed in five single-frame exposures will be jerky compared to the same action filmed in ten.

To determine how many frames to devote to any action cycle, take a strip of regular motion picture film containing similar action (you can shoot it especially for this purpose) and count the number of frames required to complete the action; then use this as a basis for photographing like action by puppets in single-frame exposures. In this way you will gain the approximate effect of live action.

You can also run through the same action yourself in a "dry run" and time it with a stop watch. It then becomes a simple matter to multiply the number of seconds by 16 or 24, as the case may be, depending on whether you intend to shoot your picture at silent or sound speed. The result of this multiplication will indicate what fraction of the total movement must be allotted each individual frame in stop motion.

You will sometimes encounter some type of action that is so slow that it is impractical to move the puppets between each frame. In such cases it is better to expose several frames of each interval, instead of a single frame, but move the figure the same amount as in normal action. This technique gives good results if not done to extreme; the resultant action on the screen is a little rough, but is acceptable in most instances.

Many spectacular trick effects are possible in the animation of puppets. One which I used with marked effect in *One Summer Day* employed the use of mirrors to multiply my characters and at the same time enhance dance numbers, which were an important feature of the film. The pictorial result and the method of staging such action is to be seen in accompanying photos.

In making plans for an animated puppet film venture, the limitations of the medium must be kept in mind. While lavish sets and quaint, colorful characters are of its essence, some seemingly trivial actions can pose real problems. For instance, I had to abandon the seemingly simple bit of action showing puppet pirates burying treasure on a sandy beach, simply because I failed to work out a method for keeping the figures steady in the sand. Perhaps if I had resorted to the pin

method described earlier, this could have been surmounted.

Actually, few situations are impossible to overcome, if you put your mind to it and have the imagination to work out problems as they arise. There is incentive in the anticipation of seeing the finally photographed picture because, unlike in shooting live action, there is no real "action" until the film is screened. It is then that careful preplanning and infinite patience pays off with thrilling action that is entirely new. In animation, the very action is creative.

QUO VADIS

(*Continued from Page 448*)

tions which drove us half crazy. All this took place in spite of our precautions to check and double-check every piece of electrical equipment. We had even gone through "dress rehearsals" for several days before we started shooting, practicing lighting sets, etc. The sound department was having its troubles, too, and Bob Lee and his Italian engineer, Piero Cavazutti, were to be seen running around with all sorts of meters and testing equipment, checking voltages, etc. Things got to the point where we technicians were, frankly, stopped.

If conditions looked bad to crew members, it must have looked absolutely devastating to the executives of the production staff. Things got so bad there were rumors of calling off the production and abandoning it. A general meeting was called in Rome by E. J. Mannix and Henry Henigson, where some very helpful suggestions were made; it was felt that most of our trouble thus far was due to bad breaks; that Italian crewmen were developing rapidly in efficiency; and that our pace would materially increase with each day's work. The best we could do was hope for an end to mechanical breakdowns.

By the close of the ensuing fourth day, we began to see the end of our troubles; by six p.m. we had fourteen set-ups in the bag. From this time on, things went smoothly in the technical end, and we breathed easier.

Once the idea of this great picture began to impress itself in the minds of all taking part in its production, there seemed to be an almost super-human effort to assure its completion as well as to ease the way for those responsible for the important phases of its making. The religious aspect of the story did a great deal to engender this feeling. To me, the very fact we were working and living in Rome itself meant a great deal. Rome and Romans always had seemed so remote, so vague; now, here we were, working among the ruins, the tombs, market places, and the temples of those people we had come to know vaguely through our history books.

We were shooting scenes in the actual locales where Peter had been crucified, and where St. Paul had been beheaded. This had a profound effect on all of us. And working daily with people dressed in early-day Roman costumes, depicting the history of Christianity, made us realize we were accomplishing real good in bringing *Quo Vadis* to the screen. Yes, there is hardly a doubt that the Romans and Christianity became very close to us all working in Rome during those torrid summer days of the Holy Year—1950.

Our daily takes were sent to the Technicolor Laboratory in London, where two prints of the results were made up. One print was sent to us in Rome, and the other to Mr. Dore Schary in Hollywood. The lab results were wonderful, and the prompt service enabled us to pick up any retakes and added shots without undue delay.

The standard basis for exposure of Technicolor film, established by Technicolor's London lab, is 750 foot candles at a stop of T-1.2. The new low-level Technicolor film was not yet available to us, so we used the standard Technicolor film throughout the production. During the production shooting, we varied our exposure according to the screen effect desired. In order to gain depth of focus in several sequences, we worked with light as high as 5,000 foot candles. During the extreme light effect for the scene depicting the death of Nero, we worked at a light level of only 150 foot candles.

Always keeping in mind the beauty of the costumes designed so magnificently by Herschel McCoy, I planned our camera set-ups with the idea of letting costume colors and the simplicity of Horning's sets carry the photography. Never was the lighting allowed to intrude. Because I felt that the entire film should be on the warm, rich side, all backlights were filtered slightly amber. This idea was carried throughout the picture, but at no time did the lighting on the colorful costumes and sets fall below the color temperature level required to render faithful reproduction on the screen. This is not to say that we "flat-lighted" everything. Perfect color rendition can be secured even in extreme effect shots if light units are used on principal set objects such as draperies, etc.—and providing light is kept from splashing over on other parts of the set.

In the set of Nero's Throne Room, we strived to get an almost shadowless effect. This entailed hanging fifty-foot

(*Continued on Page 475*)

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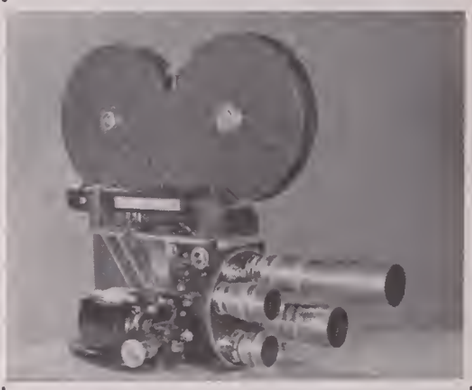

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Current Assignments of A.S.C. Members

Major film productions on which members of the American Society of Cinematographers were engaged as directors of photography during the past month.

★ ★ ★ ★

Columbia

• Hal Mohr. "Fourposter," with Rex Harrison. Lilli Palmer. Irving Reis. director.

• Joseph Walker, "The Marrying Kind," with Judy Holliday. George Cukor, director.

• Charles Lawton. "The Mother," with Loretta Young. Rudy Mate, director.

• Burnett Guffey. "The Sniper," with Adolphe Menjou, Marie Windsor. Edward Dmytryk. director.

• Guy Roe, "My Six Convicts," with John Beal. Millard Mitchell. Hugo Fregonese, director.

• Henry Freulich, "Okinawa," with Pat O'Brien. Leigh Jackson. director.

• Lester White, "The Harem Girl," with Joan Davis, Arthur Blake and Peggy Castle. Edward Bernds, director.

• Fayte Browne, "Laramie Mountains," with Charles Starrett and Smiley Burnette. Ray Nazarro, director.

Independent

• Floyd Crosby. "High Noon," with Gary Cooper, Thomas Mitchell and Katy Jurado. Fred Zinnemann, director.

• Lee Garmes. "The Tightrope," (Aspen Prod.-UA) with John Forsyth, Harold J. Kennedy. Geraldine Hall. Robert Wise, director.

• Joseph Biroc. "Without Warning," (Allart Prod.) with Adam Williams, Mag Randall. Arnold Laven. director.

• Ernest Laszlo, "The Lady In The Iron Mask", (Color) with Louis Hayward, Patricia Medina and Alan Hale, Jr. Ralph Murphy, director.

M-G-M

• Charles Rosher. "Scaramouche," with Stewart Granger, Eleanor Parker. George Sidney, director.

• William Mellor. "Skirts Ahoy," with Esther Williams, Joan Evans. Sidney Lanfield, director.

• Joseph Ruttenberg, "Young Man In A Hurry," with Glenn Ford and Ruth Roman. Mitchell Leisen, director.

• Harold Rosson, "Singin' In The Rain," with Gene Kelly, Debbie Reynolds. Gene Kelly and Stanley Donen. directors.

• Ray June, "The Invitation," with Dorothy McGuire and Van Johnson. Gottfried Reinhardt, director.

• Robert Surtees. "The Merry Widow," (Technicolor) with Lana Turner. Curtis Bernhardt, director.

• George Folsey. "Lovely To Look At," with Kathryn Grayson, Red Skelton. Mervyn LeRoy, director.

Monogram

• Harry C. Neumann, "Wagons West," (Color) with Rod Cameron, Peggie Castle, and Noah Berry, Jr. Ford Beebe, director.

• Ernest Miller, "Whip Law," with Whip Wilson. Fuzzy Knight, and Lois Hall. Howard Bretherton, director.

• William Sickner. "Starlight Canyon," with Wayne Morris and Anthony Caruso. George Blair, director.

AMERICAN SOCIETY OF CINEMATOGRAPHERS

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Walter Strenge
Phil Tannura

Paramount

• George Barnes, "Somebody Loves Me," (Technicolor) with Betty Hutton. Irving Brecher, director.

• Daniel Fapp, "Sailor Beware," with Dean Martin, Jerry Lewis. Hal Walker, director.

• Loyal Griggs, "Shane," (Color) with Alan Ladd, Jean Arthur, Van Heflin. George Stevens, producer-director.

• Lionel W. Lindon, "This Is Dynamite," with William Holden, Alexis Smith and Edmond O'Brien. William Dieterle, director.

• Charles Lang, "Los Alamos," with Gene Barry, Lydia Clark, Nancy Gates. Jerry Hopper, director.

• George Barnes, "Famous," (Color) with Bing Crosby, Jane Wyman, Ethel Barrymore. Elliot Nugent, director.

R.K.O.

• Russell Harlan, "The Big Sky," with Kirk Douglas. Howard Hawks, director.

• William Snyder, "The Korean Story," with Robert Mitchum. Tay Garnett, director.

• Harry Stradling. "Androcles And The Lion," with Jean Simmons, Victor Mature. Chester Erskine, director.

• Karl Struss, "Tarzan The Hunted," with Lex Barker, Dorothy Hart. Cyril Endfield,

• Nick Musuraca, "Clash By Night," (Wald-Krasna) with Barbara Stanwyck, Paul Douglas and Robert Ryan. Fritz Lang, director.

20th Century Fox

• Leon Shamroy, "Wait Till The Sun Shines, Nellie," (Color) with Jean Peters, David Wayne, Hugh Marlowe and Albert Dekker. Henry King, director.

• Arthur E. Arling, "The I Don't Care Girl," (Color) with Mitzi Gaynor, David Wayne, and Oscar Levant. Lloyd Bacon, director.

• Harry Jackson, "Way Of A Goucho," (Shooting in Argentina, in color) with Gene Tierney, Rory Calhoun, Richard Boone. Philip Dunne, director.

• Lucien Ballard, "Diplomatic Courier," with Tyrone Power and Patricia Neal. Henry Hathaway, director.

• Leon Shamroy, "The Girl Next Door," (Color) with June Haver, Dan Dailey, Dennis Day and Billy Gray. Richard Sale, director.

Universal-International

• Russell Metty. "The World In His Arms," with Gregory Peck, Ann Blyth. Raoul Walsh, director.

• Charles Boyle, "Steel Town," (Color) with Ann Sheridan, John Lund. George Sherwood, director.

• Cliff Stine, "Oh Money, Money," (Color) with Charles Coburn, Piper Laurie, Gigi Perreau and Rock Hudson. Douglas Sirk, director.

• Irving Glassberg, "Hear No Evil," with Toni Curtis, Jan Sterling, and Mona Freeman. Joseph Pevney, director.

• George Robinson, "Ma And Pa Kettle Go To Paris," with Marjorie Main, Percy Killbride, Ray Collins, and Lori Nelson. Charles Lamont, director.

Warner Brothers

• Ed DuPar, "The Lion And The Horse," with Steve Cochran. Louis King, director

• Robert Burks, "Room For One More," with Cary Grant, Betsy Drake. Norman Taurog, director.

• Wilfrid Cline, "She's Working Her Way Through College," with Virginia Mayo, Ronald Reagan. Bruce Humberstone, director.

• Ted McCord, "This Woman Is Dangerous," with Joan Crawford. Felix Feist, director.

• Warren Lynch, "Retreat Hell!" with Frank Lovejoy, Richard Carlson. Joseph Lewis, director.

• John Seitz, "San Francisco Story," (Fidelity Prod.) with Joel McCrea, Yvonne DeCarlo, Sidney Blackmer and Onslow Stevens. Robert Parrish, director.

QUO VADIS

(*Continued from Page 473*)

square silks on one side of the set, from behind which we projected light from arcs. This gave us a soft illumination of 550 foot candles over the entire set. The result was an almost third-dimensional effect on costumes, players, and other objects within the scene.

As the picture progressed, the style of lighting was changed to meet the changing pace or mood of the picture. In filming all the interiors during the burning of Rome sequence, an effort was made to keep all highlights and "kickers" on the copper-toned side. For the sequence after the fire, sets were lighted entirely from the floor in order to achieve the dull, foreboding effect called for in the script. Then, as the time of Nero's death approaches, we began to start the real effect lighting. This was done in a progressive manner, becoming more and more effective until, during the Nero death scene, we actually achieved a photographic climax, too.

Generally speaking, the lighting of *Quo Vadis* was kept very simple. We tried to maintain a classic style, for any other type lighting on the settings of Roman villas, baths, etc., with their many columns and straight-line architecture, would have been in bad taste. Always, we strived to keep the camera and the lighting from "running away" with or stealing the scene.

William Skall, A.S.C., photographed, and Tony Mann directed the night scenes of the burning of Rome. For twenty-four nights they worked in the burning streets, among the thousand of screaming extras. It was a difficult assignment, and extremely well done. The photography of this sequence is one of the highlights of the picture.

Several important scenes called for background projection; but as we had no equipment for this, the scenes were accomplished by employing the "blue-backing" method introduced by Tom Howard, of MGM's London studio. His method of photographing and combining in the printing of background and foreground action is said to be the best in the industry. As an example of how this method was used to make a composite scene showing Robert Taylor driving a fast chariot, without having to do this from a travelling camera car, we made a running background shot in the same manner as we would for a normal background projection shot. Then Taylor, in a chariot, was placed before the camera, with a blue backing, brightly lit, behind him, and his action of driving the chariot was photographed.

Back in London, Tom Howard combined the two negatives in optical printing to achieve the pictorial effect desired. Those who have seen this footage on the screen marvel at the great depth of focus and quality achieved.

When lighting the blue backing for day foreground action, we achieved a smooth overall 750 foot candles; the secondary shot of the foreground action was then lighted for the same level. Where a night effect or low key effect was desired in a blue backing shot, the backing was lighted as for day shots, i.e., 750 foot candles, and the foreground action level was reduced to 400 foot candles. A register and definition chart was photographed before each take.

Recruiting and directing the tremendous crowds of extras that were used in the picture is a story in itself. Costuming and making up 14,000 extras was not child's play. Finding this many Italians and getting them on the set was the task of Mel Ballerino, sent over from Hollywood to supervise casting. There was no "Central Casting Bureau" in Rome to which Ballerino could telephone his requests for extras. So great was the picture's cast requirements that a large segment of the Italian population had to be recruited for the picture in a most novel way.

Italian motion pictures have been noted for their large mob scenes. Instead of central casting offices, there have come into existence in Rome men skilled at getting mobs of Italian people to work in films. These men are called "Capo Grupos" — group captains. To get mobs of extras for *Quo Vadis*, casting director Ballerino would contact the Capo Grupos, who would then canvass their neighborhoods or their lists, and round up the required number of people needed for the next day's shooting. It was the Capo Grupos' responsibility to see that their respective groups arrived at the set or location on time and ready to work.

The people under each Capo Grupo's jurisdiction were given a sleeve band to wear having an identifying mark. When preparing the extras for appearance in the mob scenes in Nero's Arena, our assistant directors had maps prepared showing the seating arrangement in the arena. Little markers with numbers had been placed in sections of the arena, and these sections were marked on the maps. Thus, each Capo Grupo would be given certain sections of the arena to fill, and he would direct his charges to the section marked with the numbers designated. It was a very efficient system, completely free of confusion.

When it came time to pay off the thousands of extras, the money was merely turned over to the Capo Grupos, who in turn paid off the people cap-

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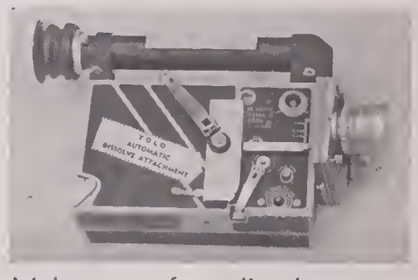

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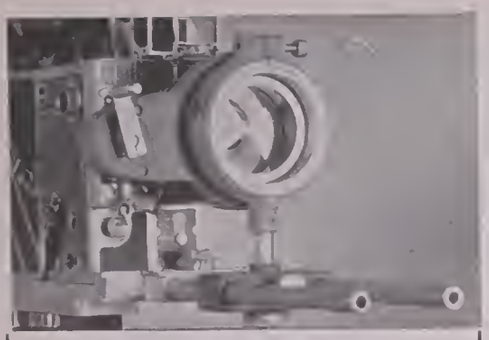

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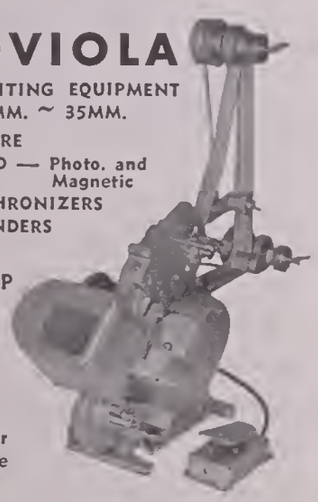

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tained by them. The fine cooperation of the "Capos" and people alike resulted in many wonderful scenes for *Quo Vadis.*

As I look back on this assignment, many humorous incidents come to mind. I have to laugh every time I think how we had to send most of Nero's Praetorian Guard to the barber shop each day for a shave. And then there was the situation that arose with the women dancers from the Rome Ballet. Before we could shoot the dance numbers in Nero's banquet scene, we had to send all forty of the women to the barber shop to get the hair shaved from under their arms. Italian women just don't believe in such things!

One day, when on location, members of the Italian electrical crew were about to go out on strike because the unit manager had substituted bottles of Coca-Cola for the customary wine in their lunch boxes. On still another day, one of the fighting bulls broke loose, and chased everybody on the lot indoors. Not until a squad of police arrived in a jeep and armed with machine guns, was the rambunctious bull quelled in hilarious action reminiscent of the old Keystone Comedies.

One day we noticed that the horses drawing Bob Taylor's chariot seemed to have changed color. After intensive questioning of their attendant, it was revealed he had substituted different horses. Someone had offered him more money for the use of the regular team in a private funeral procession scheduled for that day!

These are just some of the lighter moments in the making of a truly great production — a production concerned with the teachings of a man who taught goodness and mercy and who was crucified almost two thousand years ago. It is a timely production, one that should create considerable serious thought among mankind everywhere, in view of present world conditions. It should bring renewed hope and faith to people the world over. I consider it an honor to have photographed it.

DUAL-PURPOSE PROJECTOR

(Continued from Page 450)

coated 16mm film, which is now commercially available. With this development, and that of the RCA projector, the task of recording magnetic sound on 16mm film can now be performed by the layman, as well as the laboratory.

One particular advantage of magnetic recording on 16mm film is that sound can be added to the film either before or after it has been processed for picture. This permits flexibility of editing the picture part of the film before sound is added to it. Approximate lip-synchronization can be obtained easily with a few trials.

The cost of producing sound on 16mm film with this multi-use projector has been estimated to be about one-third the cost of achieving comparable results with optical sound. In addition, film waste due to recording errors is eliminated, because the magnetic track may be erased when necessary and re-recorded.

Reeves Soundcraft Corp., New York City, N. Y., and its various affiliates, including Ryder 16mm Services in Hollywood, are providing the edge-coating service which puts the sound track in the form of a permanent stripe of magnetic oxide 1/10 of an inch in width on one edge of the film, ready for recording. Position of the track is the same as would be an optically printed sound track. Such tracks will successfully record and reproduce sound at a frequency range of 80 to 7200 cycles with excellent quality and with virtually no background noise. The cost for striping film is said to be in the neighborhood of 3½ cents per foot.

The RCA "400" projector has been engineered to accommodate the component parts required for recording and reproducing magnetic sound, without altering in any way the characteristic simplicity of its threading. The optical sound track reproducing facilities are retained in the RCA "400" projector, making it the first commercially-produced projector which will play back either optical or magnetic sound tracks.

For recording and reproducing magnetic sound, a very small record-play combination head has been mounted inside the sound drum (Fig. 4), and the erase head has been mounted just ahead of the upper sprocket, as shown in Fig. 1. The location of the record-play head inside the sound drum offers several advantages over any other location—primarily because it permits constancy of film motion, and also because it makes possible the same 26-frame spacing from sound to picture that is standard for photographic (optical) track.

In the RCA "400" magnetic projector, good physical contact between film and head has been obtained, consistent with low head wear and low film deformation. The head is mounted on the free end of a hinged, spring-loaded arm, which also automatically compensates for head wear.

The erase head, shown in Fig. 2, also has been mounted on a hinged arm, but for a different purpose. One of the problems presented in magnetic recording has been the possibility of unintentional erasure of the magnetically recorded signal. Thus the projector has

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ARTHUR E. GAVIN
Editor

Sworn to and subscribed before me this 28th day of September, 1951.
(Seal) C. K. Buchanan
(My commission expires October 10, 1952.)

been provided with interference between the rewind lever and the erase head. Before film can be rewound, the erase head must be removed from the path of film travel before the rewind lever can be thrown into operating position.

The special 10-watt amplifier of the RCA "400" magnetic projector has been designed to meet all the performance requirements for recording, reproducing, and erasing sound on the magnetic film.

To record sound for a reel of processed and edited 16mm motion pictures, the reel first must be sent to Reeves Soundcraft Corp., Ryder 16mm Services, or any agency offering edge-coating service, for the purpose of having the magnetic oxide stripe applied to the edge of the film. This can be applied to either 16mm silent or sound film. On single perforated film, the magnetic oxide stripe, 100 mils in width, is applied on the base side of the film in the same area normally occupied by the optical track. With double perforated or silent 16mm film, the track is narrower—40 mils in width—and is applied between the sprocket holes and edge of the film—on the normal sound track edge. At present, there is some possibility of sprocket-hole noise, where double perforated film is used, but this is being overcome in the improved design of the newer model RCA "400" projectors now in production.

In addition to the sound track stripe, a "balancing" stripe, narrower in width, is also applied along the edge of the opposite side of the film to equalize the thickness of film windings on reels.

Films submitted for this service should, of course, be securely spliced. The slight surface irregularities caused by splices do not affect the coating process, nor the results in recording and playback.

After the film has been striped or edge-coated, it is then threaded in the projector for recording. Normally, such recording consists of narration, but sound effects and background music may also be integrated with speech providing same can be recorded simultaneously through the recording microphone.

The uses RCA "400" equipment open up are many and varied. For example, a narrative or commentary can quickly be applied to any previously-made film. The same picture can be presented with two or more different sound tracks, each suited to a particular application, location or type of audience. The preparation of a single subject in several different languages or dialects can be quickly and expertly accomplished, by recording in the desired language on separate prints of the film.

BULLETIN BOARD

(Continued from Page 438)

—carrying the dialogue. Dual sound track films will also play on any existing theatre equipment interchangeably with present prints. New system is said to cut costs of foreign version prints 50 to 60 per cent, and as a result, make possible wider release of color pictures overseas because of savings in the dubbing end.

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Al Gilks, A.S.C., thought he had landed another winner (Al landed the choice filming assignment of *American in Paris* at MGM) when he caught a giant salmon on the Klamath river during his recent visit there, and lost it when light tackle and No. 6 fly he was using parted during fight to land the prize.

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Society of Motion Picture and Television Engineers held a special dinner meeting in Hollywood, October 31, in recognition of three distinguished visitors to recent SMPTE convention. Honored were Paul C. Foote, chief optical engineer, Bell & Howell Co.; Arthur Warmisham, optical director, Taylor & Hobson, Leicester, England; and Malcolm G. Townsley, Bell & Howell Company. Co-hosting the visitors were also members of the A.S.C. and So. Calif. Optical Society.

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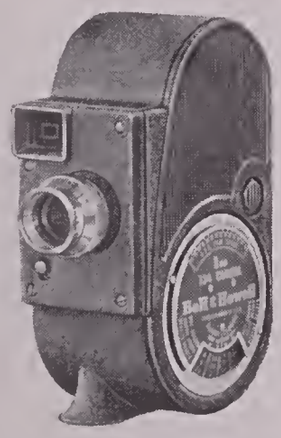

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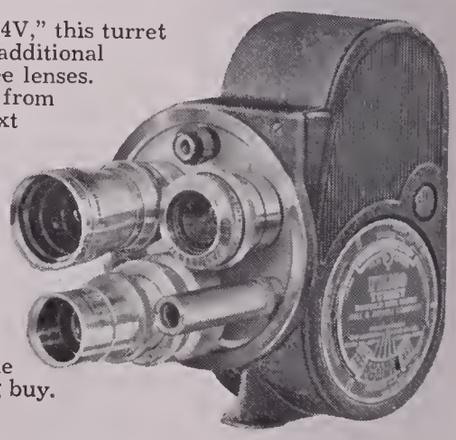

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THIS MONTH

- **Motion Pictures On Tape**
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- **The Making Of A Prize-winning Film**

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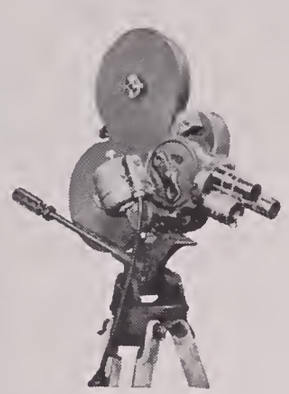

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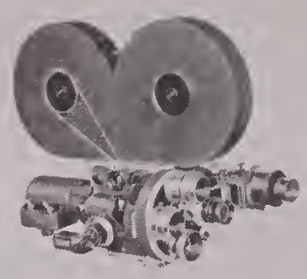

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ON THE COVER

THE GREATEST SHOW ON EARTH was also the greatest camera assignment for George Barnes, A.S.C. Here, the Technicolor camera mounted on far end of boom in foreground records story action, which was integrated with a regular performance of the Ringling Brothers & Barnum and Bailey circus. Producer-director is Cecil B. DeMille.—*Photo courtesy Paramount Pictures Corp.*

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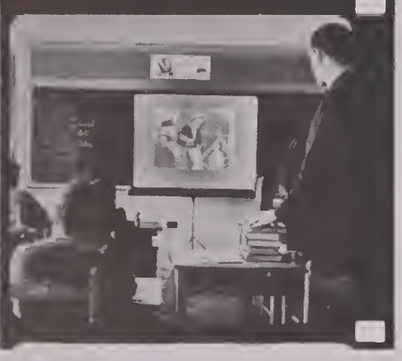

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Hollywood
Bulletin Board

DISCUSSION FILM selected by Academy of Motion Picture Arts and Sciences for its November Film Forum was 20th-Fox's "Decision Before Dawn," photographed by Frank Planer, A.S.C. Pictured above is panel representing production crew: (left to right) Frank Planer; Dorothy Spencer, film editor; Frank McCarthy, producer; Anatole Litvak, director; Wm. Mittlestedt, mechanical effects; Noel Howard, art director; Franz Waxman, music; and Roger Heman, sound. Mel Ferrer acted as moderator.

Elected to the Board of Directors of the American Society of Cinematographers last month were Robert deGrasse and Sol Polito. New Alternate Board Members are Ernest Laszlo, Nicholas Musuraca and Joseph Ruttenberg. Executive vice-president Fred W. Jackman has announced that the Society's next annual election of officers will take place in April, 1952.

•

Membership in the Academy of Motion Picture Arts and Sciences will close temporarily on December 1st, and will not be reopened until after the first meeting of the Academy following its Annual Awards presentation next March. President Charles Brackett asks that present members wishing to sponsor new members must have the names presented before the Academy's Board of Governors at their next monthly meeting scheduled for early December.

•

Sylvia M. Roos, last month was elected to the Board of Directors of Kinevox, Inc., as Secretary-Treasurer. President and Technical Director of the company is Len Roos, A.S.C. The company manufactures the Kinevox synchronous magnetic film recorder and a wide range of associated equipment for use in motion picture production.

•

20th Century-Fox's new color film and the laboratory equipment used in processing it was demonstrated before members of the A.S.C. last month at the studio's Western Avenue projection room. On hand to describe the process and answer questions were Sol Halprin, Studio's camera department and film laboratory head, Earl Sponable, head of 20th's research and development division in New York City, and John Capstaff, Eastman Kodak Company research engineer.

Employing the new Eastman lenticular color film, the Fox development is aimed at giving the company its own studio-controlled color film production system. The negative requires no special camera, may be used same as any black-and-white film.

Demonstration reels of test footage of the new color film were screened during the session and later those attending were given a look at the new processing equipment which Fox recently built for handling the film. The studio hopes to start the first production using the new color film sometime next spring.

•

Ralph Hoge, head of Thomas Rentals in Hollywood, will shortly announce a new development in camera lenses which reportedly achieves remarkable depth of focus. Unlike other lenses which have been developed for a similar purpose, the Hoge lens is simpler and said to render better pictorial results. Lee Garmes, A.S.C., used the lens on a feature film production for the first time when photographing Aspen Productions' "The Tightrope," completed last month.

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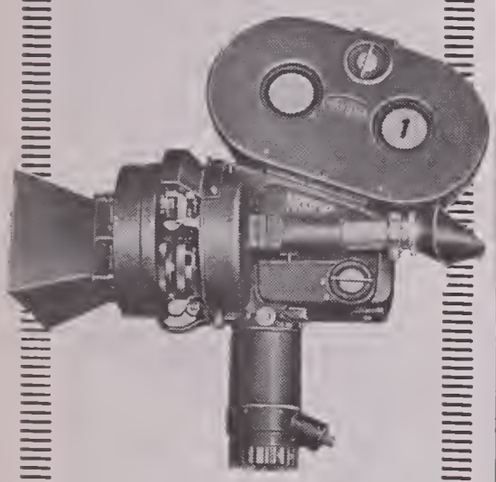

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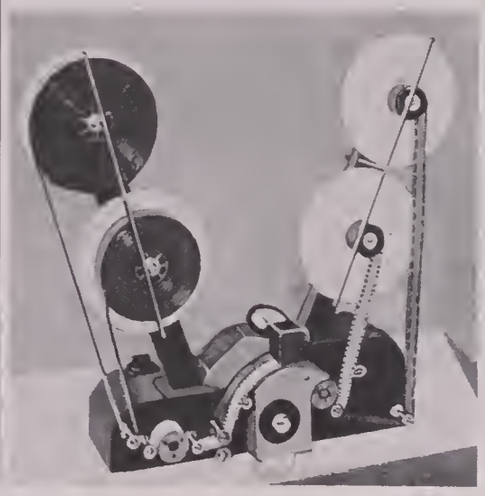
WHAT'S NEW

in equipment, accessories, service

MICOP CONTINUOUS PRINTER — S.O.S. Cinema Supply Corp., 602 West 52nd St., N. Y. City announces they have been appointed U. S. distributor of the Micop continuous film printer manufactured in Holland. The equipment is



ideal for milcrofilmers. TV and industrial film producers, schools and colleges

Available for either 16mm or 35mm film, printing speed of the Micop is 25 to 35 ft. per minute. S.O.S. is also making available a high speed Micop with 90 ft. per minute capacity. This model is similar to the 1st model except for its higher powered lamp, blower cooling, and 1200 ft. flanges. Prices of Micop printers start at $995.00. Complete descriptive data is available from the distributor.

NEW "MART ADDRESS—The Camera Mart, Inc., New York City, moves to new and larger quarters December 1st. New address will be 1845 Broadway. New location gives Camera Mart greatly increased display space in addition to larger storeroom, repair and equipment servicing quarters. The company is one of the largest distributors of motion picture and TV production equipment on the east coast; also conducts an extensive rental service.

TITLES AND OPTICAL EFFECTS—Ray Mercer & Company, 4241 Normal Ave., Hollywood, have expanded facilities to service TV film producers with optical effects and titles. One of the oldest established firms in the business, the company has been supplying optical effects and titles to Hollywood's independent and major producers for more than 20 years. Company also services clients in the TV industrial and feature film industries in other centers of the U. S. Titles and effects for the award-winning TV film show, "Fireside Theatre" were produced by Ray Mercer & Co., whose facilities include complete sound stage, title printing and photographing equipment, and some of the most exclusive optical effects equipment ever designed. The company also manufactures a measuring rule for film editors that gives various frame counts in terms of linear feet for 8mm, 16mm and 35mm film.

NEW ANSCO PROCESSING LAB—Ansco announces it has opened a new processing laboratory for servicing movie makers using its 8mm and 16mm color films. New plant is located at 2299 Vaux Hall Road, Union, New Jersey. New laboratory boasts one of the fastest 16mm color processing machines in use today. Within 24 to 48 hours from time customer's Ansco Color movie films reach the laboratory, they are processed and on the way back to the customer. Ansco emphasizes that its sheet, roll and 35mm magazine color films will continue to be processed at Binghamton, N. Y., as before.

SOUND PROJECTOR BOOKLET — Now available from Eastman Kodak Company, Rochester, N. Y. is a comprehensive booklet describing the features of Kodascope Pageant Sound projector and its use in audio-visual fields.

WIDE ANGLE LENS FOR EIGHTS—Bell & Howell Company, Chicago, announces a new wide angle lens for 8mm cameras. The 6.5mm (¼") f/1.9 lens admits 70% more light at full aperture than the ½" f/2.5 lens with Widor attachment. Special features of lens are: click stops, drop-in filter ring, and chrome plated mount. Aperture range is from f/1.9 to f/22. Price is $79.85.

On movie sets...

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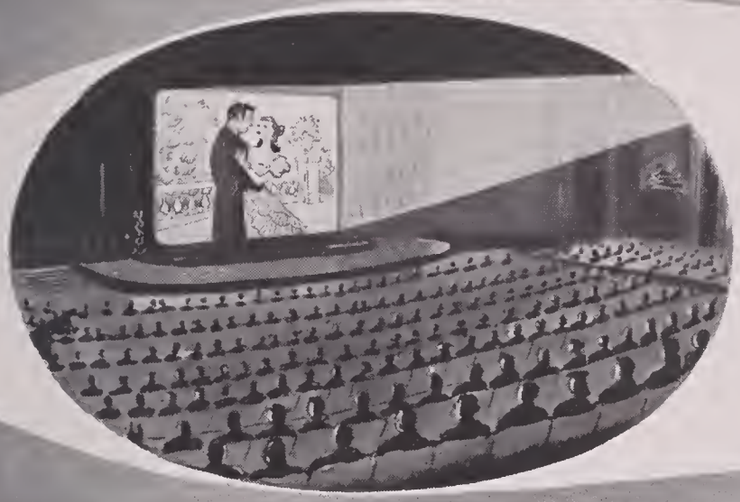

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1952 Amateur Motion Picture Competition

Closing Date For Entries — March 1, 1952

SPONSORED jointly by American Cinematographer and American Society of Cinematographers to select the "Top Ten" amateur films of 1951-52. Open to all amateur movie makers residing within the continental United States and its possessions.

ELIGIBLE for entry are 16mm and 8mm amateur-made films regardless of subject, either black-and-white or color, silent, or with sound on film.

AWARDS — The first ten films with highest rating in the judging will receive gold American Cinematographer Trophies. The ten next best will receive Honorable Mention certificates.

•

RULES

- Entries must be wholly amateur-produced.
- All sound films must be wholly amateur-recorded, regardless of sound medium used.
- Film length: maximum of 800 feet for 16mm sound or silent entries; 8mm entries, 400 ft.
- Sound medium (discs, tape, wire) must accompany film in same package.
- Entrants must pay transportation on films and sound records both ways.
- No film should be submitted before December 1, 1951. Both reels and reel containers, and containers of sound medium must bear labels indicating name and address of entrant.
- Entry blank must be submitted in advance.

WRITE FOR ENTRY BLANK TODAY, USING COUPON BELOW.

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Hollywood 28, Calif.

Sir: Kindly send me official entry blank for AMERICAN CINEMATOGRAPHER'S 1952 Amateur Motion Picture Competition. I plan to enter an 8mm._____ 16mm._____ film, length _____ ft.

Name _____

Address _____

City_____ Zone____ State_____

KEEPING UP WITH *Photography*

ANY PHOTOGRAPHER who takes color pictures and often wonders why a very carefully determined exposure doesn't come up with perfect results will find the answer in a new method of exposure index determination for reversible photographic materials which has been developed by H. G. Morse of Ansco, Binghamton, N.Y.

In black-and-white photography, according to Morse, where a negative is made and then a print from this negative, the practice has been to "expose for the shadows and develop for the highlights."

With reversible films, such as 8mm and 16mm motion picture color films, 35mm and roll color films, proper exposure presents more of a problem. With such materials, the negative and positive images are created from the same emulsion, and processing is generally not variable. Exposure of the film in the camera determines the final quality of the image.

Since the image must be judged on its overall density, and at the same time its highlights must be relatively clear for the best brilliance and projecting characteristics it has been found advantageous, according to Mr. Morse, to base exposure index not on shadow values but rather on *medium highlight* values. According to Morse, no exposure index has yet been developed for best exposure determination of reversible films. The best bet for anyone shooting pictures on such film is to aim for medium highlights for best overall results.

•

HIGH-SPEED PROCESSING of motion picture film, developed by Eastman Kodak Research Laboratories, was demonstrated before a recent Photographic Society of America convention audience. During the convention, visitors were photographed in action with an ordinary 16mm cine camera. The film was then rushed to a rapid-processing machine. Here, through the magic of "hot processing," using heated chemical solutions, the film was developed, washed, dried and ready for projection in a matter of minutes. During the processing, a single frame of 16mm film moves through the machine in about 60 seconds.

Secret of the high-speed processing lies in the use of photo solutions heated to about 125 degrees F. When the film unwinds from special, quick drying drums, it is ready for projection. The new processing method is now serving the armed forces, television, and has long been in use at race tracks as a check on the fouling claims of riders, etc.

•

PICTURES OF GREATER SHARPNESS to the eye will ultimately come from new photographic materials as a result of a highly technical photographic investigation recently announced by the Kodak Research Laboratories in Rochester, N.Y.

Research on the way the human eye sees a picture, plus study of the physical structure of the photographic image, changes the generally accepted belief that resolving power can be used to rank photo materials in the same order of sharpness as visual judgment of pictures. The Laboratory marked as a mistaken view that, in general, high resolving power in a photo material means sharpness in the final picture.

Kodak scientists said their discovery provides photographic researchers with an important tool for further investigation of photographic materials.

•

THE BRIGHTEST CADMIUM mercury vapor lamp ever made in the U.S. — a 10,000-watt cantaloupe of quartz the length of a salted peanut, has been developed by Westinghouse Electric Corp. engineers for possible use in motion picture set illumination. The high brilliance of the short-arc lamp and its cool light of near-daylight color should qualify it for both spotlight and floodlight service in motion picture studios, according to Westinghouse engineers.

The lamp, described as an "instant starting source of high brightness electronic light," operates on an auxilliary circuit that makes possible instant restarting at peak brilliance.

•

SPONTANEOUS IGNITION of cellulose nitrat motion picture film can occur when such film is in an advanced stage of decomposition, according to research recently concluded by the National Bureau of Standards. Until recently, it was generally believed that nitrate film would not ignite spontaneously at temperatures ordinarly encountered in a film vault.

In eastern cities during the abnormally hot summer of 1949, numerous fires occurred involving nitrate motion picture films. The Bureau instituted in-

(Continued on Page 492)

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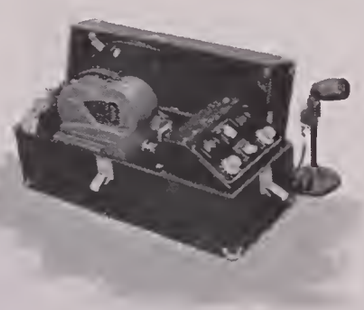

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MANUFACTURERS OF SOUND-ON-FILM RECORDING EQUIPMENT SINCE 1931

KEEPING UP WITH PHOTOGRAPHY

(Continued from Page 490)

vestigation of spontaneous ignition as an inherent hazard with nitrate film. Samples in various stages of decomposition were supplied for the purpose of simulating conditions which may have prevailed at the fire locations. Stored in a special chamber, with controlled and recorded temperatures, each film was packed in an individual can which was in turn wrapped in mineral wool to retain the heat of the exothermic decomposition reaction.

Results obtained in the NBS tests indicate that good film does not self-ignite at ordinary storage temperatures; that the logical approach to safe storage is the removal of all film showing signs of decomposition. Deteriorated film in the first and second stages is photographically reproducible. When the subject matter is important, the film can be copied and the original destroyed. Where decomposing film is not valuable, it should be destroyed at once. This may be done by submerging it immediately in water-filled drums, then removed and destroyed by burning in the open.

•

AN 8MM HIGH SPEED motion picture camera has been developed by the Wollensak Optical Company, Rochester, N. Y., capable of speeds of 25,000 frames per minute.

•

A COLLECTION of 238 exposure meters and exposure calculators of all known types is now a part of the photographic equipment display of the George Eastman House, Rochester, New York. The collection was accumulated by the late Joseph Bing, prominent New York consulting engineer and internationally-known amateur photographer.

The first attempts to determine exposure were by reference to past experience. Ingenious slide rules and tables put together the varying factors which influenced exposure—such as condition of the light at various altitudes, seasons and time of day.

The first meters to measure the amount of light made use of photosensitive material, usually a piece of photographic paper. The time required for the paper to darken to the shade of a standard tint was integrated on a slide rule with the other factors. This type "meter" was widely used about 1900.

Next in development was the extinction type meter, the photoelectric meter which measures reflected light, and more recently, the incident light meter.

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BAUSCH & LOMB

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HIGH UP on a camera boom, minus the camera, plotting camera angles for scenes in "The Greatest Show On Earth," are director Cecil B. DeMille, assistant cameraman Paul Hill, and cinematographer George Barnes, A.S.C.

Filming The Circus

Technicolor's new low-level color film plus Paramount's remote control incandescent lighting system eased the way for George Barnes in photographing Cecil B. DeMille's "The Greatest Show On Earth," saga of circus life.

By ARTHUR ROWAN

THE MERGER of Cecil B. DeMille and the Ringling Brothers & Barnum and Bailey circus is a reasonable product of an age which has yielded the atom bomb. Both are giants of showmanship and both have had a tremendous influence on American life. Paramount studio brought the two forces together in Hollywood two years ago when it paid a handsome price for the right to use the circus' name and equipment for what is perhaps its greatest production, *The Greatest Show On Earth.*

From the beginning, one thing was fairly certain. DeMille was not interested in doing a history of the circus, although some of it enters the script incidentally. Said he: "The circus on tour is a rich American heritage, a modern odyssey of people and of the lives of peoples. Of spectators, too. It is our aim to put that odyssey on a canvas of film, to capture the throb of the circus, its tragedy and humor and, if luck is with us, its universal soul."

When the "Circus Special" trained out of Hollywood last January 24 for *The Greatest Show On Earth* location at Sarasota, Florida, it carried one of the largest troupes ever assembled at Paramount. A month's shooting schedule was set for Sarasota, winter quarters of the Ringling Brothers & Barnum and Bailey circus, setting of the picture.

For DeMille and some of the production staff, this was not the first circus trek. A year earlier, DeMille and director of photography George Barnes, A.S.C., visited the circus quarters at Sarasota at which time they explored all the problems they might encounter in photographing the production. Problems not ordinarily met on normal locations nor in the studio confronted them — the most formidable, that of lighting. Because the laws of most states now prohibit use of any open-flame type lamp inside a circus or carnival tent, this meant no arcs could be used—that the whole vast tent interior would have to be lit with incandescent lamps. This looked like a discouraging situation until the problem was referred to studio engineers back in Hollywood.

It so happened that at the same time another factor was working in the studio's favor. For some months, Technicolor Corporation had been working on a new low light-level color film which would make possible shooting Technicolor productions entirely with incandescent lighting. They were prevailed

THE CAMERA invariably was mounted on a boom for every shot made inside the circus tent. The big problem always was to keep the camera and equipment from obstructing view of the spectators. An idea of the lighting achieved is also apparent here.

upon to make this new film available for *The Greatest Show On Earth*, the first major production incidentally in which it was used.

With Technicolor's engineers and those of Paramount studio now solidly united toward a common goal of making DeMille's epic picture possible, the company settled down to solving other production problems and getting the picture rolling.

At Paramount studio, Loren Ryder's engineering staff had developed a system of remote control lighting and a new light-weight lamp unit designed especially for the system. These were described in the November issue of *American Cinematographer*. The company was restricted to placing lights on the quarter-poles around the circus rings, but they couldn't send men up the poles each time the position or angle of the lights had to be changed. The answer was a method of remote control, and the method evolved worked perfectly.

"Another important consideration," said cameraman Barnes, "was that all studio lighting units had to go up on the poles first — ahead of the circus lights. This meant our lighting crew had to work fast, integrating its work with that of the circus workers, so that we interfered as little as possible with the business of erecting or striking the tent."

No other color production made by a Hollywood studio posed the lighting problems faced by Barnes in photographing this picture. The biggest problem was light — volume of light. Consider a huge circus tent—a brand new circus tent, navy blue in color — and the fact the entire interior had to be lit during the shooting of most scenes, and you'll visualize what a demand this placed on cameraman and lighting crew.

Once the studio had perfected its new light-weight 5-KW lamp unit, it went into immediate production with it; and by the time the company was ready to begin shooting at Sarasota, there were ample units on hand to fill the lighting demand. This lamp, together with its remote control mechanism, has a total weight of only 32 pounds. The average 5-KW lamp weighs between 60 and 80 pounds. Fifty of the new units were supplied George Barnes for use in lighting the circus interior. The lamps were erected on the quarter poles in clusters of four, and were operable independently — that is, they could be lit or extinguished, tilted and panned individually from a remote control panel on the ground. The method of securing the lamps on the quarter poles was so simplified that they could be hoisted and fixed in place in a matter of minutes. Incidentally, there was no color temperature problems because CP lamp globes were used entirely for lighting.

"Technically," Barnes said, "the production of *Greatest Show On Earth* proved as tough as a steer's horn from lighting to meshing of schedules. We found that a circus must be lighted differently. The camera most of the time was shooting skyward — to catch aerial artists — a forbidden position where overhead lights are involved. With possibly one or two exceptions, we used no lights on the floor — in fact most of the time we couldn't, successfully. So our lighting had to be done with the remote-controlled overhead light units. Because these units also could be adjusted from full flood to spot, it was possible to obtain a wide range of lighting from a single unit, making it unnecessary for us to carry along several types of units. When we had to shoot Betty Hutton doing her trapese act, we made the long shots during an actual show, with the audience in the background. In photographing such scenes, every one of the fifty 5-KW lamps would be lit. Some would be throwing light on the audience, some on the circus floor, while a few would be tilted to light Miss Hutton.

LIGHTING was complicated by the fact that the camera had to look skyward in shooting much of the action. Here Betty Hutton performs on the trapeze for an important scene in the picture.

ONE OF THE few down-on-the-ground camera setups used in filming action during an actual circus performance at Sarasota, Fla. DeMille, in foreground keeps an eye on the players. Jimmy Stewart, dressed as clown, is an interested spectator on the sidelines.

"Closeups and intermediate shots of aerial action were made at Sarasota before the Big Show took to the road, or were made mornings when the show was on the road, before the public was admitted to the big top."

The studio supplied its own power for the lights. Three mobile gasoline-powered generators were shipped to Florida for this purpose and the generators went along with the show once it took to the road. The company put in seven weeks shooting scenes at Sarasota. While the winter quarters afforded ideal opportunity to film much of the picture unhampered by circus schedules and crowds of people, there was much of the action laid in real circus performances that demanded shooting with regular audiences for backgrounds and atmosphere.

"Here again we were met by the

(Continued on Page 522)

TINY DESERT FLOWERS, some having blossoms less than a fifth of an inch in diameter, are photographed by a Moody Bible Institute cameraman for a "Sermons From Science" film.

MUCH of the Institute's film studies are of plant growth or insect activities, for which time-lapse photography is employed.

MOST interesting is film and hydrophone sound recording of deep sea fish, proving fish do have a language of their own.

Science Films For Sermons

Moody Bible Institute productions had beginning in the amateur movies of Dr. Irwin A. Moon. Today, "Sermons From Science" films are screened the world over.

By ARTHUR L. MARBLE

SOME OF THE most intriguing cinematography seen today appears in the 16mm color films produced by the Moody Institute of Science by a little known group in a modest studio not far from Hollywood. Purpose of the films is to bring to non-theatrical audiences little-known wonders of nature to point up the fact they were created by a divine power.

Head of the Moody film production unit is Dr. Irwin A. Moon, an enthusiastic former amateur movie maker and one-time preacher, whose scientific interests have lead him into a wide variety of adventures with a movie camera, such as making sound film recordings of deep sea fish for *Voice Of The Deep*, or going aloft with his camera in a P-38 to film a rain-making project for *Hidden Treasures*.

Prints of Moody science films have been made in 13 languages, and have been screened in all parts of the world. They are a favorite among the men in our armed forces, not only because of their technical excellence and subject matter, but because they combine and present in non-sectarian manner two subjects of universal interest — science and religion. The film production activities of the Moody Institute of Science are sponsored by the parent organization in Chicago, Moody Bible Institute, which trains religious leaders and missionaries for various Protestant and Jewish churches.

Housed in a three-story former Masonic Temple in West Los Angeles, the Moody film studios resemble a modern scientific laboratory. Here is all the equipment — both scientific and photographic—used by the institute to photo-

(Continued on Page 510)

DR. IRWIN A MOON, in diver's suit, prepares to submerge to photograph life in ocean's depths.

RIGHT—Institute-built animation crane makes possible production of animation sequences equalling the best of the professional studios.

THE ARTICLE that begins on this page is the first in a series written by members of the Screen Producers' Guild in Hollywood, and dealing with the producer's view of film making. While the editorial content of American Cinematographer customarily is devoted to the photography of motion pictures, there is increasing evidence that more and more of our readers are vitally interested also in topics dealing with other phases of film production.

For them we hope this series will prove of substantial value. The articles bring to the film maker not only the viewpoints of the producers but reveal a great deal of pre-production planning and activity that precedes actual photography of a picture; and while all this is related to the production of professional films, what Hollywood producers have to tell about their side of the business should prove highly educational for the cinematographer — amateur as well as professional.

The author, Charles Bracket, is President of the Academy of Motion Picture Arts and Sciences, and a member of the Board of the Screen Producers' Guild. Famous for his production of such pictures as *The Lost Week End*, *To Each His Own*, and *Sunset Boulevard*, he is now producing and writing at 20th Century-Fox Studio.—EDITOR.

"AS WE WENT along with 'Sunset Boulevard,' our sympathies became deeply involved with the woman who had been given the brush by thirty million fans. At the end, we had to give her the only happiness we could see for her—the twilight happiness of the mad."

Putting The Picture On Paper

The process of screen writing cannot be driven too hard. It's up to a producer to find writers who, besides knowing their job, are honest and conscientious — for his picture's success depends on what they set down on paper.

By CHARLES BRACKETT

THE PROJECT has been set. It has been determined that a certain novel or play or screen original or idea is strong enough to bear the weight of twelve reels of celluloid. Then comes putting it down on paper.

In speaking of every step down the long line of picture-making, I'm sure my confreres are saying "Here's the place not to economize—here's the spot to shoot the works." About putting it down on paper, I make that statement with the deepest conviction.

There is a story about the early days of picture-making — a nightmare story for writers. A producer had just hired a writer. He gave him a brand new pencil, looked at him with pleading eyes and said, indicating an inch-long stub of pencil, "Tonight down to here?"

The process of writing cannot be driven too hard. It's up to a producer to find that his writers, besides knowing their job, are honest and conscientious. His picture depends on what they set down on paper—"The jokes," as the pages are called, rather grimly, in the studios. Writing is concentration—and if intelligent minds don't concentrate on the picture at this stage, you're going to have nothing.

We producers have been urged to get down to actual cases in this series, to tie up our remarks with pictures you readers have seen and with actual experiences. Therefore, shucking aside all reticence, I'll confine myself to the experience of the writer I know best—me.

As a screen writer, I've never worked alone, and I'm going to discuss the methods of writing scripts Billy Wilder and I used for many years, and which Walter Reisch and Richard Breen and I now use.

That method begins with talk—seemingly endless talk—but all of it directed towards the project. Any story can go in a lot of directions. You have to explore the ones which appeal to you, before you find the one you are going to use. Usually you find yourself with complete outlines for several pictures before you make your final choice. There's one scene you love in one version—another in another version. Can they be reconciled? If not, one of them has to go. It has to be jettisoned completely, not to blur the new line. I call this talking part of the job of filling up the reservoir, and the reservoir should be full to the top before writing begins.

During the talk, the characters have been getting clearer. The only reliable peg I know on which to hang a story is a character. If you can get a central character with real blood in his veins, and strong desires and a pair of feet that really walk the earth, you've got a picture. If you can get such a character

(Continued on Page 520)

Double Exposure

What happens when a first cameraman works under a director who once was a cameraman himself.

By CHARLES WEBB

TWO of the industry's top flight cameramen contributed to the success of Columbia Pictures' "Paula" — Charles Lawton (right) who directed the photography, and Rudy Mate (left) who directed the picture. Star of "Paula" is Loretta Young shown here watching proceedings on the set.

To the layman, the announcement that a director of photography had been assigned to work under a director who at one time had held that job himself, would mean a situation fraught with roman candles.

That was the spot in which Charles "Buddy" Lawton, Jr., A.S.C., found himself when he was assigned as first cameraman on Columbia's *Paula*, starring Loretta Young. He was doubly exposed, first to the usual vicissitudes of getting the action and mood of the drama properly on celluloid, and second to working under a man who knew as much of the technical side of photography as he did. Rudy Mate was to be the director, one of the very few members of the American Society of Cinematographers who ever have forsaken their cameras for a megaphone.

Mate is the product of the silent days of picture-making in Europe. More recently, as cameraman, he has filmed many of the Rita Hayworth starrers, including *Cover Girl* and *Gilda*. His last directorial effort, *When Worlds Collide*, is currently running in London and is said to be the city's biggest hit in ten years.

Lawton has been at Columbia seven years and in that time has been director of photography on twenty-five films, most of them top budget releases. Like Mate, he, too, has photographed Rita Hayworth, in *Lady From Shanghai*. His last prior to *Paula* was *Boots Malone*, starring William Holden.

With that set-up, even the initiated might surmise that anything could happen. Temperaments could clash no matter how careful each man might be to avoid it. That they didn't is a tribute to both the ability and the stability of each man.

Having exposed what the layman might think of the situation, what did each one of these workers think?

Says Lawton: "Although in the broader sense, first cameramen of necessity must follow a certain routine procedure, still, every one of us has developed his own way of doing things. I've known Rudy well over the years. He's a fine fellow, a great cameraman and director. However, I suppose it was only natural for me to wonder a little if my work was going to please him, dovetail with his ideas and

(Continued on Page 512)

ONE REASON Mate and Lawton proved to be such a cooperative team during the filming of "Paula" is the fact that they held many pre-production conferences before actual filming began.

"RIGHT FROM the start," says Lawton, "Mate and I were in perfect accord about how the camera and lighting should express the mood of this human, emotional drama."

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CO-DEVELOPERS of a new electronic device that makes possible the inscribing of motion pictures on tape like a sound recording are Wayne R. Johnson (left) and John T. Mullin. They're looking at an ordinary television tube by which the picture is received. System was shown to press in Hollywood recently. (Acme Newsphoto)

Motion Pictures On Tape

Magnetically recorded motion pictures, demonstrated publicly in Hollywood for first time, promise big changes in the production of TV and feature films.

By FREDERICK FOSTER

THE PRODUCTION of motion picture images on magnetic tape is a subject which you will be hearing and reading about a great deal from now on. Some idea of its possible impact on the motion picture industry is contained in an editorial on the subject by W. R. Wilkerson in his trade paper, *Hollywood Reporter*, for November 15th, part of which follows here:

"Want to do a little guessing on the TV-motion picture problem as it pertains to production, distribution and exhibition?

"Here's a picture of things to come, part of which is already past the experimental stage, the remainder to be put on the planning boards before another year rolls by.

"In the not too distant future, theatres all over the world will be able to turn on a switch and receive their picture programs, via closed air waves, broadcast direct to their screens from the production stages here in Hollywood, a main broadcasting plant elsewhere, or many others in important distribution sectors.

"There won't be any projection booths, there won't be any film exchanges with their shipping departments and film examinations because there won't be any film. The motion pictures of tomorrow will be on tape and the exhibitor will get his shows, not out of cans via American Express, but from the ether waves. Instead of running a single picture for a day or week or longer, he will have a different picture every two or three hours and every theatre within his part of the country will be running the same program.

"Sounds fantastic, doesn't it? Half of it's guess, the other half real.

"Tape recording of sound and images is already here. It's just a question of perfecting the medium. Once that's perfected, it's then only a question of working out the details of closed circuits for TV and lining up the theatres, which will, of course, eliminate quite a few, and get them equipped for the reception of their pictures over the air to complete the whole scientific revolt."

The production of motion pictures on magnetic tape, about which Mr. Wilkerson wrote, moved a step nearer to reality last month, when Bing Crosby Enterprises, Inc., in Hollywood demonstrated for the press its electronic filming system. This is a method by which both picture and sound are recorded magnetically on tape for motion picture theatres and television. At present, the Crosby development is concerned mainly with its application to television — a business in which Crosby Enterprises is already pretty well established, using conventional motion picture mthods.

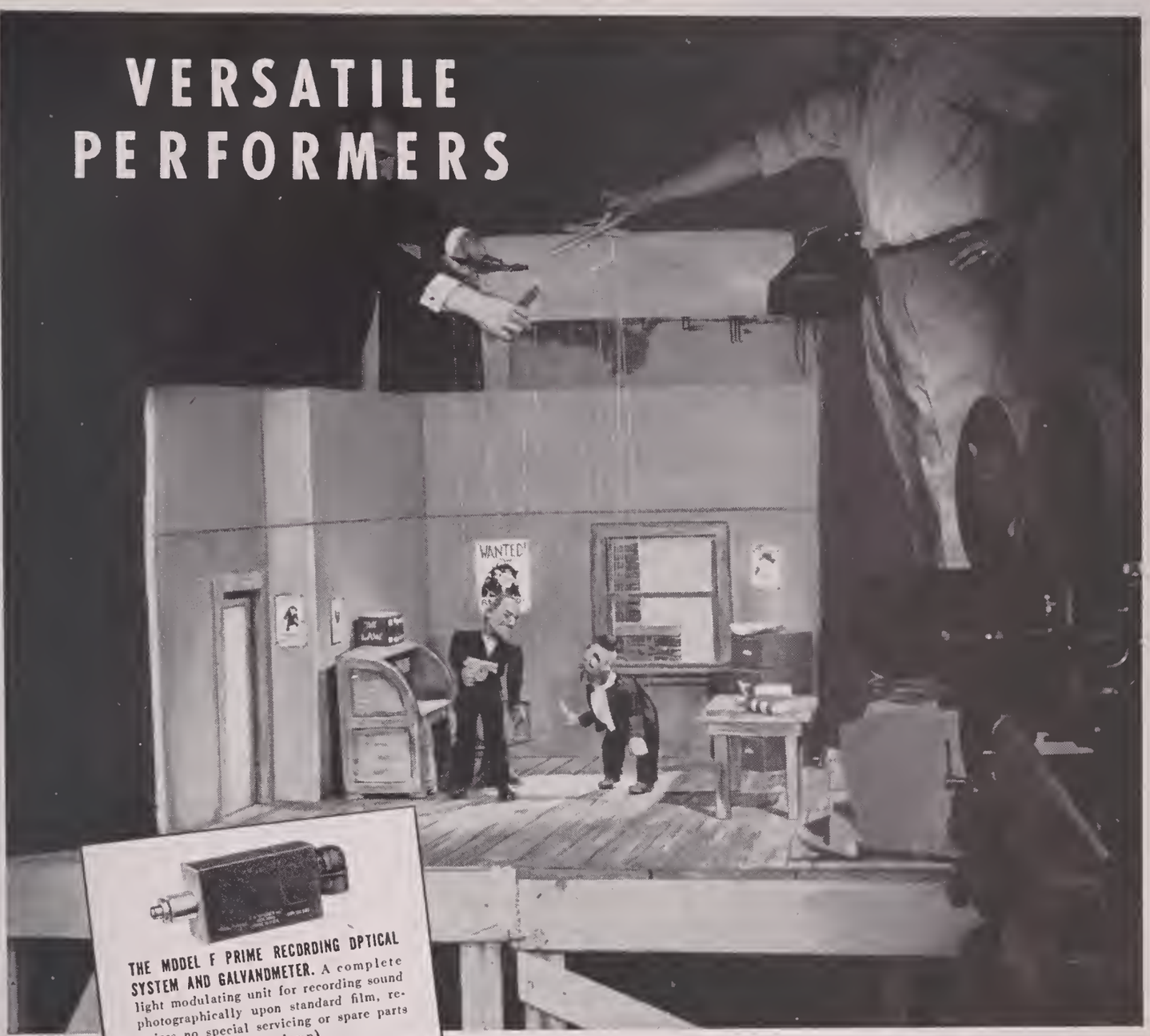
In the demonstration, a new magnetic recording head capable of absorbing pictures, sound and color on a single plastic tape, took pictures off a home television receiver of a motion picture film being televised. The head transmitted the images onto a quarter-inch magnetic tape for rebroadcast later. Images in the rebroadcast were fuzzy but comparable to results obtained with early TV receivers.

The inventors, John T. Mullin and Wayne R. Johnson, who developed the new magnetic recording head under the supervision of Frank Healy, head of Bing Crosby Enterprises' electronics di-

(Continued on Page 517)

THE BRAIN or "lens" of the electronic device is compared in size with a half-dollar. No optics are used in the new electronic "camera."

VERSATILE PERFORMERS



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Trick Effects In TV Commercial Films

Video spots benefit from those cinematic techniques that compress compelling action fully and effectively within the limited time allotted television commercials.

By JOHN H. BATTISON

Author of "Movies For TV"

THE FORMAT of the short television commercial film differs from that of the theatrical film mainly in that the whole object of the film is to promote or sell a product or service, frequently by repetitious presentation of its image. The object, of course, is to plant in the mind of the viewer both the trade-name and utility of the product quickly and impressively. Trite and corny cliches must be avoided(and almost any visual demonstration can become a cliche) as must exaggeration. There must be a measure of entertainment or educational value in the TV spot film — yet not to the extent that the viewer is so busy enjoying the presentation that he forgets the product, and more — to buy it!

As a general rule, therefore, TV commercials are more effective as well as cheaper to produce if they are simple. Yet sometimes the briefest of commercial spots are the most difficult to execute. One, which the author calls to mind, had to do with a popular brand hair dye and involved a "before and after" demonstration. Altogether it consisted of sixty seconds of film, opening and closing with animation, and with the live-action demonstration in between. The latter involved appearance of two women, one at a time, showing their hair while the narrator extolled the virtues of the dye. We used the split-screen technique in photographing the models — a matter which presented something of a problem. The presentation called for a grey-haired woman to appear on one side of the screen watching her "double" apply the product which gradually transformed her grey hair into a beautiful lustrous dye job. The procedure had to be telescoped into the brief space of fourteen seconds.

Our first thought was to fake the "transformation," using a pretty brunette for the model and powder her hair with zinc sulphate to give it the appearance of grey hair—then wash it out to give the appearance of dyed hair results. However, the client's insistence for complete honesty in the presentation as well as possible conflict with the Federal Trade Commission rules, precluded our following such procedure. So we sent out a call to the casting offices and tested models from more than a hundred talent agencies before we found the right woman for the part—grey-haired and willing to undertake the dye transformation.

We had to be particular both as to model and the dyeing procedure, since the preliminary takes of the dye process had to be good. If they were not, we were in trouble because we couldn't "undye" the model's hair and begin all over again.

Readers may find interest in the manner in which we photographed these split-stage scenes. The camera setup is shown in the accompanying photo, and while much of the detail is obscured by the two men in the foreground, the photo shows the camera, with a black cloth partially covering its matt box, and the large sunshade some distance in front of the camera one-half of which was masked off for the split-stage effect. The model is seated at the right, beneath the studio lights.

The camera was rigidly secured on a tripod to insure against even the slightest movement during filming. Ahead of it the large frame or sunshade was masked off across the diagonal of the opening with a large black card. This was very carefully aligned so that it cut off exactly one-half the picture frame. The "before" shots were made with the left side uncovered, and the "after" shots on the opposite side.

To complicate matters, the producer's script called for the camera to dolly out during the filming of the "before" shot, and to dolly in on opening the "after" shot. Because this would mean disturb-

SETUP employed by author in photographing a hair dye demonstration for a TV spot, using split stage. Obscured by technicians in foreground is large frame covered by black cloth and forming a giant matt box. Large black card in front masked one half of the frame area.

ing the rigid setting of the camera, so necessary to making the split-stage shots in the camera, we resorted to the alternative of "dollying" our subject. This was done by placing her on a chair mounted on a camera dolly, and having a grip move the dolly as required.

Although the "before" and "after" procedures were filmed split-frame, each procedure was photographed on a separate strip of film, then combined in the final printing to insure accuracy in matching up the two areas in the film frame. It would have been possible, of course, to shoot the two sequences on a single strip of film by using a camera provided with a masking slot behind the film. Our main reason for not following this method was to insure success of the production and avoid the necessity of having to do it over. In other words, were we to shoot the "before" sequence, then wind back the film and shoot the "after" action on the other side of the film frame, and that action was flubbed, we would then have to start all over again, beginning with the "before" sequence. The professional producer of commercials with his costly production time, simply cannot gamble with such methods even though they are reasonably productive of success.

While we are on the subject of commercials for hair treatments, it is interesting to note still another innovation which we employed in the production of a spot announcement for a popular brand shampoo. We call it the "product wipe" and involves the old familiar-wipe-off procedure briefly popular in professional films a decade ago. We simply made a thirty-two frame wipe with a bottle of the sponsor's product, wiping over the frame from left to right. The first scene showed hair dingy and drab. The scene following the wipe revealed the model's hair glimmering and smartly dressed after use of the sponsor's product. Optical effects such as this play a large part in the production of effective TV film commercials. END.

ROLE OF motion pictures in Television is reviewed in a recent issue of *Highlights*, Eastman Kodak publication for stockholders. The article states in part: "At least 30% of all TV programs now on the air are on film. This percentage, moreover, is rising as the advantages and methods of using films become better known.

"For 1951, TV will use an estimated 300 to 350 million feet of motion picture film. Most of this will be black-and-white 16mm film; the rest 35mm . . . Interestingly, a number of producers are currently shooting TV films in color. These are printed in black and white for telecasting now. But, when needed, they'll be ready for use again on color telecasts."

Television Film Production

By LEIGH ALLEN

Desilu Productions has returned to standard motion picture practice for photographing and editing the weekly *I Love Lucy* film for television, which is filmed by Karl Freund, A.S.C. Previously, the company employed a cueing system and a multiple camera setup.

•

Prockter Syndications International is newly organized company which will syndicate film programs for television. Major portion of company's activities will be devoted to domestic and foreign distribution of film programs created by independent producers for television stations and local advertisers.

Andrew Jaeger, company V-president stated that the future of film packages is being challenged by the problems of local TV stations. Their big needs are film packages of acceptable quality at realistic prices. Most of them can only by film properties, he says, if their sales departments actually have a sponsor ready to pay the freight of the package because of the high price structure.

The development of film packages which can be sold at a price which will enable the stations to buy them for sustaining as well as commercial use is essential, Jaeger pointed out.

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Stock shot footage—over 2,000,000 feet of it—is now available to producers of TV films. Ben Pivar & Associates, at Hal Roach Studios, recently acquired controlling interest in the Independent Film Library, and will make stock shot footage available to telefilm industry.

•

Official Films, originally reported in a TV film production tieup with Jerry Fairbanks, reportedly has completed negotiations with Hal Roach, Jr. which will result in creation of the largest TV film production company in the country. Four shows are planned for immediate production.

•

The Film Industry has become an integral part of Television, according to Frank Orme. Writing in the September issue of *TV*, Orme says that more than 100 television film producers are active in Hollywood at this time. "Next year," he says, "TV film production will be a $100,000,000 baby." Millions of dollars have been made available for telefilm production, with investors basing their confidence on the independent station market, he says. "Completely without cooperation from the major film companies a TV film industry has sprung up in Hollywood which is already producing a greater volume of film than in the entire theatrical film industry . . . Eventually every major film company will be in the television business."

•

The Association of Documentary and Television Film Cameramen has announced new wage scales now in effect, as follows: cameramen, $62.50 per day, $225 per week; soundmen, $35.00 per day, $150 per week; assistant soundmen, $28.00 daily, $120 per week.

•

At least eight factors causing degradation of picture quality in kine-recording for television have been identified by Radio Corporation of America technicians. Factors, which cause loss of detail, distortion of the gray scale rendition, and increase of noise or graininess in TV film are listed as faulty scene lighting, poor handling of the studio camera, improper adjustment and maintenance of levels in the circuitry associated with the recording monitor, optical and mechanical losses introduced into the system by equipment components, and the film size and processing methods.

RCA believes little improvement in photographic processes can be expected under present conditions, but that an increase in kinescope brightness or the introduction of a new film emulsion might make changes in processing desirable.

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Filmed commercials for the Red Skelton show are now being turned out by Desilu Productions, with Karl Freund, A.S.C. at the camera. The commercials are virtually complete productions in themselves, running several minutes on the screen, and have the same high directorial and photographic quality that characterizes the *I Love Lucy* series of TV films, which Desilu also produces for Phillip Morris cigarettes.

TV Film Quality

Most film that is good for television use has employed a restricted scene brightness range. This does not mean "flat" studio lighting. All accent lighting used so effectively by Hollywood can and should be retained. But the ratio of that light to fill light must be reduced. Again it becomes a problem of fitting the scene into the final print densities which can be faithfully reproduced.

—*Journal of S.M.P.T.E.*

The Making Of A Prize-Winning Film

John Cowart, whose 'King Bookie' was a Top Ten winner last year, credits American Cinematographer articles for helping him along the road to success.

By JOHN FORBES

Photos courtesy Atlanta Journal-Constitution Magazine

JOHN F. COWART, Atlanta amateur and winner of one of Top Ten trophy awards in last year's American Cinematographer Amateur Movie competition, used a Bolex H-16 in filming "King Bookie," 600-foot 16mm black-and-white thriller.

COWART's flair for dramatic lighting is shown in this shot of two of the bank robbers in "King Bookie"—one trying to force a confession from the other who has double-crossed the gang and re-stolen the money.

SKILLFUL lighting again is demonstrated in this shot of the robbers at work rifling the bank vault. An Atlanta bank manager kindly consented to the use of bank's interior by Cowart and his company for filming the realistic robbery and get-away scenes.

TRAINING HIS SIGHTS on his third American Cinematographer Award in a row is John Cowart of Atlanta, Georgia. If he accomplishes his aim, he will probably be the only amateur cinematographer on record who will have won three national awards with his first three amateur movies.

Cowart's first attempt at making movies was a pretentious drama running 600 feet in 16mm black-and-white titled *Midnight Rendezvous*. He entered it in American Cinematographer's 1950 Amateur Motion Picture Competition and won an Honorable Mention certificate. When he commenced production of *Midnight Rendezvous* he didn't even own a cine camera. He rented one from a local camera store and prevailed upon his friends to act out the mystery drama which he had written himself.

Encouraged by the recognition his initial effort received, Cowart decided to make another picture for AC's 1951 competition. When the votes were tabulated by the panel of judges in American Cinematographer's competition last year, Cowart's film, *King Bookie*, was among the Top Ten receiving gold trophy awards.

King Bookie is a "John F. Cowart Production" all the way. It was authored by John Cowart, directed by John Cowart, photographed by John Cowart and edited by him.

When he set out to make *King Bookie*, Cowart resolved to enlist those of his friends capable of rendering the most professional acting performances. His first production had taught him that good acting is nine-tenths of the success of a dramatic amateur production.

Truman Haygood, Delta Air Lines statistician, assumed the role of King Bookie, an underworld boss. His ace gunman was Joe Wray, a teenager whose performance is equal to the best of any of the Dead End Kids'. Olive Bell Davis, feature writer on a local newspaper, played the gun moll, and Bob Smith played an accomplice of Miss Davis in crossing up the bank robbers by stealing the money from them.

Despite the fact it's a gangster story, it's a very clean movie. The gangsters smoke a lot of cigarettes, look real

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'Metamorphosis' — Cine Thriller In 16mm Sound

Imaginative treatment and skillful photography enhance 16mm sound film production of Michigan college group.

By WILLIAM WEIGAND

FOR A REALLY heartening answer to those mourning the apathy and inactivity among cine amateurs in this country, one might take a look at the activity in Ann Arbor, Michigan. A group there, known as the Gothic Film Society, with limited experience in the field of serious cinematography and even less plentiful financial resources, have undertaken and recently completed a full-length 16mm sound production of Franz Kafka's famous short story, *Metamorphosis*.

The finished production is not only interesting from the standpoint of what can be done on a shoestring budget, but also because the nature of the film called for a number of rather novel approaches to the photography.

The guiding spirit behind Gothic, William J. Hampton, is

"METAMORPHOSIS" concerns a man turned into a cockroach and the horror experienced by himself and his family. To achieve a "bug's-eye' view of most of the action, the camera was mounted on a homemade three-wheel dolly.

CAMERAMAN Paul Meagher partially costumed as a giant cockroach, prepares to shoot a closeup of his body as seen by the insect. Directing the proceeding is William Hampton.

CAMERA OPERATOR Charles Elliott prepares the dolly-mounted 16mm Maurer sound camera for a low angle shot. Actual sound was recorded on magnetic tape.

CAMERAMAN Meagher is seen here using finder of his Bolex to line up a shot under guidance of director Hampton.

ELLIOTT straps bug costume on Meagher as Hampton discusses movement of camera in shot about to be filmed.

TYPICAL of the fine lighting in most of the picture is this scene of horrified maid and the mother of victim.

a teaching fellow at the University of Michigan who had already experimented with several brief features. Hampton went all out rounding up the talent needed for *Metamorphosis*. Paul Meagher, his family dentist, and a Michigan alumnus, was the first and most enthusiastic recruit. A long-time camera bug, Meagher did almost all of the photography for the film. Entirely apart from any University of Michigan auspices, the society enlisted a group of semi-professional actors for the cast, secured a shooting script from a couple talented student writers, and got a complete original music score from a young composer at the university.

The story they wanted to tell was that of a young man who awakens one morning to find himself transformed into a gigantic cockroach. Losing none of his emotions or human intelligence, the man's reactions to his family and their strange relation to him are part of the strong psychological impact of the story. As conceived by Hampton, the film was to capture the element of horror without losing the matter-of-fact, almost documentary, style of Kafka. In other words, although the story is in itself fantastic, the mood of the photography must be straightforward and at the same time, somehow distorted.

The distortion to achieve this mood was needed particularly since the cockroach himself, with the exception of one brief moment, was not to appear on the screen. The limited budget made an artificial cockroach that was mobile and realistic practically impossible. Hampton therefore decided to employe a camera-eye technique in the manner of Robert Montgomery's *Lady in the Lake*. In this case, however, the eye of "the hero" is for the most part only about eighteen inches above the floor. The camera, hence, must move in this plane for most of the shots. In this manner, the wide angle of the perspective naturally creates a certain distortion without affecting the material reality of the objects photographed —a reality important to the documentary quality.

Also, by this technique, an audience identification with the human qualities of the insect are preserved. During the course of the picture, for example, the insect is injured several times, and his eyesight is affected. The camera was thereupon intentionally thrown out of focus for these sequences, forcefully recalling the human agent behind the lens.

For the dialogue sequences, the Society was able to rent from the University a Maurer 16mm camera with synchronous motor drive. Recording of sound was done with a Reeves sprocketed-tape recorder. A rubber-tired dolly was specially constructed on which the Maurer was mounted with the lens the required distance above the floor. Cameraman Meagher lay on the dolly and did most of the actual photography in that position. Assistants moved the dolly from behind when the script called for the "cockroach" to move along the floor.

The construction of the dolly called for several revisions. At first, uneven wheels were attached to the axles to obtain an irregular rocking effect. The early rushes, however, proved that these shots were extreme and, despite their jarring realism, were more likely to make an audience seasick than entertain them. The dolly was rebuilt and provided with a single wheel in back rather than two, and the movement secured with the three-wheeler proved just shaky enough to suggest a sidewise motion without wreaking havoc on the stomachs of the audience.

It very soon became clear, however, that a solid diet of shots from the low, floor angle would grow increasingly monotonous for seventy-five minutes. Besides that, the script called for the cockroach to perform at other levels. In one place, for example, he is called upon to roll himself out of bed. Later, he must climb upon a chair to turn a doorkey in its lock. Finally, he crawls about on the walls and ceiling.

Undeniably, these could be exciting effects. However, no eighty-pound professional camera could be managed in such gymnastics with the equipment available, so Meagher decided to film these shots with a hand-held Bolex. The drawback, of course, was the capacity of the camera, since no more than a hundred feet of film could be shot at a time.

With care, however, Meagher managed to finish each of his twenty-second runs either on a fast pan or on an anonymous section of the ceiling or door. This permitted him to reload and continue without perceptible effect in the projected print.

A transfer of cameras in mid-scene was involved in one sequence. Meagher was here called upon to move the "cockroach" from the floor to the seat of a chair, then reach toward a key to unlock a door. When the Maurer was focused on the dark chair seat, he quickly shifted to his Bolex and moved it easily to the lock. Here he abandoned the viewfinder and adjusting the focus by hand, rotated the camera in a nearly

(Continued on Page 508)

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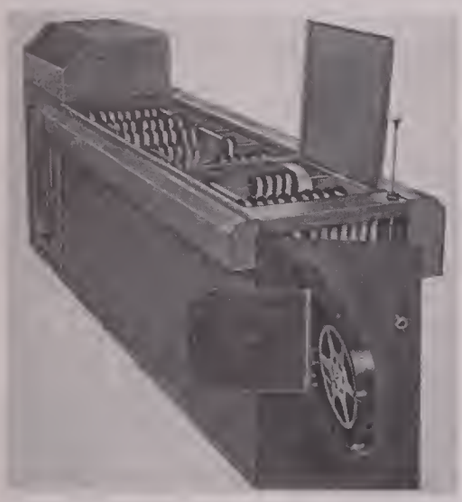

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By JOSEPH RUTTENBERG, A.S.C.

FOR A LONG TIME, cameramen have yearned for a form of calculator, or slide rule, that would supply answers quickly to the several purely mathematical problems which confront him daily both in and out of the studio.

Such a need finally has been supplied in the Kelly Cine Calculator. Designed by W. B. Pollard and Skeets Kelly, British cameramen, the calculator is both accurate and capable of supplying answers to a great number of problems of the cinematographer.

The large amount of information carried on the calculator, its portability, and its clear scales in red and black, make it easily readable at a glance.

The calculator is virtually a slide-rule in disc form. Two rotatable plastic discs, about 4½" in diameter, are mounted together by means of an eyelet in the middle. Printed on one side are scales giving the hyperfocal distance and depth of focus for seven lenses: 25, 28, 35, 40, 50, 75 and 100 mm focal length. The range covered is from f/2 down to f/11 and from infinity down to 2 feet. These distances and apertures can be found quickly and easily by a twist of the outer disc. On the reverse side is another set of seven calibrations, as follows:

(1) Film used per second, 16mm and 35mm in both metres and feet.
(2) An aperture scale from f/1 to f/32 in thirds of a stop, plus equivalent Technicolor stops from T1 doubling to T64.
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(5) Camera speeds expressed in times normal from 1/24 times to 16 times and also in frames per second from 1 to 384.
(6) Incident Key light in thirty-one steps from 12 to 12,800 foot candles.
(7) Field of View calibrations for 14 lenses of focal lengths ranging from 24mm to 200mm at all distances from 1 foot to 500 feet.

Normally, all the information carried on the Kelly calculator would require something like forty pages of printed matter if set up in booklet form. In the compact slide-rule form, which easily fits pocket or billfold, this new accessory it bound to find wide acceptance by cameramen everywhere.

Its accuracy is assured by the fact its designer also holds a B.A. degree in applied mathematics. Several cameramen nevertheless, have undertaken to prove its accuracy themselves. Invariably the Kelly calculator gave slightly different answers than those appearing in some reference books, but, on working through these particular calculations, it was found that the calculator was in every case correct.

EXAMINING the new Kelly Cine Calculator, developed in England as an aid to cameramen, are Joseph Ruttenberg, A.S.C., and his assistant, Ted Voigtlander.

I have already put the calculator to use many times and the benefits derived are sufficient to warrant passing the news of this new accessory around to others.

There is a 16mm version of the calculator for 16mm cameramen, too, and it seems to me it will do for him all that is claimed for it.

At present, the Kelly calculator is available only in England. It's priced at 2s. plus postage, which is roughly $3.60. It is being distributed by the British Society of Cinematographers, 59 Sloane St., London, S.W. 1, England.

"METAMORPHOSIS"

(Continued from Page 507)

complete turn to represent the cockroach's mouth turning the key in the lock. The ceiling and wall shots were taken from different heights on a ladder, or along a plank laid between two ladders.

The trickiest shot of all also remained for execution with the Bolex. Hampton, from the beginning, hoped to incorporate some visual evidence of the cockroach into the picture. That is, if the cockroach could once look down at his own body, the visual picture of it was bound to be worth a thousand words.

To achieve this a long latex bag was made and constrictions sewed into it.

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It was inflated and enameled on top to give the appearance of an insect's segmented belly. The "legs" were fashioned from wire brushes tapered to a point and fastened to the body, so that they would quiver lightly at a touch.

Meagher, who is not very large himself, strapped the contrivance over his legs, lay down on a bed, and panned across the ceiling with the Bolex to represent the first moments of the insect's awakening. As the camera then comes downward, the "eyes" record the instant horror of what has happened to the body. The shot, of course, lasts only a few seconds, but the high gloss on the body and the odd quivering of the legs prove doubly effective for the brevity of it.

Since all the scenes were interiors (the Society used two large rooms in an old Ann Arbor house), Hampton also decided to shoot two framing sequences in order to give the picture still more variety. That is, he would include an opening and closing scene (the former before the titles) which would be apart from the "insect's eye" technique employed the rest of the way. These would take full advantage of the usual privileges of the omniscient camera including close-ups.

The working hours of the Society added to the production problems. Be-

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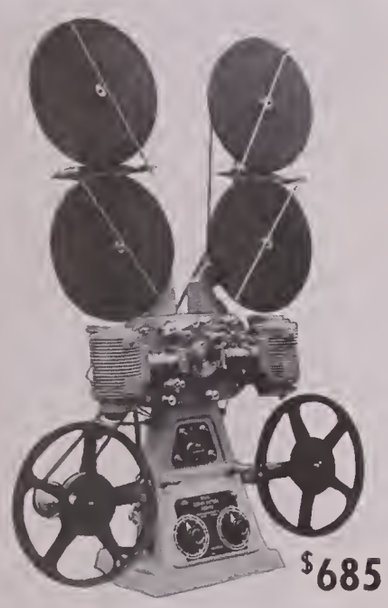

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cause the house was on a busy street, sound shooting was confined to the quieter hours — late at night, or very early morning. Most of the windows had to be draped constantly to keep out the glare of a supermarket across the street, and use of arc lighting units was not pemitted by the local power company because of the house's antiquated wiring system. The subdued shadows, the contrasting blacks and whites, however, added greatly to the mood of the picture. Natural morning light served well for some of the bedroom scenes.

Sound recording also was a problem. Although the rooms were soundproofed as much as possible by hanging sheets and blankets on the walls, the movement of the dolly often became audible on the sound track, and these scenes had to be reshot. We found that certain sequences, which were scheduled to be shot with sound, could be done silent merely by keeping the heads of the actors above the top of the frame. That is, the camera, as the cockroach's eye, could be placed far enough beneath the bed to make the angle of shooting reach only to the actor's shoulders. The dialogue could then be recorded later with no need for lip synchronization. For those scenes that required lip-synch, the home-made blimp first used was found defective and a regular professionally-made blimp had to be rented.

Editing the film became the last crucial step in the campaign for real variety in the cinematography of *Metamorphosis*. Monotony in the story of a cockroach's existence could not be paralleled by monotony in the photography of a film version of this life. Consequently, where successive scenes seemed too similar either in angle or lighting, they were spaced further apart in the final print (where the plot permitted). Occasionally, they were drastically cut in order to begin or end with some calculated effect. In one case, one hundred feet of film, mistakenly double-exposed proved almost unbelievably valuable for a kind of "summing up" or "memory" sequence near the end of the picture. Further footage was shot around this bit in order to point it up. Most of these changes from the original story line, it developed, increased the significance and added to the impact of the Kafka tale.

Metamorphosis will receive its world premiere in Ann Arbor sometime before the first of the year. Although William Hampton's experience with sound movie making has been confined to a single previous effort — a thirty-minute satire, which received friendly notices from Detroit critics—he, along with his associates in the Gothic Film Society, hopes this later feature-length production will serve as a stepping stone to bigger and better 16mm sound productions. If nothing else, it proves that a group of amateurs working collectively, and following professional procedure, can turn out worthwhile amateur films.

SCIENCE FILMS FOR SERMONS

(Continued from Page 496)

graph the creatures, plants, etc., that are the subjects of films in the *Sermons From Science* series.

The Moody film project had its beginning seven years ago when Dr. Moon, then a Los Angeles pastor and amateur movie maker, started making 16mm movies of natural wonders which he could use to illustrate his sermons. His home became a small film studio, and here he conducted some of his very first scientific filming experiments, such as photographing the growth of plants by interval microscopic photography. Then he made a detailed motion picture study of the life cycle of the Swallotail butterfly, using the same methods and equipment. These and other subjects made up his first half-hour Institute film, *God Of Creation*.

In the early days of the institute, necessity frequently became the mother of invention for Dr. Moon and his associates. Obliged to operate on a low budget, the film makers were constantly seeking ways of making a little of the budget cash go a long way.

Whereas most instructional films begin with the preparation of a shooting script, Dr. Moon and his associates have found that, for their type of films, prepared shooting scripts are impractical. This is because when they start on a new *Sermon From Science* film, they never quite know what sequences can be secured and included in the narrative.

As individual scenes grow into sequences, these in turn are represented by a series of color sketches which are arranged in logical order on a story-board at the studio, a practice established in the production of animated cartoons. The story-board provides an excellent outline for story conferences and enables the production staff to visualize the development of the story line.

Whenever the camera crew is out on a filming expedition, the project has a two-fold aim: to secure the shots planned for and also to photograph any subject matter which might be used in

a future production. Sometimes, when shooting "on location," Dr. Moon or one of his cameramen will stumble on to some unusual creature or plant having a basic idea for another science film subject. The initial shots, when studied on the screen, serve in developing a complete new subject. In one instance, when the company was on the desert shooting scenes for the life-cycle of the Gila monster, an opportunity to shoot a number of studies of rattlesnakes presented itself. This footage has since been catalogued and stored for future use. Members of Dr. Moon's staff have been trained to observe the world about them when out on location, and to recognize and film objects having potential value for the type of films which the Institute is dedicated to produce. The valuable stock shot library which has been built up as a result of this practice contains thousands of feet of natural history and science subjects in 16mm color.

The *Sermons From Science* series has been filmed under conditions that often would have discouraged many professional film producers. Most of the features have been made on a budget of $30,000 or less and with a staff of a dozen workers, all of whom share Dr. Moon's enthusiasm for the work. Where professional equipment has been lacking, the company improvised or adapted existing equipment to their needs. Once, when an animation crane was required, the fifteen to twenty thousand dollars needed for a standard professional model was not available; so the Institute's staff built one, using two machine lathes and other miscellaneous parts.

Much of the Institute's electrical equipment, including the power generators, are adaptations of war surplus equipment. It is estimated that cameras and other film production equipment now owned by the Institute has a value well over $100,000.00.

A great many of the Institute's most interesting subjects have been made by time-lapse photography, much of it highly magnified. For this, automatic timing devices are employed which are so synchronized that when single-interval exposures are to be made, the object is lighted momentarily by stroboscopic light. This method, instead of the conventional photolamp illumination, has been found more successful in the photography of insects and other living creatures. The short-interval illumination creates no disturbing heat and thus does not cause abnormal reaction in otherwise natural action of the insect subjects. It has been possible to successfully photograph some subjects with this light at 64 frames per second, using an exposure of F/22.

Among the interesting time-lapse studies observed in course of filming at the Institute studio was that of the life

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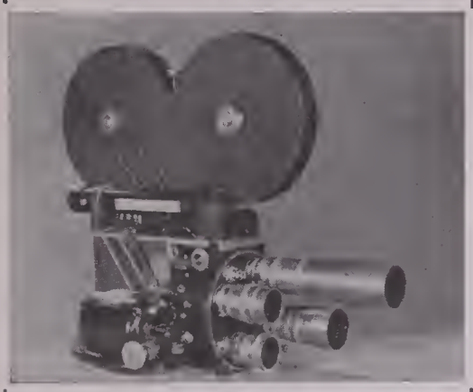

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of the trap door spider. The spider and his subterranean home had been moved intact from a distant field and into the studio. Here camera and lights were trained upon it to record action that showed in extreme closeup how the spider emerges from and re-enters his quarters. For those who are not familiar with a trap door spider's nest, it consists of a hole in the earth about an inch in diameter. Over this is a cleverly designed earthen lid which the spider fashions from mud. The lid is hinged to the nest opening by a web of fine silken threads. To emerge, the spider merely applies pressure to the door and exits. On re-entering, he lifts the door with his feet, and it closes behind him. So cleverly is the earthen lid designed that, when closed, it is difficult to distinguish from the surrounding ground.

In order to capture the spider emerging from the door of the nest photographed on the stage, the trap door was wired to trip an electric switch that turned on the photolamps at either side of the camera, at the same time setting the camera in motion, also. The camera continued exposing film until the spider re-entered his trap. When the door was closed, contact with the lights and camera switches were automatically cut, turning off both.

The Institute does all its own sound recording. Adjacent to the main photographing studio is the recording room. Here is a battery of four Stancil-Hoffman magnetic recorders. As most of the recording consists of narration—usually by Dr. Moon himself—the recording arrangement is similar to that found in most sound recording studios. Facing the control room, Dr. Moon observes the film being projected onto a small translucent screen. Thus, without turning away from the screen, he can follow directions of his sound engineer.

As a result of the wide acclaim given the *Sermons From Science* films, the Moody Institute plans to increase its staff in order to step up production from one feature film per year to four. This means considerable expansion of its present studios—perhaps newer and larger quarters. Still another project which forces the Institute to plan enlarging its studios is the demand for film strips to augment its films. Already these are being produced by an interesting method whereby 16mm frames of the original film are blown up to 35mm — the accepted standard for film strips. END.

DOUBLE EXPOSURE

(Continued from Page 498)

methods of photography.

"I am of the 'blue light' school, that is, all light on the set is balanced to the color temperature of daylight and all incandescent units are used in conjunction with the MacBeth filter. That's unorthodox. Most cameramen, including Rudy, use yellow incandescent lighting for interiors and blue for daylight. However, I believe that my theory gives more brilliance to the setting because it filters out the red, and I have found that method best for me.

Says Mate: "I was very pleased when I learned that Buddy was to be my director of photography. It always has been my belief that the selection of first cameraman should be just as important to a director as story and cast. He can either make or ruin a picture. In the motion picture, it's a means of self-expression equal to the other arts. Now, as a director, I find that my experience as a cameraman is of inestimable help.

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CHARLES E. PERCY, president of Bell and Howell Company, takes movie of Donna Reed, star of MGM's "Saturday Hero" with one of the first professional movie cameras built for Hollywood in 1907 by Bell and Howell. The occasion was the presentation of the Society of Motion Picture Art Directors award to Bell and Howell for outstanding design in their new "200" 16mm magazine load amateur movie camera.

It aids me in making schedules, estimating costs, even in selecting a cast."

To all that, Lawton is in full accord. Instead of any temperamental clashes with his director he found that his entire work was simplified.

"Some directors just don't know what a cameraman is up against," he says. "That, of course, is understandable. They've never done it themselves. The toughest directors to work with on that score are those fresh from the legitimate stage. Everything is different for them. I remember once when such a director told me, 'I want this scene to be very dark. Have the characters barely visible.' That's the way I lighted it. Then he told me, 'No! . . . No! That's far too much light.' I tried to explain to him that if I cut down any more, nothing would appear on the film. But he insisted. When he saw it in the dailies, he apologized and from then on believed my technical skill was better than his. But the scene had to be re-shot which cost time and money. Still, directors aren't the only ones who have been guilty of this, either."

One reason why Mate and Lawton proved to be such a cooperative team during the filming of *Paula* was the fact that they had many conferences before a camera was turned.

"Cameramen are all perfectionists," says Rudy. "Before I stepped on the stage, Buddy and I plotted all our scenes. That made for fewer delays and less snap decisions to make on the set. Right from the start, we were in perfect accord about how the camera and lighting should express the mood of this human and emotional drama.

"The lighting for *Paula* presented a problem. A great part of it was filmed in interiors which instead of high walls and no ceilings, had ceilings and walls just like any ordinary room. Contrasting with this, there was our location in the General Petroleum Building which had very high walls and ceilings. Lighting in both entrances had to be done from the stage floor without the aid of lights on a catwalk above."

Although Lawton recognizes that these were serious hurdles to overcome, he says that this film has been the most enjoyable picture he ever has photographed and gives credit to Mate.

"Rudy never once interfered with my work," he says, "like so many other directors are wont to do. The whole camera crew agrees that he's wonderful to work for. Take Frank Carson, my operator. It's easy to make a fluff on a complicated dolly shot. Just like an actor goes up on a line. So, of course, Frank eventually made one. When an operator does that, I've heard many other directors get very sore. Not Rudy. He knows how easy it is to make such

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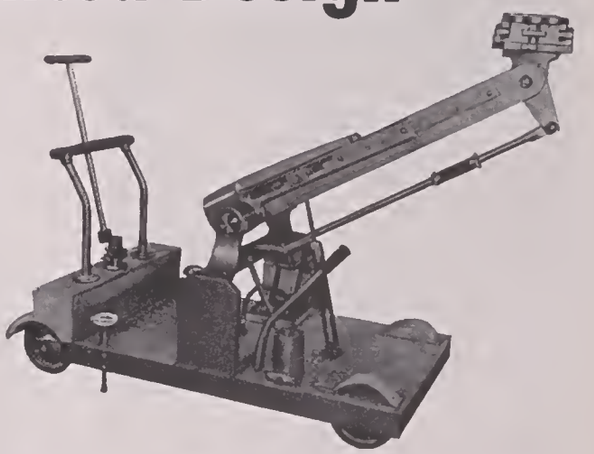

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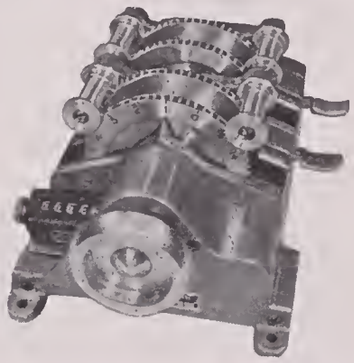

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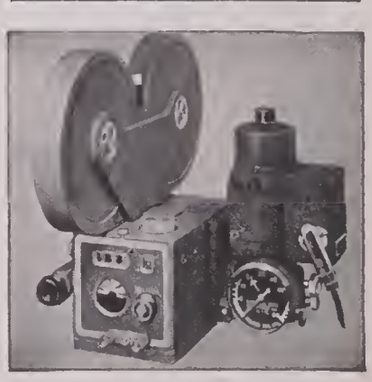

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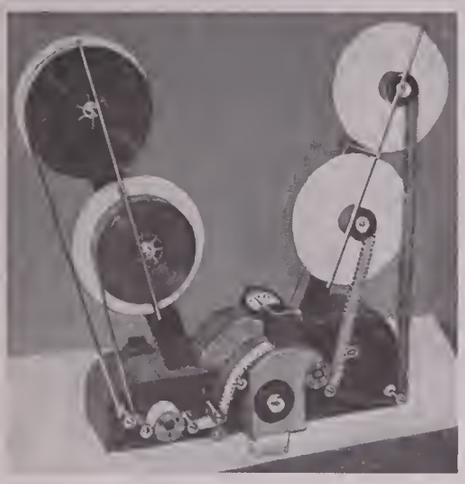

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a mistake. He's done it himself. He just smiled at Frank and we made another take just as though it had been the star's fluff."

Another reason why Lawton found it so congenial to work with this ex-cameraman is the fact that the director knew immediately what Buddy meant when he had a suggestion.

"Many directors," says Lawton, "just can't seem to get what a cameraman means. And you don't have to be too technical in your talk, either. Again if they think you are taking too much time with your camera set-ups, they'll get very impatient. I had none of that with Rudy."

Often, too, Lawton continues, he has worked with directors who plot the action of their scenes without consulting their cameramen first. They get complicated shots which require the operator to maneuver into all kinds of contortions and be more of a pretzel than a man. They overwork the idea of pictorial effects that the cameraman knows are wrong. But after all, the director is the director and has the final say.

"Rudy never uses complicated movements just for the sake of a movement," says Lawton. "He knows that a great part of the time this will come out on the screen as a jumble, that is unless said movement has a purpose and a sound reason behind it. If he makes a dolly shot following an actor, the dolly stops when the actor does. This means naturalness. Audiences are never aware of the camera. They are actually seeing life, not a picture of life obviously photographed.

"Many directors, too," says Lawton, "don't seem to know or even suspect that some stars photograph better showing the left side of their face. Rudy recognizes that just by looking at them. He therefore prepares the action of his scene with that in mind. He doesn't have to wait for his cameraman to come to him on the set and tell him which side of the face a star should expose to the lens, and then have to reconstruct all his action."

Mate, he adds, has the keenest sense of texture, composition, lighting and color values of any director with whom he ever has worked.

As a matter of fact, the threat all during the filming of *Paula* was not that temperaments would clash but that these two would develop into a mutual admiration society. To which eventually, every member of the cast and crew joined in a hearty and honest, "More power to them."

PRIZE-WINNING FILM

(Continued from Page 504)

tough, but they don't guzzle whiskey, and the gun moll and her boy friend don't kiss each other once. Cowart said it didn't even occur to him to plan a love scene for the picture. "When a movie is only 20 minutes long," he explained, "you have to leave out insignificant details." Some Hollywood producers should listen to him.

The story has to do with a gang of young punks who rob a bank in broad daylight, pass the loot to a girl accomplice as they hurriedly exit from the bank, intending to rendezvous at an old shack on the edge of town and split the money between them. But the girl and her accomplice double cross the robbers. King Bookie and his pals set out in search of the pair, locate the

girl, then her boy friend. The couple is taken to the shack and given the third degree. Eventually the money is recovered and the tough guys erase each other in a brief battle of gun fire at the shack. The girl lives to tell the story to a detective—the scene that opens the picture.

Miss Bell still wonders what would have happened if an unenlightened Atlanta policeman had driven by the North Avenue branch of the First National Bank when they were staging and shooting the robbery scenes. "The steal was done by King Bookie and two accomplices," she said. "According to the plan, I strolled casually down the street, timing my walk so I'd pass the bank entrance just in time to meet the 'boys' who handed me the bag of cash. This I passed to my boy friend waiting at the curb in the getaway car. I then walked calmly on, but back at the bank a guard came out and opened fire on King Bookie and his accomplice, felling the latter. Oddly enough, only one pedestrian paid any attention to these goings-on, and his suspicions and alarm were allayed when he spied our 'crew' and camera across the street as John called 'Cut!' "

Cowart and his company, of course, were quite free of any possible inadvertent action on the part of alarmed bank employees or of the public passing on the street. Earlier he had made arrangements with bank manager J. W. DuBose to use the bank's interior for the necessary robbery scenes, and it was DuBose who also consented to play the part of the detective in the picture.

Although the police failed to interrupt the shooting of the bank robbery scenes, real cops seemed to pop up every other time the company went out to film scenes for the picture. When staging the scenes in the old shack on Peachtree Place—a spooky, dilapidated former mansion with banging shutters and a hollow sound—police put in an appearance when Miss Bell realistically responded with a scream while King Bookie twisted her arm in attempting to wring a confession from her. Two officers broke into the house and demanded to know what was going on. Fortunately, Cowart earlier had obtained permission in writing from the owner of the house, and the officers stayed around awhile to watch the filming. The house, incidentally was scheduled to be torn down the next day to make way for a new office building, so Cowart and his company worked that night from 7 till 1 o'clock to shoot all the scenes scheduled for that location.

Cowart never prepared a written script for the picture. In the beginning he told his cast and crew about the story line, and the details were worked out as they went along. The actors spoke lines in order to give their action realism, but no sound track was recorded. Later a 17-year-old high school student, Don Shields, wrote a narrative script to explain the action, and a local radio announcer recorded the commentary on tape. This was backdropped by an instrumental recording of "Slaughter On Tenth Avenue."

The judges, all of whom have photographed many thousands of miles of motion picture film themselves, commended Cowart for his skillful use of local settings and he sincere acting of his amateur cast.

"A chance discovery of American Cinematographer magazine in an Atlanta camera store started me in the hobby of making amateur movies," said Cowart. "The magazine has since helped me considerably with my film making. There is, of course, still much to learn; but with American Cinematographer coming to my home every month, most of my technical problems will be solved."

John's mother, Mrs. Robert L. Cowart, says you should never underestimate the influence of a box-top and a dime may have on your child's life. John got his first camera that way at the age of 7, and he's been working

(Continued on Page 522)

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Current Assignments of A.S.C. Members

Major film productions on which members of the American Society of Cinematographers were engaged as directors of photography during the past month.

★ ★ ★ ★

Columbia

• Joseph Walker, "The Marrying Kind," with Judy Holliday. George Cukor, director.

• Fayte Browne, "Laramie Mountains," with Charles Starrett and Smiley Burnette. Ray Nazarro, director.

• William Bradford, "Apache Country," (Gene Autry Prod.) with Gene Autry. George Archinband, director.

• Charles Lawton, Jr., "The Saber and the Arrow," with Broderick Crawford and Barbara Hale. Andre de Toth, director.

• Fayte Browne, "Rough, Tough West," with Charles Starrett, Smiley Burnette. Ray Nazarro, director.

Independent

• Ernest Laszlo, "The Lady In The Iron Mask," (Color) with Louis Hayward, Pat Medina. Ralph Murphy, director.

• Ernest Haller, "Monsoon," (Film Group, Inc., Prod.) (Color) with Ursula Theiss, Diana Douglas, George Nader. Rodney Amateau, director.

• Joseph Biroc, "Red Planet," with Andrea King and Peter Graves. Harry Horner, director.

• Ellis W. Carter, "Outlaw Women," with Marie Windsor and Richard Rober. Sam Newfield, director.

M-G-M

• Charles Rosher, "Scaramouche," with Stewart Granger, Eleanor Parker. George Sidney, director.

• William Mellor, "Skirts Ahoy," with Esther Williams, Joan Evans. Sidney Lanfield, director.

• Robert Surtees, "The Merry Widow," (Technicolor) with Lana Turner. Curtis Bernhardt, director.

• George Folsey, "Lovely To Look At," with Kathryn Grayson, Red Skelton. Mervyn LeRoy, director.

• Paul Vogel, "The Girl In White," with June Allyson, Arthur Kennedy, Mildred Dunnock, Gary Merrill. John Sturges, director.

• William Daniels, "Glory Alley," with Leslie Caron, Ralph Meeker, Gilbert Roland. Richard Walsh, director.

Monogram

• William Sickner, "Starlight Canyon," with Wayne Morris and Anthony Caruso. George Blair, director.

• Ernest Miller, "Waco," with Wild Bill Elliott, Pamela Blake, Lyle Talbot. Lewis Collins, director.

• Ernest Miller, "Man From Black Hills," with Johnny Mack Brown, Florence Lake. Thomas Carr, director.

Paramount

• Lionel W. Lindon, "This Is Dynamite," with William Holden, Alexis Smith and Edmond O'Brien. William Dieterle, director.

• Charles Lang, "Los Alamos," with Gene Barry, Lydia Clark, Nancy Gates. Jerry Hopper, director.

• George Barnes, "Famous," (Color) with Bing Crosby, Jane Wyman, Ethel Barrymore. Elliot Nugent, director.

AMERICAN SOCIETY OF CINEMATOGRAPHERS

FOUNDED January 8, 1919, The American Society of Cinematographers is composed of the leading directors of photography in the Hollywood motion picture studios. Its membership also includes non-resident cinematographers and cinematographers in foreign lands. Membership is by invitation only.

•

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R.K.O.

• Russell Harlan, "The Big Sky," with Kirk Douglas. Howard Hawks, director.

• William Snyder, "The Korean Story," with Robert Mitchum. Tay Garnett, director.

• Harry Stradling, "Androcles And The Lion," with Jean Simmons, Victor Mature. Chester Erskine, director.

• Karl Struss, "Tarzan The Hunted," with Lex Barker, Dorothy Hart. Cyril Endfield,

• Nick Musuraca, "Clash By Night," (Wald-Krasna) with Barbara Stanwyck, Paul Douglas and Robert Ryan. Fritz Lang, director.

20th Century Fox

• Arthur E. Arling, "The I Don't Care Girl," (Color) with Mitzi Gaynor, David Wayne, and Oscar Levant. Lloyd Bacon, director.

• Harry Jackson, "Way Of A Goucho," (Shooting in Argentina, in color) with Gene Tierney, Rory Calhoun, Richard Boone. Philip Dunne, director.

• Lucien Ballard, "Diplomatic Courier," with Tyrone Power and Patricia Neal. Henry Hathaway, director.

• Leon Shamroy, "The Girl Next Door," (Color) with June Haver, Dan Dailey, Dennis Day and Billy Gray. Richard Sale, director.

• Joseph LaShelle, "Outcasts Of Poker Flat," with Anne Baxter, Dale Robertson, Miriam Hopkins, Cameron Mitchell, Barbara Bates, Craig Hill. Joseph Newman, director.

• Edward Cronjager, "Cry Of The Swamp," (Color) with Jean Peters, Jeffery Hunter, Constance Smith, Walter Brennan. Jean Negulesco, director.

• Milton Krasner, "Deadline—U.S.A.," with Humphrey Bogart, Ethel Barrymore, Kim Hunter, Joseph de Santis, Paul Stewart, Warren Stevens, Ed Begley. Richard Brooks, director.

• Joseph MacDonald, "Gift Of The Magi," with Jeanne Crain, and Farley Granger. Henry King, director.

Universal-International

• Cliff Stine, "Oh Money, Money," (Color) with Charles Coburn, Piper Laurie, Gigi Perreau and Rock Hudson. Douglas Sirk, director.

• Irving Glassberg, "Hear No Evil," with Toni Curtis, Jan Sterling, and Mona Freeman. Joseph Pevney, director.

• George Robinson, "Ma And Pa Kettle Go To Paris," with Marjorie Main, Percy Killbride, Ray Collins, and Lori Nelson. Charles Lamont, director.

• Maury Gertsman, "Red Ball Express," with Jeff Chandler, Alex Nicol, Charles Drake, Susan Cabot, Hugh O'Brian, John Hudson. Budd Boetticher, director.

• Russell Metty, "Scarlet Angel," (Color) with Yvonne DeCarlo, Rock Hudson, Richard Denning, Bodil Miller, Amanda Blake, Whitfield Connor. Sidney Salkow, director.

• Irving Glassberg, "Claim Jumpers," (Color) with Audie Murphy, Faith Domergue, Steven McNally, Eugene Iglesias, Gerald Mohr. Don Siegel, director.

• Charles Boyle, "Untamed," (Color) with Joseph Cotton, Shelley Winters, Scott Brady, Susan Ball, Antonio Moreno, Katherine Emery. Hugo Fregonese, director.

Warner Brothers

• Wilfrid Cline, "She's Working Her Way Through College," with Virginia Mayo, Ronald Reagan. Bruce Humberstone, director.

• Ted McCord, "This Woman Is Dangerous," with Joan Crawford. Felix Feist, director.

• Warren Lynch, "Retreat Hell!" with Frank Lovejoy, Richard Carlson. Joseph Lewis, director.

• John Seitz, "San Francisco Story," (Fidelity Prod.) with Joel McCrea, Yvonne DeCarlo, Sidney Blackmer and Onslow Stevens. Robert Parrish, director.

• Robert Burks, "Maru Maru," with Errol Flynn, Ruth Roman, Paul Picerni, Richard Webb, Raymond Burr, Dan Seymour. Gordon Douglass, director.

MOVIES ON TAPE

(Continued from Page 500)

vision, believe their development is the forerunner of filmless portable motion picture cameras of the future, even though their laboratory pilot model is too bulky and unwieldy for general studio use.

Their new "camera" is the culmination of two years of research and development. Actually, it does not "take a picture" in the sense of photography. Instead, it utilizes a television camera as its "eye" and through a complicated electronics system, transfers the electronic impulses to magnetic tape, which can be played and re-played indefinitely with no loss in image or sound quality.

In the demonstration for newsmen, the motion pictures recorded magnetically were run off from an ordinary roll of tape commonly used in magnetic sound recording, and manufactured by Minnesota Mining and Manufacturing Company.

As the tape passed a tiny magnetic receiving "lens" no larger than a half-dollar, recognizable images of men and women and airplanes appeared on the screen of a television set, to which the pickup-projecting unit was connected by wire.

Mullin and Johnson believe their development of a filmless camera foreshadows a great change in modern motion picture production technique, because the cost of tape is one-tenth that of film, and the new method eliminates all need of the costly and time-consuming processing of photographic film. The magnetic tape, on which the images and sound are recorded, requires no processing and may be played back immediately.

Some motion picture directors see tremendous advantages in the new method. For instance, just as it is now possible to immediately play back a magnetic sound recording and to erase and re-record it in the event it is not perfect, it would be possible to play back the picture for an immediate check as to quality of its visual content.

The savings in film and laboratory costs would be an important factor. As one prominent Hollywood engineer pointed out, the system would be a tremendous boon to the industry because of the re-use feature of the tape alone; and then there is the further simplicity the system affords of making fades, dissolves and numerous effects without need of optical printers and special effects equipment. Still another important factor is the elimination of a great deal of if not all sound dubbing.

Of course, the system is not yet to

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NEW 1951

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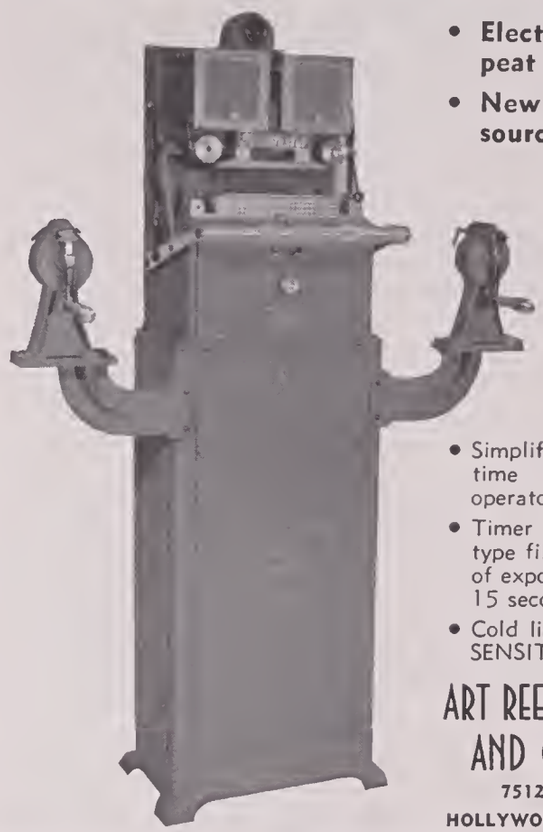

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You Must Start From The Beginning!: 101

MOVIES ON TAPE

(Continued from Page 517)

the stage where any clear-cut method of operation within the studio has been put on paper; but it would probably work something like this: an entire production would be shot in consecutive order on a single tape. edited and corrected as the production progressed, or the various takes would be recorded, much the same as they are now, then later re-recorded on the master. From the master, "dupe prints" would be made either by straight contact magnetic duplicating methods or by re-recording, and these dupes would go to the master projecting centers to be telecast to theatres.

The cameraman would function just about as he does at present, except that he'd forget about his camera lens; there wouldn't be an optical lens on the new "camera." The picture he'd be shooting would be seen simultaneously on a closed-circuit monitoring tube, which would be an integral part of the camera, similar to the electronic viewfinders on present-day TV cameras. Set lighting would be essentially the same as it is today.

Mullin and Johnson and Bing Crosby Enterprises are not the only ones working on developing a practical system of recording motion pictures on magnetic tape; it just happened that they are the first to demonstrate it publicly in Hollywood. Loren L. Ryder at Paramount, Radio Corporation of America, Armour Research Foundation, Brush, Bell Telephone Laboratories, and Minnesota Mining and Manufacturing Co., just to

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name a few, also are reported working on the project for some time and probably have reached the same stage of development with their systems as the Crosby engineers.

Some Hollywood engineers feel that the present Crosby system is not too well adapted yet to practical feature film production because of the frequency range which the system is presently using; also because of the high rate of linear speed which the tape must travel. However, the Crosby engineers already are at work on a complete new model of their "electronic camera" which reportedly will surpass in result that already demonstrated by the camera which they exhibited in the demonstration last month.

The actual manufacture and general demonstration of the new Crosby system will be deferred for at least six months, during which time it will be standardized for use with a new one-inch magnetic tape. This tape, the developers claim, will be more receptive to all color methods with a definition increase brought about through use of added magnetic power. As the Crosby organization now sees it, the new recording system will be farmed out for manufacture, with the company handling distribution.

PUTTING THE PICTURE ON PAPER

(Continued from Page 497)

in sharp conflict with other people as truly perceived as he is, you may have a great picture.

We never work much preparing long treatments, believing that a comprehensive treatment saps some of the vitality from an idea. That is, if you do it yourself. Once, however, Wilder and I were given a 40-page sketch called "Memo To A Movie Producer." It had no plot whatever, but presented a background brilliantly—a little town the other side of the Mexican border; where refugees from Europe waited to get into the United States. It grew into *Hold Back The Dawn.*

Mostly, we've developed our own ideas. For instance, one scene I'd heard about developed into *To Each His Own.* It showed a middle aged woman walking down a station platform where a troop train was pouring young American soldiers into London. She was calling the name of one of them—uncertain whether she would recognize his face. He was the son she had given up when he was a little boy.

Sunset Boulevard came about because Wilder, Marshman and I were acutely conscious of the fact that we lived in a town which had been swept by a social change as profound as that brought about in the old South by the Civil War. Overnight, the coming of sound had brushed gods and godesses into obscurity. We had an idea of a young man happening into a great house where one of these ex-goddesses survived.

At first we saw her as a kind of horror woman—an embodiment of vanity and selfishness. But Wilder, as a director, has an uncomfortable peculiarity: he likes to see characters as they are going to be on the screen before he fignishes a script. I think we started *Sunset* with sixty completed pages. As we went along, our sympathies became deeply involved with the woman who had been given the brush by thirty million fans. At the end, we had to give her the only happiness we could see for her—the twilight happiness of the mad.

Of course, if you are working from a play or novel, a great deal of explatory work has been done for you. The easiest script I ever worked on—the one that took the shortest time—was *The Lost Week End.* In his novel, Charles Jackson had provided us with a tragic protagonist—a man in love against his will, in love with a bottle. He had also set the pattern of the seven circles of hell through which such a man can pass in a brief time. It was a question of effectively dramatizing those seven circles, of finding the picturizable opponents of that desire of Don Birnam's for drink.

After this length of time I'd have to take a copy of the book and the script and compare them, to say what was Charles Jackson's and what was ours. The bottle in the chandelier was ours, I know. The delusion Don Birnam suf-

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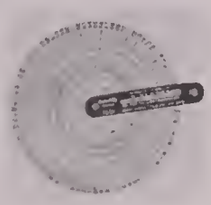

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fered—the hideous fight between the mouse and the bat—was his. Whether the scene of Don begging the prostitute for money for drink was even indicated by the novel. I can't say.

I devoutly wish more people would write novels alive with truth and pity. So do all motion picture producers. Alas, they are rare indeed.

The medium of the motion pictures imposes on its practitioners a more sustained obligation to hold the audience's interest than any other medium. The novelist can end his chapter, the playwright can drop his curtain. The motion picture writer is on for an hour and a half or two hours.

What he writes must be playable. It must be believable, it must have variety. You can't photograph people with the same expression on their faces too often. It must have architecture — a beginning, a middle, and an end. Above all, it must move, must take advantage of the freedom of the camera. The best play photographed just as it was written, seems stagnant.

Finally, it must have some of the freshness and unexpected quality of life, not be a rehash of old celluloid.

It's up to the producer to see that these things are in the script. No wonder he sometimes finds himself a little weary at the end of the day.

FILMING THE CIRCUS

(Continued from Page 495)

problem of keeping the camera from interfering with spectators' view of the circus," said Barnes. "Most of the time the camera was mounted on a giant Chapman crane fitted with a 30-foot extension. Where possible, we kept the chassis of the crane in one of the exit areas around the circus and, with the boom raised high, we shot from practically any vantage point we desired. So carefully was camera operation planned and executed during the regular show takes, that we never once received a complaint from the circus management."

The tremendous concessions made Paramount by the circus were reciprocated in part by DeMille's decision to employ a second camera unit to augment Barnes' crew. Directed by Peverell Marley, A.S.C., the second unit usually covered important action from another angle, making it unnecessary to slow up schedules by getting such shots in a subsequent setup, as would have been necessary with one camera on the scene.

After the company had concluded its initial seven weeks' shooting at Sarasota, it returned to Hollywood where scenes were shot that did not demand the actual circus locale. Months later, the company rejoined the circus in New York and traveled with it to Philadelphia, and Washington, D. C. The lighting and camera techniques which had been developed during the filming at Sarasota worked equally effective when shooting with the circus on the road. However, the company was put to a greater test because it became necessary to integrate its work with that of the circus crew, striking and packing its equipment at the end of a show, and unpacking and erecting it when the circus reached its new destination.

With all the preparations made by the studio and with Technicolor coming through with its new low level color film, George Barnes relates he spent many anxious hours awaiting the first dailies from Hollywood. But his apprehension was quickly allayed by the first day's rushes, which were screened in a local theatre in Sarasota. On the road, dailies were usually screened in some local theatre, following advance arrangements made by the studio. Thus it was possible to keep in just as close touch with the photographic results as when working at the studio in Hollywood.

During all shooting, Cecil DeMille was at George Barnes' side. He became virtually the circus' fourth ring — a relentless, tireless figure, constantly on the move in the steaming heat of the big top. Daily during the circus shooting, he could be seen peering through the camera viewfinder with the savage determination of an errant Watson on the search for melodramatic clues. In getting these ideas on composition, he became an object of considerable wonderment to spectators.

We leave it to the picture itself to prove how superbly DeMille and cameraman Barnes worked together to catch the very soul of the circus on celluloid; how completely unified must have been their thinking to create the finest pictorial rendition of the circus ever to be brought to the motion picture screen.

PRIZE-WINNING FILM

(Continued from Page 515)

toward a career in photography ever since. If the Army doesn't get him, John hopes to have his newest film completed and ready to enter in American Cinematographer's 1952 competition which begins December 1st.

NOTE: *American Cinematographer* is indebted to the *Atlanta Journal and Constitution Magazine* and to Miss Olive Bell Davis for their permission to draw upon facts and statements contained in Miss Davis' article (which appeared in the July 8, 1951, issue of that publication) describing the filming of *King Bookie*.—EDITOR.

Bright in the corner

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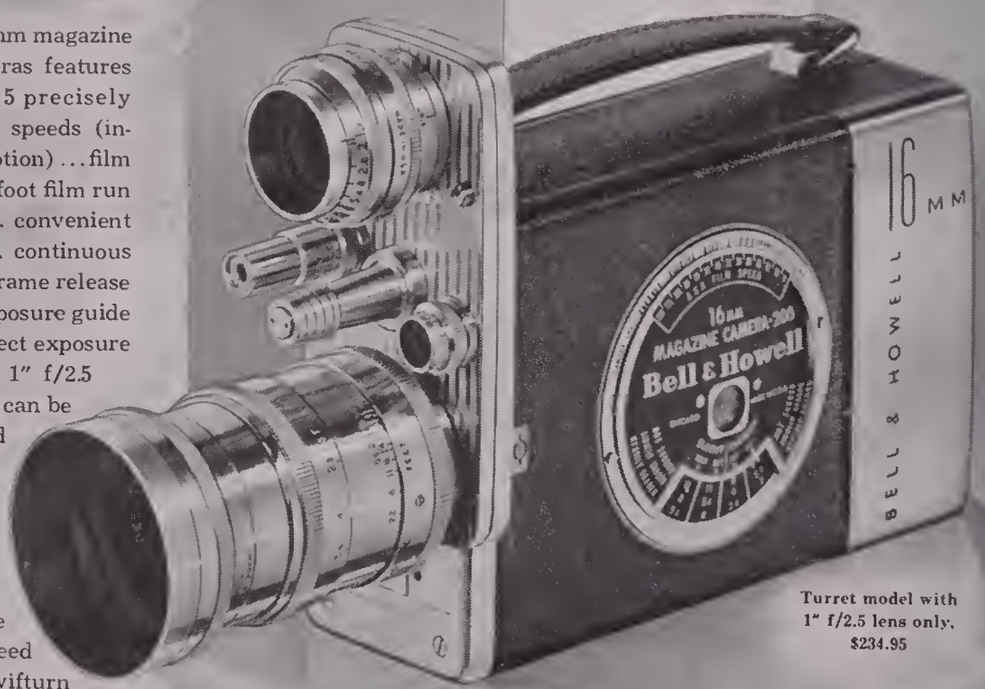

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